

WEBVTT

00:00:00.000 --> 00:00:02.694 Thank you all for

NOTE Confidence: 0.889155149459839

00:00:02.694 --> 00:00:05.962 joining us it's a real privilege

NOTE Confidence: 0.889155149459839

00:00:05.962 --> 00:00:08.710 today to welcome our new chair

NOTE Confidence: 0.889155149459839

00:00:08.710 --> 00:00:11.929 of pathology at Yale,

NOTE Confidence: 0.889155149459839

00:00:11.930 --> 00:00:14.240 Doctor Chen

NOTE Confidence: 0.889155149459839

00:00:14.240 --> 00:00:17.170 Liu is the Anthony N. Brady Professor of Pathology

NOTE Confidence: 0.889155149459839

00:00:17.966 --> 00:00:20.354 who joined us on March 1st?

NOTE Confidence: 0.889155149459839

00:00:20.360 --> 00:00:22.100 So really right

NOTE Confidence: 0.889155149459839

00:00:22.100 --> 00:00:23.840 into the thick of it.

00:00:26.369 --> 00:00:28.967 And in the short time he's been

NOTE Confidence: 0.889155149459839

00:00:28.967 --> 00:00:31.430 here he has

NOTE Confidence: 0.889155149459839

00:00:31.430 --> 00:00:33.666 Collaborated with all of us,

NOTE Confidence: 0.889155149459839

00:00:33.666 --> 00:00:36.461 particularly in his efforts to

NOTE Confidence: 0.889155149459839

00:00:36.461 --> 00:00:39.681 champion the testing efforts that were

NOTE Confidence: 0.889155149459839

00:00:39.681 --> 00:00:42.880 essential in our response to COVID.

NOTE Confidence: 0.889155149459839

00:00:42.880 --> 00:00:46.072 Chen received his training in China
NOTE Confidence: 0.889155149459839

00:00:46.072 --> 00:00:48.841 received his postgraduate training
NOTE Confidence: 0.889155149459839

00:00:48.841 --> 00:00:51.596 at Peking Medical College,
NOTE Confidence: 0.889155149459839

00:00:51.600 --> 00:00:55.233 his PhD in pathology at University of
NOTE Confidence: 0.889155149459839

00:00:55.233 --> 00:00:58.583 Pennsylvania and most recently had
NOTE Confidence: 0.889155149459839

00:00:58.583 --> 00:01:01.985 served as the chair of pathology immunology
NOTE Confidence: 0.889155149459839

00:01:01.990 --> 00:01:03.208 and Laboratory Medicine,
NOTE Confidence: 0.889155149459839

00:01:03.208 --> 00:01:06.625 as well as the chair of the center
NOTE Confidence: 0.889155149459839

00:01:06.625 --> 00:01:09.577 of dermatology at the Robert Wood
NOTE Confidence: 0.889155149459839

00:01:09.577 --> 00:01:12.228 Johnson Medical School in New Jersey.
NOTE Confidence: 0.889155149459839

00:01:12.230 --> 00:01:14.687 Chen's career has been focused on the
NOTE Confidence: 0.889155149459839

00:01:14.687 --> 00:01:17.472 work in viral hepatitis liver cancer
NOTE Confidence: 0.889155149459839

00:01:17.472 --> 00:01:20.237 immunotherapy graph versus host disease,
NOTE Confidence: 0.889155149459839

00:01:20.240 --> 00:01:22.460 as well as cancer epigenetics,
NOTE Confidence: 0.889155149459839

00:01:22.460 --> 00:01:24.240 where he's made important
NOTE Confidence: 0.889155149459839

00:01:24.240 --> 00:01:26.910 contributions in all of these areas.

NOTE Confidence: 0.889155149459839

00:01:26.910 --> 00:01:28.586 Really understanding mechanisms of

NOTE Confidence: 0.889155149459839

00:01:28.586 --> 00:01:30.262 carcinogenesis defining cancer

NOTE Confidence: 0.889155149459839

00:01:30.262 --> 00:01:32.720 biomarkers and equally importantly developing

NOTE Confidence: 0.889155149459839

00:01:32.720 --> 00:01:34.456 new therapeutic approaches and

NOTE Confidence: 0.889155149459839

00:01:34.456 --> 00:01:37.060 we're really so privileged to have

NOTE Confidence: 0.889155149459839

00:01:37.129 --> 00:01:39.194 Chen not only as the new chair,

NOTE Confidence: 0.889155149459839

00:01:39.200 --> 00:01:42.248 but as a member of our Cancer Center,

NOTE Confidence: 0.889155149459839

00:01:42.250 --> 00:01:44.968 and this really gives us, I think,

NOTE Confidence: 0.889155149459839

00:01:44.968 --> 00:01:47.013 really great additional expertise and

NOTE Confidence: 0.889155149459839

00:01:47.013 --> 00:01:49.870 strength among the talent we have here.

00:01:53.680 --> 00:01:55.960 Thank you very much Charlie,

NOTE Confidence: 0.904578924179077

00:01:55.960 --> 00:01:57.484 for that

NOTE Confidence: 0.904578924179077

00:01:57.484 --> 00:01:59.389 nice introduction and also more

NOTE Confidence: 0.904578924179077

00:01:59.389 --> 00:02:01.298 importantly, thank you for the

NOTE Confidence: 0.904578924179077

00:02:01.298 --> 00:02:02.826 opportunity to present this talk.

NOTE Confidence: 0.904578924179077

00:02:24.580 --> 00:02:27.430 Just briefly, I am a liver

NOTE Confidence: 0.904578924179077

00:02:27.507 --> 00:02:30.579 GI pathologist so I'm actually practicing

NOTE Confidence: 0.904578924179077

00:02:30.580 --> 00:02:32.836 in the clinical

NOTE Confidence: 0.904578924179077

00:02:32.840 --> 00:02:36.036 service and I'm also a pretty

NOTE Confidence: 0.904578924179077

00:02:36.036 --> 00:02:37.806 good mouse pathologist in general,

NOTE Confidence: 0.904578924179077

00:02:37.810 --> 00:02:40.295 so I think basically I serve

NOTE Confidence: 0.904578924179077

00:02:40.300 --> 00:02:42.645 as a sort of expert

NOTE Confidence: 0.904578924179077

00:02:42.645 --> 00:02:44.200 consultant.

00:03:29.630 --> 00:03:30.818 So today

NOTE Confidence: 0.904578924179077

00:03:30.818 --> 00:03:32.600 I would adjust the

NOTE Confidence: 0.904578924179077

00:03:32.668 --> 00:03:34.216 top one of the you know.

NOTE Confidence: 0.904578924179077

00:03:34.220 --> 00:03:36.080 You know main research project

NOTE Confidence: 0.904578924179077

00:03:36.080 --> 00:03:37.568 and you might laboratory,

NOTE Confidence: 0.904578924179077

00:03:37.570 --> 00:03:39.796 which is sort of how to divide

NOTE Confidence: 0.904578924179077

00:03:39.796 --> 00:03:42.029 up how to developer mode.

NOTE Confidence: 0.904578924179077

00:03:42.030 --> 00:03:44.910 Effective email Sara pay for

NOTE Confidence: 0.904578924179077

00:03:44.910 --> 00:03:46.638 hyper cellular carcinoma.

NOTE Confidence: 0.904578924179077
00:03:46.640 --> 00:03:47.876 OK, so good.
NOTE Confidence: 0.904578924179077
00:03:47.876 --> 00:03:51.570 So uh, as you know a better seller cars.
NOTE Confidence: 0.904578924179077
00:03:51.570 --> 00:03:53.630 Nobody is very deadly disease.
NOTE Confidence: 0.904578924179077
00:03:53.630 --> 00:03:56.024 You know it's actually really they
NOTE Confidence: 0.904578924179077
00:03:56.024 --> 00:03:59.358 will come and you know we have almost
NOTE Confidence: 0.904578924179077
00:03:59.358 --> 00:04:01.842 600,000 new cases a year globally.
NOTE Confidence: 0.904578924179077
00:04:01.850 --> 00:04:05.138 In contrast to many other type of cancers,
NOTE Confidence: 0.904578924179077
00:04:05.140 --> 00:04:05.912 you know.
NOTE Confidence: 0.904578924179077
00:04:05.912 --> 00:04:08.614 Mostly theology is a relatively well not.
NOTE Confidence: 0.904578924179077
00:04:08.620 --> 00:04:09.380 For instance,
NOTE Confidence: 0.904578924179077
00:04:09.380 --> 00:04:12.416 you can see it's almost 80% of those
NOTE Confidence: 0.904578924179077
00:04:12.416 --> 00:04:14.684 cases are caused by two viruses,
NOTE Confidence: 0.904578924179077
00:04:14.690 --> 00:04:17.336 hepatitis B and hepatitis C virus is,
NOTE Confidence: 0.904578924179077
00:04:17.340 --> 00:04:18.652 and then the other,
NOTE Confidence: 0.904578924179077
00:04:18.652 --> 00:04:21.889 so you know it's a toxin alcohol awesome.
NOTE Confidence: 0.904578924179077

00:04:21.890 --> 00:04:23.780 Recently fatty liver disease and
NOTE Confidence: 0.904578924179077

00:04:23.780 --> 00:04:25.292 some metabolic liver disease.
NOTE Confidence: 0.904578924179077

00:04:25.300 --> 00:04:27.659 You know you know all contributed to
NOTE Confidence: 0.904578924179077

00:04:27.659 --> 00:04:30.229 the etiology of hyper server carcinoma.
NOTE Confidence: 0.904578924179077

00:04:30.230 --> 00:04:33.062 I think one thing in common is in
NOTE Confidence: 0.904578924179077

00:04:33.062 --> 00:04:35.464 majority of the cases an there
NOTE Confidence: 0.904578924179077

00:04:35.464 --> 00:04:36.676 is long standing.
NOTE Confidence: 0.904578924179077

00:04:36.680 --> 00:04:38.220 Monitor liver disease and
NOTE Confidence: 0.904578924179077

00:04:38.220 --> 00:04:39.375 then develop chronic.
NOTE Confidence: 0.904578924179077

00:04:39.380 --> 00:04:41.310 You know you know hepatitis
NOTE Confidence: 0.904578924179077

00:04:41.310 --> 00:04:42.468 and also cirrhosis,
NOTE Confidence: 0.904578924179077

00:04:42.470 --> 00:04:44.395 which is almost like a
NOTE Confidence: 0.904578924179077

00:04:44.395 --> 00:04:45.165 precancerous condition,
NOTE Confidence: 0.904578924179077

00:04:45.170 --> 00:04:47.468 and then become my father Cellular
NOTE Confidence: 0.904578924179077

00:04:47.468 --> 00:04:49.479 Carcinoma because of this uniquely
NOTE Confidence: 0.904578924179077

00:04:49.479 --> 00:04:51.933 theology and the pathogenesis there at

NOTE Confidence: 0.904578924179077

00:04:51.933 --> 00:04:54.437 least two things we can think about.

NOTE Confidence: 0.872145533561707

00:04:54.440 --> 00:04:57.520 Why is the best way to eliminate it's,

NOTE Confidence: 0.872145533561707

00:04:57.520 --> 00:05:00.994 you know cancer is really with it is emitted,

NOTE Confidence: 0.872145533561707

00:05:01.000 --> 00:05:03.310 the ideology. So in this case,

NOTE Confidence: 0.872145533561707

00:05:03.310 --> 00:05:05.626 if you can eliminate hepatitis B,

NOTE Confidence: 0.872145533561707

00:05:05.630 --> 00:05:07.085 hepatitis C with.

NOTE Confidence: 0.872145533561707

00:05:07.085 --> 00:05:11.106 Pretty much he limited 80% of the of

NOTE Confidence: 0.872145533561707

00:05:11.106 --> 00:05:14.700 the cancer, so hepatitis B vaccine has

NOTE Confidence: 0.872145533561707

00:05:14.700 --> 00:05:18.030 been practice of over multiple decades.

NOTE Confidence: 0.872145533561707

00:05:18.030 --> 00:05:21.366 I think the data is already show because

NOTE Confidence: 0.872145533561707

00:05:21.366 --> 00:05:25.550 of the widespread you know like seen

NOTE Confidence: 0.872145533561707

00:05:25.550 --> 00:05:28.154 vaccination against hepatitis speed,

NOTE Confidence: 0.872145533561707

00:05:28.160 --> 00:05:32.059 the incidence of liver cancer indeed has

NOTE Confidence: 0.872145533561707

00:05:32.059 --> 00:05:35.629 seen trending down in the hepatitis B.

NOTE Confidence: 0.872145533561707

00:05:35.630 --> 00:05:41.390 Prevalent regions and so the other thing is.

NOTE Confidence: 0.872145533561707

00:05:41.390 --> 00:05:43.808 Question is because there is a
NOTE Confidence: 0.872145533561707

00:05:43.808 --> 00:05:45.764 longstanding process for, you know,
NOTE Confidence: 0.872145533561707

00:05:45.764 --> 00:05:48.368 from the initial lever insult to the
NOTE Confidence: 0.872145533561707

00:05:48.368 --> 00:05:51.058 cancer formation is you already talked?
NOTE Confidence: 0.872145533561707

00:05:51.060 --> 00:05:54.399 We're talking about a 20 to 30 years and
NOTE Confidence: 0.872145533561707

00:05:54.399 --> 00:05:57.908 then we do have very high risk population,
NOTE Confidence: 0.872145533561707

00:05:57.910 --> 00:06:00.724 so we know this high risk population,
NOTE Confidence: 0.872145533561707

00:06:00.730 --> 00:06:03.570 so this provides a window of opportunity for
NOTE Confidence: 0.872145533561707

00:06:03.570 --> 00:06:06.780 us to develop ball markers or something.
NOTE Confidence: 0.872145533561707

00:06:06.780 --> 00:06:07.584 Therapeutic interventions.
NOTE Confidence: 0.872145533561707

00:06:07.584 --> 00:06:08.790 In other words,
NOTE Confidence: 0.872145533561707

00:06:08.790 --> 00:06:11.070 we can identify the underlying pathogenesis
NOTE Confidence: 0.872145533561707

00:06:11.070 --> 00:06:13.660 and hopefully we can identify targets.
NOTE Confidence: 0.872145533561707

00:06:13.660 --> 00:06:17.825 And to intervene to prevent out trade.
NOTE Confidence: 0.872145533561707

00:06:17.830 --> 00:06:20.848 Now I've had this order carcinoma,
NOTE Confidence: 0.872145533561707

00:06:20.850 --> 00:06:22.870 so currently you know.

NOTE Confidence: 0.872145533561707
00:06:22.870 --> 00:06:24.890 Unfortunately the you know,
NOTE Confidence: 0.872145533561707
00:06:24.890 --> 00:06:27.776 liver cancer therapy is really behind
NOTE Confidence: 0.872145533561707
00:06:27.776 --> 00:06:30.930 too many of other solid tumors.
NOTE Confidence: 0.872145533561707
00:06:30.930 --> 00:06:34.458 We did not have really big progress.
NOTE Confidence: 0.872145533561707
00:06:34.460 --> 00:06:35.428 You know,
NOTE Confidence: 0.872145533561707
00:06:35.428 --> 00:06:37.848 for hyper server carcinoma therapy
NOTE Confidence: 0.872145533561707
00:06:37.848 --> 00:06:40.433 and there is absolutely unmet
NOTE Confidence: 0.872145533561707
00:06:40.433 --> 00:06:42.525 need in this cancer,
NOTE Confidence: 0.872145533561707
00:06:42.530 --> 00:06:45.422 so we were transplantation can be
NOTE Confidence: 0.872145533561707
00:06:45.422 --> 00:06:48.090 considered as a curatives therapy.
NOTE Confidence: 0.872145533561707
00:06:48.090 --> 00:06:50.484 If we had identified the tumor
NOTE Confidence: 0.872145533561707
00:06:50.484 --> 00:06:53.456 earlier and also there is a lever
NOTE Confidence: 0.872145533561707
00:06:53.456 --> 00:06:55.180 available for their patients,
NOTE Confidence: 0.872145533561707
00:06:55.180 --> 00:06:57.260 those can be considered cured.
NOTE Confidence: 0.872145533561707
00:06:57.260 --> 00:06:59.768 Killer and the surgical resection is,
NOTE Confidence: 0.872145533561707

00:06:59.770 --> 00:07:00.602 you know,
NOTE Confidence: 0.872145533561707

00:07:00.602 --> 00:07:03.514 has been performed by the recurrence is,
NOTE Confidence: 0.872145533561707

00:07:03.520 --> 00:07:06.436 you know it's almost 70% of patients
NOTE Confidence: 0.872145533561707

00:07:06.436 --> 00:07:08.108 after the surgical resection.
NOTE Confidence: 0.872145533561707

00:07:08.110 --> 00:07:08.944 So overall,
NOTE Confidence: 0.872145533561707

00:07:08.944 --> 00:07:11.029 with the typical therapy currently,
NOTE Confidence: 0.872145533561707

00:07:11.030 --> 00:07:13.844 you know the three year survival
NOTE Confidence: 0.872145533561707

00:07:13.844 --> 00:07:16.190 is still less than 20%.
NOTE Confidence: 0.872145533561707

00:07:16.190 --> 00:07:19.835 And, uh, in about a 10 years ago that,
NOTE Confidence: 0.872145533561707

00:07:19.840 --> 00:07:22.270 uh, one first therapy was approved,
NOTE Confidence: 0.872145533561707

00:07:22.270 --> 00:07:25.148 which is arrive in a, you know.
NOTE Confidence: 0.872145533561707

00:07:25.148 --> 00:07:27.293 So resonator is terrorism Chinese
NOTE Confidence: 0.872145533561707

00:07:27.293 --> 00:07:30.229 inhibitor and so that only showed moderate
NOTE Confidence: 0.872145533561707

00:07:30.229 --> 00:07:33.310 effect in the small number of patients.
NOTE Confidence: 0.872145533561707

00:07:33.310 --> 00:07:36.046 And all only the pasta two or three years
NOTE Confidence: 0.872145533561707

00:07:36.046 --> 00:07:38.988 we have seen in another momentum which

NOTE Confidence: 0.872145533561707
00:07:38.988 --> 00:07:42.070 is a checkpoint inhibitors role in the
NOTE Confidence: 0.872145533561707
00:07:42.070 --> 00:07:44.230 treatment of other Cellular Carcinoma.
NOTE Confidence: 0.872145533561707
00:07:44.230 --> 00:07:47.840 So we can talk a little bit more about the
NOTE Confidence: 0.872145533561707
00:07:47.929 --> 00:07:51.800 checkpoint inhibitors in nice to feel slides.
NOTE Confidence: 0.872145533561707
00:07:51.800 --> 00:07:52.912 So first of all,
NOTE Confidence: 0.872145533561707
00:07:52.912 --> 00:07:55.050 these are the tires in kind is
NOTE Confidence: 0.872145533561707
00:07:55.050 --> 00:07:57.045 currently being tried and approved
NOTE Confidence: 0.872145533561707
00:07:57.045 --> 00:07:59.340 of tested in hypothetical carcinoma.
NOTE Confidence: 0.872145533561707
00:07:59.340 --> 00:08:01.524 So rifle name wrecker ever made
NOTE Confidence: 0.872145533561707
00:08:01.524 --> 00:08:03.382 neighbor which is basically another
NOTE Confidence: 0.872145533561707
00:08:03.382 --> 00:08:05.416 version of the revenue and then
NOTE Confidence: 0.872145533561707
00:08:05.416 --> 00:08:07.239 the other tools also tested.
NOTE Confidence: 0.872145533561707
00:08:07.240 --> 00:08:10.104 But all of those types and kindness is.
NOTE Confidence: 0.872145533561707
00:08:10.110 --> 00:08:11.900 It's really more broad inhibitors
NOTE Confidence: 0.872145533561707
00:08:11.900 --> 00:08:13.332 rather than specific target,
NOTE Confidence: 0.872145533561707

00:08:13.340 --> 00:08:14.772 so it's been believed.
NOTE Confidence: 0.872145533561707

00:08:14.772 --> 00:08:16.562 You know those kind of.
NOTE Confidence: 0.872145533561707

00:08:16.570 --> 00:08:18.598 You know the haters.
NOTE Confidence: 0.872145533561707

00:08:18.598 --> 00:08:21.640 But you hate this kinase activity,
NOTE Confidence: 0.872145533561707

00:08:21.640 --> 00:08:24.465 and you know inconsequence surprised
NOTE Confidence: 0.872145533561707

00:08:24.465 --> 00:08:27.290 to know vascularization or really
NOTE Confidence: 0.872145533561707

00:08:27.371 --> 00:08:29.981 play some sort of anti angiogenesis
NOTE Confidence: 0.872145533561707

00:08:29.981 --> 00:08:32.656 effect so you know we have
NOTE Confidence: 0.872145533561707

00:08:32.656 --> 00:08:35.194 actually also shown that you know,
NOTE Confidence: 0.853822588920593

00:08:35.200 --> 00:08:38.092 for example, survivor name can also
NOTE Confidence: 0.853822588920593

00:08:38.092 --> 00:08:41.000 interfere. The mitochondria is in a
NOTE Confidence: 0.853822588920593

00:08:41.000 --> 00:08:43.410 particular carcinoma. In other words,
NOTE Confidence: 0.853822588920593

00:08:43.410 --> 00:08:45.810 they're probably multiple mechanism for
NOTE Confidence: 0.853822588920593

00:08:45.810 --> 00:08:48.747 the tyrosine kinase mechanism of action.
NOTE Confidence: 0.853822588920593

00:08:48.750 --> 00:08:52.140 We have had our cars in them and I would
NOTE Confidence: 0.853822588920593

00:08:52.225 --> 00:08:56.040 like to show you this slice and this is a uh,

NOTE Confidence: 0.853822588920593
00:08:56.040 --> 00:08:57.770 you know, you know, uh,
NOTE Confidence: 0.853822588920593
00:08:57.770 --> 00:09:00.546 the slides made by a charmer and Addison,
NOTE Confidence: 0.853822588920593
00:09:00.550 --> 00:09:01.810 so this tell you,
NOTE Confidence: 0.853822588920593
00:09:01.810 --> 00:09:04.370 you know how you know the therapy.
NOTE Confidence: 0.853822588920593
00:09:04.370 --> 00:09:06.100 You can see the chemotherapy,
NOTE Confidence: 0.853822588920593
00:09:06.100 --> 00:09:09.214 you know this is for cancer as a whole.
NOTE Confidence: 0.853822588920593
00:09:09.220 --> 00:09:11.208 So one thing you can tell you
NOTE Confidence: 0.853822588920593
00:09:11.208 --> 00:09:13.365 can see the email server which
NOTE Confidence: 0.853822588920593
00:09:13.365 --> 00:09:15.819 represented by this green line is,
NOTE Confidence: 0.853822588920593
00:09:15.820 --> 00:09:17.360 you know, certainly is superior
NOTE Confidence: 0.853822588920593
00:09:17.360 --> 00:09:19.680 to any other sort of monotherapy.
NOTE Confidence: 0.853822588920593
00:09:19.680 --> 00:09:21.815 However, if you combine the
NOTE Confidence: 0.853822588920593
00:09:21.815 --> 00:09:23.950 Indian up check behind it,
NOTE Confidence: 0.853822588920593
00:09:23.950 --> 00:09:25.654 therapy with more targeted,
NOTE Confidence: 0.853822588920593
00:09:25.654 --> 00:09:27.784 you know genomically targeted agent,
NOTE Confidence: 0.853822588920593

00:09:27.790 --> 00:09:29.930 you can see dramatic improvement,
NOTE Confidence: 0.853822588920593

00:09:29.930 --> 00:09:32.723 so that's probably why you know the
NOTE Confidence: 0.853822588920593

00:09:32.723 --> 00:09:35.050 email therapy attract such attention.
NOTE Confidence: 0.853822588920593

00:09:35.050 --> 00:09:37.506 I think as you know over the past
NOTE Confidence: 0.853822588920593

00:09:37.506 --> 00:09:40.389 decade we have been talking a lot about
NOTE Confidence: 0.853822588920593

00:09:40.389 --> 00:09:42.514 the email therapy and particularly
NOTE Confidence: 0.853822588920593

00:09:42.514 --> 00:09:45.484 the clinical application of female
NOTE Confidence: 0.853822588920593

00:09:45.484 --> 00:09:47.860 checkpoint inhibitor really created
NOTE Confidence: 0.853822588920593

00:09:47.860 --> 00:09:50.540 this momentum for cancer therapy.
NOTE Confidence: 0.853822588920593

00:09:50.540 --> 00:09:50.964 Alright,
NOTE Confidence: 0.853822588920593

00:09:50.964 --> 00:09:52.660 so with that background,
NOTE Confidence: 0.853822588920593

00:09:52.660 --> 00:09:56.476 will see you how to look at the liver.
NOTE Confidence: 0.853822588920593

00:09:56.480 --> 00:09:59.448 So what is the unique aspect unique
NOTE Confidence: 0.853822588920593

00:09:59.448 --> 00:10:00.720 aspect of carcinoma?
NOTE Confidence: 0.853822588920593

00:10:00.720 --> 00:10:03.880 So this I have to say we have not much
NOTE Confidence: 0.853822588920593

00:10:03.968 --> 00:10:06.548 understanding on the overall immunology

NOTE Confidence: 0.853822588920593

00:10:06.548 --> 00:10:10.682 or you know biology of the liver as

NOTE Confidence: 0.853822588920593

00:10:10.682 --> 00:10:13.127 well as the hypothetical question.

NOTE Confidence: 0.853822588920593

00:10:13.130 --> 00:10:14.274 So we were had.

NOTE Confidence: 0.853822588920593

00:10:14.274 --> 00:10:15.990 It has been considered as a

NOTE Confidence: 0.853822588920593

00:10:16.057 --> 00:10:18.118 immunologically tolerant organ,

NOTE Confidence: 0.853822588920593

00:10:18.120 --> 00:10:20.610 and that means you know there

NOTE Confidence: 0.853822588920593

00:10:20.610 --> 00:10:23.309 are data shows all the humans.

NOTE Confidence: 0.853822588920593

00:10:23.310 --> 00:10:25.038 Activity cells actually are

NOTE Confidence: 0.853822588920593

00:10:25.038 --> 00:10:26.334 eliminate in liver.

NOTE Confidence: 0.853822588920593

00:10:26.340 --> 00:10:29.364 In other words, in the liver is,

NOTE Confidence: 0.853822588920593

00:10:29.370 --> 00:10:31.102 well, very well protected.

NOTE Confidence: 0.853822588920593

00:10:31.102 --> 00:10:34.450 And the dancing in the in deliver,

NOTE Confidence: 0.853822588920593

00:10:34.450 --> 00:10:36.850 you know you have a wait.

NOTE Confidence: 0.853822588920593

00:10:36.850 --> 00:10:39.238 There are a lot of energy

NOTE Confidence: 0.853822588920593

00:10:39.238 --> 00:10:40.432 and presenting cells.

NOTE Confidence: 0.853822588920593

00:10:40.440 --> 00:10:40.838 However,
NOTE Confidence: 0.853822588920593

00:10:40.838 --> 00:10:42.430 there are data shows.
NOTE Confidence: 0.853822588920593

00:10:42.430 --> 00:10:44.680 Most of the antigen presenting cells
NOTE Confidence: 0.853822588920593

00:10:44.680 --> 00:10:47.107 actually induced or you know Tara
NOTE Confidence: 0.853822588920593

00:10:47.107 --> 00:10:48.819 Jennifer phenotype rather than,
NOTE Confidence: 0.853822588920593

00:10:48.820 --> 00:10:49.508 you know,
NOTE Confidence: 0.853822588920593

00:10:49.508 --> 00:10:51.572 activate the cellular immunity and as
NOTE Confidence: 0.853822588920593

00:10:51.572 --> 00:10:53.922 well as I mentioned earlier majority
NOTE Confidence: 0.853822588920593

00:10:53.922 --> 00:10:56.322 for the hyper Cellular carcinoma is
NOTE Confidence: 0.853822588920593

00:10:56.387 --> 00:10:58.607 actually rising from the background
NOTE Confidence: 0.853822588920593

00:10:58.607 --> 00:11:00.383 of chronic viral infections,
NOTE Confidence: 0.853822588920593

00:11:00.390 --> 00:11:01.982 hepatitis B, hepatitis C.
NOTE Confidence: 0.853822588920593

00:11:01.982 --> 00:11:03.972 So this has been known.
NOTE Confidence: 0.853822588920593

00:11:03.980 --> 00:11:05.990 All has been extensively studied.
NOTE Confidence: 0.853822588920593

00:11:05.990 --> 00:11:08.180 Long standing chronic very affection,
NOTE Confidence: 0.853822588920593

00:11:08.180 --> 00:11:10.370 actually rendering T cell exhaustion.

NOTE Confidence: 0.853822588920593

00:11:10.370 --> 00:11:12.946 So this is another challenge is we

NOTE Confidence: 0.853822588920593

00:11:12.946 --> 00:11:15.795 have to think about when we talk

NOTE Confidence: 0.853822588920593

00:11:15.795 --> 00:11:18.285 about how to develop more effective

NOTE Confidence: 0.853822588920593

00:11:18.362 --> 00:11:20.418 immunotherapy for Heather Cellular

NOTE Confidence: 0.853822588920593

00:11:20.418 --> 00:11:23.502 Carcinoma so that you know that.

NOTE Confidence: 0.853822588920593

00:11:23.510 --> 00:11:27.302 Also HTC, you know it has a very

NOTE Confidence: 0.853822588920593

00:11:27.302 --> 00:11:29.198 higher expression of PD L1.

NOTE Confidence: 0.853822588920593

00:11:29.200 --> 00:11:30.076 You know?

NOTE Confidence: 0.853822588920593

00:11:30.076 --> 00:11:33.142 P DL1 is alignment for PD one.

NOTE Confidence: 0.853822588920593

00:11:33.150 --> 00:11:34.482 So those engagement

NOTE Confidence: 0.853822588920593

00:11:34.482 --> 00:11:36.258 actually surprised that I.

NOTE Confidence: 0.853822588920593

00:11:36.260 --> 00:11:38.798 Activated you know anti tumor teazles.

NOTE Confidence: 0.853822588920593

00:11:38.800 --> 00:11:40.920 That's probably why this is,

NOTE Confidence: 0.853822588920593

00:11:40.920 --> 00:11:41.345 uh,

NOTE Confidence: 0.853822588920593

00:11:41.345 --> 00:11:43.470 you know how you use.

NOTE Confidence: 0.853822588920593

00:11:43.470 --> 00:11:45.948 You know you can actually use
NOTE Confidence: 0.853822588920593

00:11:45.948 --> 00:11:48.100 checkpoint inhibitor to block this
NOTE Confidence: 0.853822588920593

00:11:48.100 --> 00:11:50.680 interaction between TDL PDL One and 51.
NOTE Confidence: 0.853822588920593

00:11:50.680 --> 00:11:53.235 The other aspect is there are many
NOTE Confidence: 0.853822588920593

00:11:53.235 --> 00:11:56.190 regulatory T cells in hypothetical carcinoma.
NOTE Confidence: 0.853822588920593

00:11:56.190 --> 00:11:58.689 So we have shown you know that
NOTE Confidence: 0.853822588920593

00:11:58.689 --> 00:12:01.113 there is a higher number of
NOTE Confidence: 0.853822588920593

00:12:01.113 --> 00:12:04.046 regulatory T cell as well as as
NOTE Confidence: 0.854570984840393

00:12:04.133 --> 00:12:05.529 myeloid derived.
NOTE Confidence: 0.854570984840393

00:12:05.530 --> 00:12:08.435 The tumors surprise if TS LMDS sees,
NOTE Confidence: 0.854570984840393

00:12:08.440 --> 00:12:10.520 so those are the challenges
NOTE Confidence: 0.854570984840393

00:12:10.520 --> 00:12:12.184 we have to consider.
NOTE Confidence: 0.854570984840393

00:12:12.190 --> 00:12:14.686 And then you know when put
NOTE Confidence: 0.854570984840393

00:12:14.686 --> 00:12:16.350 all these things together,
NOTE Confidence: 0.854570984840393

00:12:16.350 --> 00:12:18.498 you know the probably we need
NOTE Confidence: 0.854570984840393

00:12:18.498 --> 00:12:20.527 to think about the multiple

NOTE Confidence: 0.854570984840393
00:12:20.527 --> 00:12:23.659 strategy to really develop a more
NOTE Confidence: 0.854570984840393
00:12:23.659 --> 00:12:25.600 effective immunotherapy for HTC.
NOTE Confidence: 0.854570984840393
00:12:25.600 --> 00:12:27.508 And now you know,
NOTE Confidence: 0.854570984840393
00:12:27.508 --> 00:12:29.416 staying is more broadly.
NOTE Confidence: 0.854570984840393
00:12:29.420 --> 00:12:31.324 Currently in clinical application
NOTE Confidence: 0.854570984840393
00:12:31.324 --> 00:12:33.704 also has been very exciting.
NOTE Confidence: 0.854570984840393
00:12:33.710 --> 00:12:36.278 Is a checkpoint in Hibbett are
NOTE Confidence: 0.854570984840393
00:12:36.278 --> 00:12:39.146 you see the impact will check
NOTE Confidence: 0.854570984840393
00:12:39.146 --> 00:12:41.811 component inhibitors really is act
NOTE Confidence: 0.854570984840393
00:12:41.811 --> 00:12:45.159 on multiple spy type of the middle.
NOTE Confidence: 0.854570984840393
00:12:45.160 --> 00:12:47.084 You know regulation most
NOTE Confidence: 0.854570984840393
00:12:47.084 --> 00:12:48.527 specifically blocking PDYPTL.
NOTE Confidence: 0.854570984840393
00:12:48.530 --> 00:12:49.075 Interaction.
NOTE Confidence: 0.854570984840393
00:12:49.075 --> 00:12:52.890 So the other so you can think
NOTE Confidence: 0.854570984840393
00:12:52.890 --> 00:12:56.230 about is to really eliminate.
NOTE Confidence: 0.854570984840393

00:12:56.230 --> 00:12:57.914 Also at least inhibit
NOTE Confidence: 0.854570984840393

00:12:57.914 --> 00:13:00.440 regulatory T cell in the cancer,
NOTE Confidence: 0.854570984840393

00:13:00.440 --> 00:13:03.387 and the other is so more exciting.
NOTE Confidence: 0.854570984840393

00:13:03.390 --> 00:13:04.192 You know,
NOTE Confidence: 0.854570984840393

00:13:04.192 --> 00:13:06.197 that's what I'm going to
NOTE Confidence: 0.854570984840393

00:13:06.197 --> 00:13:08.858 talk about a little bit more.
NOTE Confidence: 0.854570984840393

00:13:08.860 --> 00:13:10.965 Is adoptive cell transfer therapy
NOTE Confidence: 0.854570984840393

00:13:10.965 --> 00:13:13.070 for those adoptive transfer therapy.
NOTE Confidence: 0.854570984840393

00:13:13.070 --> 00:13:15.596 We really can't think about Tuesday.
NOTE Confidence: 0.854570984840393

00:13:15.600 --> 00:13:18.502 Why is non antigen specific, you know?
NOTE Confidence: 0.854570984840393

00:13:18.502 --> 00:13:19.304 Autologous tiles,
NOTE Confidence: 0.854570984840393

00:13:19.304 --> 00:13:21.301 for example, in case hours,
NOTE Confidence: 0.854570984840393

00:13:21.301 --> 00:13:22.889 all tumor infiltrating the
NOTE Confidence: 0.854570984840393

00:13:22.889 --> 00:13:24.810 emphasize and then the other,
NOTE Confidence: 0.854570984840393

00:13:24.810 --> 00:13:26.374 is actually another modified
NOTE Confidence: 0.854570984840393

00:13:26.374 --> 00:13:28.329 version of adoptive cell transfer.

NOTE Confidence: 0.854570984840393
00:13:28.330 --> 00:13:30.670 Transfer therapy is engineering T cells,
NOTE Confidence: 0.854570984840393
00:13:30.670 --> 00:13:33.798 so this will be the car T cells.
NOTE Confidence: 0.854570984840393
00:13:33.800 --> 00:13:37.319 Also, I will spend a little bit time to.
NOTE Confidence: 0.854570984840393
00:13:37.320 --> 00:13:38.358 Another thing is,
NOTE Confidence: 0.854570984840393
00:13:38.358 --> 00:13:40.434 think about if we can identify
NOTE Confidence: 0.854570984840393
00:13:40.434 --> 00:13:42.010 tumor specific antigens.
NOTE Confidence: 0.854570984840393
00:13:42.010 --> 00:13:45.529 We can think about is to use to developers.
NOTE Confidence: 0.854570984840393
00:13:45.530 --> 00:13:47.936 So actually this probably more ideal
NOTE Confidence: 0.854570984840393
00:13:47.936 --> 00:13:50.689 because you will be able to induce.
NOTE Confidence: 0.854570984840393
00:13:50.690 --> 00:13:52.240 Kilmer space saving other immunity.
NOTE Confidence: 0.854570984840393
00:13:52.240 --> 00:13:55.732 So we had done some working in this area
NOTE Confidence: 0.854570984840393
00:13:55.732 --> 00:13:59.363 so I will show you what we have found.
NOTE Confidence: 0.854570984840393
00:13:59.370 --> 00:14:01.920 OK, this is just the introductory
NOTE Confidence: 0.854570984840393
00:14:01.920 --> 00:14:04.689 slide you know for what we are.
NOTE Confidence: 0.854570984840393
00:14:04.690 --> 00:14:06.390 You know, you know,
NOTE Confidence: 0.854570984840393

00:14:06.390 --> 00:14:08.515 for this audience you probably
NOTE Confidence: 0.854570984840393

00:14:08.515 --> 00:14:11.226 all very well now what you know,
NOTE Confidence: 0.854570984840393

00:14:11.230 --> 00:14:12.870 the started for email.
NOTE Confidence: 0.854570984840393

00:14:12.870 --> 00:14:13.690 Check it.
NOTE Confidence: 0.854570984840393

00:14:13.690 --> 00:14:15.975 Check Point inhibitor therapy for
NOTE Confidence: 0.854570984840393

00:14:15.975 --> 00:14:18.684 example is really blocking these two
NOTE Confidence: 0.854570984840393

00:14:18.684 --> 00:14:21.452 inhibitory molecules PD L1 and the CD L4,
NOTE Confidence: 0.854570984840393

00:14:21.460 --> 00:14:23.016 so those are inhibitory.
NOTE Confidence: 0.854570984840393

00:14:23.016 --> 00:14:25.350 So basically with the variables develop
NOTE Confidence: 0.854570984840393

00:14:25.415 --> 00:14:27.605 all kinds of Therapeutics called
NOTE Confidence: 0.854570984840393

00:14:27.605 --> 00:14:30.100 checkpoint inhibitors is blocking those two.
NOTE Confidence: 0.854570984840393

00:14:30.100 --> 00:14:32.564 Inhibitory pathways under treated
NOTE Confidence: 0.854570984840393

00:14:32.564 --> 00:14:37.220 as a way to activate the T cells.
NOTE Confidence: 0.854570984840393

00:14:37.220 --> 00:14:39.425 So for liver cancer, as you know,
NOTE Confidence: 0.854570984840393

00:14:39.430 --> 00:14:41.635 at least right now I mean this.
NOTE Confidence: 0.854570984840393

00:14:41.640 --> 00:14:43.740 You know the update is I say

NOTE Confidence: 0.854570984840393
00:14:43.740 --> 00:14:45.120 this is updated today.
NOTE Confidence: 0.854570984840393
00:14:45.120 --> 00:14:46.700 Maybe it will be changed.
NOTE Confidence: 0.854570984840393
00:14:46.700 --> 00:14:48.596 You know very soon as well,
NOTE Confidence: 0.854570984840393
00:14:48.600 --> 00:14:50.322 because for right now we have
NOTE Confidence: 0.854570984840393
00:14:50.322 --> 00:14:52.070 at least three FDA approved.
NOTE Confidence: 0.854570984840393
00:14:52.070 --> 00:14:53.880 The trackpoint inhibitor is when
NOTE Confidence: 0.854570984840393
00:14:53.880 --> 00:14:56.002 the pipe and temporal needle and
NOTE Confidence: 0.854570984840393
00:14:56.002 --> 00:14:57.496 the other one is against the
NOTE Confidence: 0.854570984840393
00:14:57.496 --> 00:14:59.019 CTLA is I believe mad.
NOTE Confidence: 0.854570984840393
00:14:59.020 --> 00:15:01.232 So those are three FDA approved and
NOTE Confidence: 0.854570984840393
00:15:01.232 --> 00:15:03.450 certainly there are many in the pipeline.
NOTE Confidence: 0.854570984840393
00:15:03.450 --> 00:15:05.655 You see how busy this lies is,
NOTE Confidence: 0.854570984840393
00:15:05.660 --> 00:15:07.240 you know you see those.
NOTE Confidence: 0.854570984840393
00:15:07.240 --> 00:15:08.844 Those are the current.
NOTE Confidence: 0.854570984840393
00:15:08.844 --> 00:15:11.250 In Eagle trials registered away is,
NOTE Confidence: 0.854570984840393

00:15:11.250 --> 00:15:13.950 you know, a clinical trial data.

NOTE Confidence: 0.854570984840393

00:15:13.950 --> 00:15:16.617 And those are the space three trials

NOTE Confidence: 0.854570984840393

00:15:16.617 --> 00:15:19.640 with all kinds of transforming hitters,

NOTE Confidence: 0.854570984840393

00:15:19.640 --> 00:15:22.488 so you will notice is the most of

NOTE Confidence: 0.854570984840393

00:15:22.488 --> 00:15:24.913 the trials actually is looking

NOTE Confidence: 0.854570984840393

00:15:24.913 --> 00:15:27.085 at the combination therapy,

NOTE Confidence: 0.854570984840393

00:15:27.090 --> 00:15:28.413 particularly with tyrosine

NOTE Confidence: 0.854570984840393

00:15:28.413 --> 00:15:30.177 kinase inhibitor also entity.

NOTE Confidence: 0.877010703086853

00:15:30.180 --> 00:15:32.532 EG Efficacy you hitters as well as

NOTE Confidence: 0.877010703086853

00:15:32.532 --> 00:15:34.630 the combined with some, you know,

NOTE Confidence: 0.877010703086853

00:15:34.630 --> 00:15:36.330 a local regional therapy or

NOTE Confidence: 0.877010703086853

00:15:36.330 --> 00:15:38.089 surgical resection so you can

NOTE Confidence: 0.877010703086853

00:15:38.089 --> 00:15:39.779 see the estimated releasing date.

NOTE Confidence: 0.877010703086853

00:15:39.780 --> 00:15:41.156 You know complete, complete,

NOTE Confidence: 0.877010703086853

00:15:41.156 --> 00:15:42.188 complete completion date.

NOTE Confidence: 0.877010703086853

00:15:42.190 --> 00:15:45.268 It will be in the next year or two.

NOTE Confidence: 0.877010703086853

00:15:45.270 --> 00:15:47.526 We're going to see a lot about you

NOTE Confidence: 0.877010703086853

00:15:47.526 --> 00:15:50.601 know the you know the results you know

NOTE Confidence: 0.877010703086853

00:15:50.601 --> 00:15:52.819 related to checkpoint inhibitors for HTC,

NOTE Confidence: 0.877010703086853

00:15:52.820 --> 00:15:55.473 so this is really you know the

NOTE Confidence: 0.877010703086853

00:15:55.473 --> 00:15:57.793 exciting part of you know for

NOTE Confidence: 0.877010703086853

00:15:57.793 --> 00:15:59.995 the in this field right now.

NOTE Confidence: 0.877010703086853

00:16:00.000 --> 00:16:02.754 So now let me try to talk about a

NOTE Confidence: 0.877010703086853

00:16:02.754 --> 00:16:05.478 little bit more like other approach

NOTE Confidence: 0.877010703086853

00:16:05.478 --> 00:16:07.813 which is active investigation by

NOTE Confidence: 0.877010703086853

00:16:07.897 --> 00:16:10.809 quite a number of groups in the world.

NOTE Confidence: 0.877010703086853

00:16:10.810 --> 00:16:13.505 So which is really adopted cell transfer,

NOTE Confidence: 0.877010703086853

00:16:13.510 --> 00:16:14.704 you know, therapy.

NOTE Confidence: 0.877010703086853

00:16:14.704 --> 00:16:17.490 So for those you know this concept

NOTE Confidence: 0.877010703086853

00:16:17.571 --> 00:16:19.296 was in the really knew.

NOTE Confidence: 0.877010703086853

00:16:19.300 --> 00:16:20.844 So the first tumor,

NOTE Confidence: 0.877010703086853

00:16:20.844 --> 00:16:22.390 infiltrating lymphocytes, are paid.
NOTE Confidence: 0.877010703086853

00:16:22.390 --> 00:16:23.930 As you may know,
NOTE Confidence: 0.877010703086853

00:16:23.930 --> 00:16:26.246 it was divided decades ago by
NOTE Confidence: 0.877010703086853

00:16:26.246 --> 00:16:27.404 Rosenberg at NCI.
NOTE Confidence: 0.877010703086853

00:16:27.410 --> 00:16:30.929 So in that case you know he isolated tail.
NOTE Confidence: 0.877010703086853

00:16:30.930 --> 00:16:32.794 Infiltrating lymphocytes for isolated
NOTE Confidence: 0.877010703086853

00:16:32.794 --> 00:16:35.124 fuel from Melanoma patients and
NOTE Confidence: 0.877010703086853

00:16:35.124 --> 00:16:37.427 reinfused ourselves back to the patient.
NOTE Confidence: 0.877010703086853

00:16:37.430 --> 00:16:39.158 But now over particular,
NOTE Confidence: 0.877010703086853

00:16:39.158 --> 00:16:41.318 over the past few years,
NOTE Confidence: 0.877010703086853

00:16:41.320 --> 00:16:44.330 more and more evidence point of the
NOTE Confidence: 0.877010703086853

00:16:44.330 --> 00:16:47.378 really efficacy of this sort of therapy,
NOTE Confidence: 0.877010703086853

00:16:47.380 --> 00:16:50.418 and also most recently you can actually,
NOTE Confidence: 0.877010703086853

00:16:50.420 --> 00:16:51.611 you know culture.
NOTE Confidence: 0.877010703086853

00:16:51.611 --> 00:16:53.993 Certain cells in X-ray invaluable in
NOTE Confidence: 0.877010703086853

00:16:53.993 --> 00:16:56.480 Mitchell and stimulative certainty cells,

NOTE Confidence: 0.877010703086853
00:16:56.480 --> 00:16:58.480 and to induce so-called settle
NOTE Confidence: 0.877010703086853
00:16:58.480 --> 00:17:01.240 toxic T cells and then refilled.
NOTE Confidence: 0.877010703086853
00:17:01.240 --> 00:17:03.766 So cells back to cancer patients.
NOTE Confidence: 0.877010703086853
00:17:03.770 --> 00:17:05.750 And another is really the
NOTE Confidence: 0.877010703086853
00:17:05.750 --> 00:17:07.334 innate immune response arm,
NOTE Confidence: 0.877010703086853
00:17:07.340 --> 00:17:09.330 which is in case else,
NOTE Confidence: 0.877010703086853
00:17:09.330 --> 00:17:11.696 you know by definition in case else
NOTE Confidence: 0.877010703086853
00:17:11.696 --> 00:17:13.730 it's the main biological function
NOTE Confidence: 0.877010703086853
00:17:13.730 --> 00:17:16.095 is really as a surveillance.
NOTE Confidence: 0.877010703086853
00:17:16.100 --> 00:17:18.030 Places Seville's role in the
NOTE Confidence: 0.877010703086853
00:17:18.030 --> 00:17:20.386 party at that will check out
NOTE Confidence: 0.877010703086853
00:17:20.386 --> 00:17:22.504 all the auto kill tumor cells.
NOTE Confidence: 0.877010703086853
00:17:22.510 --> 00:17:25.156 So there are a lot of attention
NOTE Confidence: 0.877010703086853
00:17:25.156 --> 00:17:27.029 on empty cells as well,
NOTE Confidence: 0.877010703086853
00:17:27.030 --> 00:17:29.870 so I will share a little bit of data we
NOTE Confidence: 0.877010703086853

00:17:29.949 --> 00:17:32.355 have written that down within himself
NOTE Confidence: 0.877010703086853

00:17:32.355 --> 00:17:34.895 and of course the excitement coming
NOTE Confidence: 0.877010703086853

00:17:34.895 --> 00:17:38.335 from the engineer T cells which is party.
NOTE Confidence: 0.877010703086853

00:17:38.340 --> 00:17:41.356 So those are we'll just talk back so.
NOTE Confidence: 0.877010703086853

00:17:41.360 --> 00:17:43.999 So let's first to look at it.
NOTE Confidence: 0.877010703086853

00:17:44.000 --> 00:17:46.298 This how we can induce more.
NOTE Confidence: 0.877010703086853

00:17:46.300 --> 00:17:47.419 After specific immunity.
NOTE Confidence: 0.877010703086853

00:17:47.419 --> 00:17:47.792 Alright,
NOTE Confidence: 0.877010703086853

00:17:47.792 --> 00:17:50.030 so in this case you know
NOTE Confidence: 0.877010703086853

00:17:50.098 --> 00:17:51.898 you probably won't find out.
NOTE Confidence: 0.877010703086853

00:17:51.900 --> 00:17:54.210 Is there any tumor antigen or is
NOTE Confidence: 0.877010703086853

00:17:54.210 --> 00:17:56.131 there any specific tumor energy
NOTE Confidence: 0.877010703086853

00:17:56.131 --> 00:17:57.855 you had asserted carcinoma?
NOTE Confidence: 0.877010703086853

00:17:57.860 --> 00:17:58.478 So indeed,
NOTE Confidence: 0.877010703086853

00:17:58.478 --> 00:18:00.641 you know over the years we know
NOTE Confidence: 0.877010703086853

00:18:00.641 --> 00:18:03.257 Alpha fetal protein is one of the

NOTE Confidence: 0.877010703086853
00:18:03.257 --> 00:18:04.749 first tumor antigen associated
NOTE Confidence: 0.877010703086853
00:18:04.822 --> 00:18:06.818 with hypothesize are carcinoma.
NOTE Confidence: 0.877010703086853
00:18:06.820 --> 00:18:08.204 However with multiple different
NOTE Confidence: 0.877010703086853
00:18:08.204 --> 00:18:10.280 groups of trying to use Alpha
NOTE Confidence: 0.877010703086853
00:18:10.338 --> 00:18:12.038 Fetoprotein for email therapy,
NOTE Confidence: 0.877010703086853
00:18:12.040 --> 00:18:14.278 the results are really mcleese mixed
NOTE Confidence: 0.877010703086853
00:18:14.278 --> 00:18:16.900 because maybe the Alpha fetal protein is.
NOTE Confidence: 0.877010703086853
00:18:16.900 --> 00:18:18.870 Really highly expressed in embryo
NOTE Confidence: 0.877010703086853
00:18:18.870 --> 00:18:21.476 Genesis and also in some other
NOTE Confidence: 0.877010703086853
00:18:21.476 --> 00:18:23.159 highly proliferating cells,
NOTE Confidence: 0.877010703086853
00:18:23.160 --> 00:18:25.620 so it's great it louder challenge
NOTE Confidence: 0.877010703086853
00:18:25.620 --> 00:18:28.644 so this slide show that you over
NOTE Confidence: 0.877010703086853
00:18:28.644 --> 00:18:31.248 the years and actually for hyper
NOTE Confidence: 0.877010703086853
00:18:31.248 --> 00:18:32.550 disorder carcinoma.
NOTE Confidence: 0.877010703086853
00:18:32.550 --> 00:18:34.740 Fortunately we do with you know
NOTE Confidence: 0.877010703086853

00:18:34.740 --> 00:18:37.900 we did find a variable to render
NOTE Confidence: 0.877010703086853

00:18:37.900 --> 00:18:40.590 gene called glide different three.
NOTE Confidence: 0.877010703086853

00:18:40.590 --> 00:18:43.719 You can see this is likely country
NOTE Confidence: 0.877010703086853

00:18:43.719 --> 00:18:44.166 expression.
NOTE Confidence: 0.877010703086853

00:18:44.170 --> 00:18:45.994 You know fairly specifically
NOTE Confidence: 0.877010703086853

00:18:45.994 --> 00:18:46.906 specifically expressing.
NOTE Confidence: 0.816829929749171

00:18:46.910 --> 00:18:49.910 Carcinoma So what is great because
NOTE Confidence: 0.816829929749171

00:18:49.910 --> 00:18:53.499 way so this clapping series X you know
NOTE Confidence: 0.816829929749171

00:18:53.499 --> 00:18:56.830 it's you know it's an X chromosome,
NOTE Confidence: 0.816829929749171

00:18:56.830 --> 00:18:59.966 so it's highly expressed in the Amber
NOTE Confidence: 0.816829929749171

00:18:59.966 --> 00:19:02.957 Genesis and stuff you know in adult
NOTE Confidence: 0.816829929749171

00:19:02.957 --> 00:19:06.038 issue and then re over express in more
NOTE Confidence: 0.816829929749171

00:19:06.038 --> 00:19:08.151 than 90% of hypothesized personal.
NOTE Confidence: 0.816829929749171

00:19:08.151 --> 00:19:10.586 So unfortunately we really do
NOTE Confidence: 0.816829929749171

00:19:10.586 --> 00:19:12.944 not understand the role of the
NOTE Confidence: 0.816829929749171

00:19:12.944 --> 00:19:14.906 life agents rate at the moment.

NOTE Confidence: 0.816829929749171

00:19:14.910 --> 00:19:17.661 I mean I had two graduate student

NOTE Confidence: 0.816829929749171

00:19:17.661 --> 00:19:19.440 had dedicated their season.

NOTE Confidence: 0.816829929749171

00:19:19.440 --> 00:19:22.121 Trying to figure out what is the

NOTE Confidence: 0.816829929749171

00:19:22.121 --> 00:19:24.180 biological role of glycogen 3.

NOTE Confidence: 0.816829929749171

00:19:24.180 --> 00:19:24.942 After disappointing,

NOTE Confidence: 0.816829929749171

00:19:24.942 --> 00:19:27.990 you know we have say it looks like

NOTE Confidence: 0.816829929749171

00:19:28.061 --> 00:19:30.593 the gladness re somehow interact with

NOTE Confidence: 0.816829929749171

00:19:30.593 --> 00:19:33.458 other growth factor and to create a

NOTE Confidence: 0.816829929749171

00:19:33.458 --> 00:19:35.660 micro environment on the cell surface

NOTE Confidence: 0.816829929749171

00:19:35.660 --> 00:19:38.005 and it would direct the downstream

NOTE Confidence: 0.816829929749171

00:19:38.005 --> 00:19:39.980 safely to regular cell growth.

NOTE Confidence: 0.816829929749171

00:19:39.980 --> 00:19:41.672 Interestingly enough gladly constraint.

NOTE Confidence: 0.816829929749171

00:19:41.672 --> 00:19:45.349 And now there is a general like a genetic

NOTE Confidence: 0.816829929749171

00:19:45.349 --> 00:19:47.485 syndrome which is a Simpson Globby,

NOTE Confidence: 0.816829929749171

00:19:47.490 --> 00:19:49.500 you know a Homer syndrome.

NOTE Confidence: 0.816829929749171

00:19:49.500 --> 00:19:51.516 I have never seen temptation like
NOTE Confidence: 0.816829929749171

00:19:51.516 --> 00:19:53.839 this is only rated from textbook,
NOTE Confidence: 0.816829929749171

00:19:53.840 --> 00:19:56.018 so this is a syndrome actually.
NOTE Confidence: 0.816829929749171

00:19:56.020 --> 00:19:58.756 Is that loss of function of by pigments
NOTE Confidence: 0.816829929749171

00:19:58.756 --> 00:20:01.556 rate so you can see it in overall if
NOTE Confidence: 0.816829929749171

00:20:01.556 --> 00:20:04.692 you look at the syndrome is it looks
NOTE Confidence: 0.816829929749171

00:20:04.692 --> 00:20:06.877 like deletions of glycogen straight
NOTE Confidence: 0.816829929749171

00:20:06.880 --> 00:20:09.280 create some sort of overgrowth.
NOTE Confidence: 0.816829929749171

00:20:09.280 --> 00:20:09.648 Alright,
NOTE Confidence: 0.816829929749171

00:20:09.648 --> 00:20:12.592 so this you know that it has been
NOTE Confidence: 0.816829929749171

00:20:12.592 --> 00:20:14.528 confirmed in the now customize.
NOTE Confidence: 0.816829929749171

00:20:14.530 --> 00:20:15.631 Look at this.
NOTE Confidence: 0.816829929749171

00:20:15.631 --> 00:20:17.833 Now customize the embryo is just
NOTE Confidence: 0.816829929749171

00:20:17.833 --> 00:20:20.428 the much larger than the white type
NOTE Confidence: 0.816829929749171

00:20:20.428 --> 00:20:22.720 so this is almost the antithesis
NOTE Confidence: 0.816829929749171

00:20:22.720 --> 00:20:24.660 for us to think about.

NOTE Confidence: 0.816829929749171
00:20:24.660 --> 00:20:26.052 If it's a delight,
NOTE Confidence: 0.816829929749171
00:20:26.052 --> 00:20:28.140 beacon three can somehow as you
NOTE Confidence: 0.816829929749171
00:20:28.218 --> 00:20:30.660 know looks like tumor antigen mold,
NOTE Confidence: 0.816829929749171
00:20:30.660 --> 00:20:32.530 cancer formation but somehow during
NOTE Confidence: 0.816829929749171
00:20:32.530 --> 00:20:34.026 development is actually typing.
NOTE Confidence: 0.816829929749171
00:20:34.030 --> 00:20:36.082 Three seems to act as surprising
NOTE Confidence: 0.816829929749171
00:20:36.082 --> 00:20:38.530 function and to check the development.
NOTE Confidence: 0.816829929749171
00:20:38.530 --> 00:20:39.974 You know during the.
NOTE Confidence: 0.816829929749171
00:20:39.974 --> 00:20:42.470 And then if you look at it,
NOTE Confidence: 0.816829929749171
00:20:42.470 --> 00:20:44.468 overall expression pad network IP gains
NOTE Confidence: 0.816829929749171
00:20:44.468 --> 00:20:46.468 rate there, it's really you know,
NOTE Confidence: 0.816829929749171
00:20:46.468 --> 00:20:47.796 three major organs expressed,
NOTE Confidence: 0.816829929749171
00:20:47.800 --> 00:20:49.128 blindness Ray and organize.
NOTE Confidence: 0.816829929749171
00:20:49.128 --> 00:20:49.460 Well,
NOTE Confidence: 0.816829929749171
00:20:49.460 --> 00:20:51.326 I you know the highest one
NOTE Confidence: 0.816829929749171

00:20:51.326 --> 00:20:53.439 actually is a play center, right?
NOTE Confidence: 0.816829929749171

00:20:53.439 --> 00:20:55.293 So the play center has highest
NOTE Confidence: 0.816829929749171

00:20:55.293 --> 00:20:56.790 expression of the clapping.
NOTE Confidence: 0.816829929749171

00:20:56.790 --> 00:20:57.436 Answer it,
NOTE Confidence: 0.816829929749171

00:20:57.436 --> 00:21:00.020 but that's why I think that just last
NOTE Confidence: 0.816829929749171

00:21:00.090 --> 00:21:03.114 month I went to see and Harvey Doctor Harvey,
NOTE Confidence: 0.816829929749171

00:21:03.120 --> 00:21:03.491 Claimant,
NOTE Confidence: 0.816829929749171

00:21:03.491 --> 00:21:06.459 who is really the leading expert in press
NOTE Confidence: 0.816829929749171

00:21:06.459 --> 00:21:09.104 enter here at you and I talked with him.
NOTE Confidence: 0.816829929749171

00:21:09.110 --> 00:21:10.840 So I said, You know?
NOTE Confidence: 0.816829929749171

00:21:10.840 --> 00:21:13.078 Let's figure out what is it.
NOTE Confidence: 0.816829929749171

00:21:13.080 --> 00:21:13.454 Skype,
NOTE Confidence: 0.816829929749171

00:21:13.454 --> 00:21:16.446 even serious role in place and are right.
NOTE Confidence: 0.816829929749171

00:21:16.450 --> 00:21:18.688 I know what the other organisms,
NOTE Confidence: 0.816829929749171

00:21:18.690 --> 00:21:20.178 fatal liver you see.
NOTE Confidence: 0.816829929749171

00:21:20.178 --> 00:21:21.666 This looks pretty express

NOTE Confidence: 0.816829929749171
00:21:21.666 --> 00:21:23.558 and then also fatal lock.
NOTE Confidence: 0.816829929749171
00:21:23.560 --> 00:21:25.798 And then I add other tissue.
NOTE Confidence: 0.816829929749171
00:21:25.800 --> 00:21:27.670 Long is completely zero expression.
NOTE Confidence: 0.816829929749171
00:21:27.670 --> 00:21:29.914 I thought you know like make
NOTE Confidence: 0.816829929749171
00:21:29.914 --> 00:21:31.410 sure they were tissue.
NOTE Confidence: 0.816829929749171
00:21:31.410 --> 00:21:34.182 Now normally they do not express flight
NOTE Confidence: 0.816829929749171
00:21:34.182 --> 00:21:36.599 PS3 but however is expressed in.
NOTE Confidence: 0.816829929749171
00:21:36.600 --> 00:21:38.670 Is the you know the email,
NOTE Confidence: 0.816829929749171
00:21:38.670 --> 00:21:41.430 his chemistry, you see all the you know,
NOTE Confidence: 0.816829929749171
00:21:41.430 --> 00:21:43.500 the cancer cells expressed those things.
NOTE Confidence: 0.816829929749171
00:21:43.500 --> 00:21:45.915 You know the proteins on the cell
NOTE Confidence: 0.816829929749171
00:21:45.915 --> 00:21:47.802 membrane and actually this is one
NOTE Confidence: 0.816829929749171
00:21:47.802 --> 00:21:49.643 of the market you know in full
NOTE Confidence: 0.816829929749171
00:21:49.710 --> 00:21:51.778 pathologist will liver pathology.
NOTE Confidence: 0.816829929749171
00:21:51.780 --> 00:21:53.176 Sometimes when we question
NOTE Confidence: 0.816829929749171

00:21:53.176 --> 00:21:55.270 about whether this is cancer or
NOTE Confidence: 0.867510676383972

00:21:55.339 --> 00:21:57.650 not, we tend to do email history,
NOTE Confidence: 0.867510676383972

00:21:57.650 --> 00:21:59.370 chemistry to confirm, you know,
NOTE Confidence: 0.867510676383972

00:21:59.370 --> 00:22:02.475 to help us to make a diagnosis of hypothesis,
NOTE Confidence: 0.867510676383972

00:22:02.480 --> 00:22:03.776 elder personal. Alright,
NOTE Confidence: 0.867510676383972

00:22:03.776 --> 00:22:07.344 so this is also we checked with all
NOTE Confidence: 0.867510676383972

00:22:07.344 --> 00:22:09.659 the different cancer cell lines,
NOTE Confidence: 0.867510676383972

00:22:09.660 --> 00:22:12.509 tissues and both at mouse and human.
NOTE Confidence: 0.867510676383972

00:22:12.510 --> 00:22:14.074 So Interestingly, the mouse,
NOTE Confidence: 0.867510676383972

00:22:14.074 --> 00:22:16.980 iPad or cellular carcinoma does not express.
NOTE Confidence: 0.867510676383972

00:22:16.980 --> 00:22:19.460 Could I pick three and only in the
NOTE Confidence: 0.867510676383972

00:22:19.460 --> 00:22:22.044 humans of different cell lines we
NOTE Confidence: 0.867510676383972

00:22:22.044 --> 00:22:24.404 have checked and the overexpressed
NOTE Confidence: 0.867510676383972

00:22:24.404 --> 00:22:26.787 clapping in the normal hypothesize.
NOTE Confidence: 0.867510676383972

00:22:26.790 --> 00:22:28.346 But does not express,
NOTE Confidence: 0.867510676383972

00:22:28.346 --> 00:22:31.652 so this is a because of the mouse

NOTE Confidence: 0.867510676383972
00:22:31.652 --> 00:22:34.739 had a salad or carcinoma does not
NOTE Confidence: 0.867510676383972
00:22:34.739 --> 00:22:37.259 express quite happy constraint.
NOTE Confidence: 0.867510676383972
00:22:37.260 --> 00:22:40.571 Actually created item vantage for us to
NOTE Confidence: 0.867510676383972
00:22:40.571 --> 00:22:43.649 create some model to study this date.
NOTE Confidence: 0.867510676383972
00:22:43.650 --> 00:22:45.150 Potential human or therapy.
NOTE Confidence: 0.867510676383972
00:22:45.150 --> 00:22:47.400 Because when we talk about it,
NOTE Confidence: 0.867510676383972
00:22:47.400 --> 00:22:49.650 we want to do emails Arabic.
NOTE Confidence: 0.867510676383972
00:22:49.650 --> 00:22:52.962 You know we have to create a model and
NOTE Confidence: 0.867510676383972
00:22:52.962 --> 00:22:56.395 see how we can test some of our ideas.
NOTE Confidence: 0.867510676383972
00:22:56.400 --> 00:22:59.292 So this is just the last, you know,
NOTE Confidence: 0.867510676383972
00:22:59.292 --> 00:23:01.860 sort of a last slide of Truth demonstrated
NOTE Confidence: 0.867510676383972
00:23:01.924 --> 00:23:03.900 the collective Pickens Research,
NOTE Confidence: 0.867510676383972
00:23:03.900 --> 00:23:06.525 you know, expression and its role in,
NOTE Confidence: 0.867510676383972
00:23:06.530 --> 00:23:07.314 you know.
NOTE Confidence: 0.867510676383972
00:23:07.314 --> 00:23:10.886 You can see it so here is, you know,
NOTE Confidence: 0.867510676383972

00:23:10.886 --> 00:23:13.364 almost exclusively expressed in HTC and
NOTE Confidence: 0.867510676383972

00:23:13.364 --> 00:23:16.757 the same time you can see it is correlation.
NOTE Confidence: 0.867510676383972

00:23:16.760 --> 00:23:19.838 It seems to be correlated with
NOTE Confidence: 0.867510676383972

00:23:19.838 --> 00:23:20.864 worst personalities.
NOTE Confidence: 0.867510676383972

00:23:20.870 --> 00:23:21.570 So now,
NOTE Confidence: 0.867510676383972

00:23:21.570 --> 00:23:22.620 as I mentioned,
NOTE Confidence: 0.867510676383972

00:23:22.620 --> 00:23:25.188 that has turned to see how we built
NOTE Confidence: 0.867510676383972

00:23:25.188 --> 00:23:27.297 this model because we have over
NOTE Confidence: 0.867510676383972

00:23:27.297 --> 00:23:29.823 the years and longer we built this
NOTE Confidence: 0.867510676383972

00:23:29.823 --> 00:23:32.364 model which is the Bob semis totally
NOTE Confidence: 0.867510676383972

00:23:32.364 --> 00:23:34.322 immune are committed and then we
NOTE Confidence: 0.867510676383972

00:23:34.322 --> 00:23:36.170 have this person normal cell like
NOTE Confidence: 0.867510676383972

00:23:36.231 --> 00:23:37.967 original derived from optimise.
NOTE Confidence: 0.867510676383972

00:23:37.970 --> 00:23:40.554 So as I mentioned earlier so this cell
NOTE Confidence: 0.867510676383972

00:23:40.554 --> 00:23:43.556 line does not express any guy picking three.
NOTE Confidence: 0.867510676383972

00:23:43.560 --> 00:23:46.080 So what we did is to overexpress human

NOTE Confidence: 0.867510676383972
00:23:46.080 --> 00:23:48.642 like Bacon three in the mouse outline
NOTE Confidence: 0.867510676383972
00:23:48.642 --> 00:23:50.960 and then inoculate through this minus.
NOTE Confidence: 0.867510676383972
00:23:50.960 --> 00:23:53.522 And it will see you know whether
NOTE Confidence: 0.867510676383972
00:23:53.522 --> 00:23:56.377 we can have a model to test the,
NOTE Confidence: 0.867510676383972
00:23:56.380 --> 00:23:58.180 you know anti tumor immunity.
NOTE Confidence: 0.867510676383972
00:23:58.180 --> 00:23:59.224 So this is,
NOTE Confidence: 0.867510676383972
00:23:59.224 --> 00:24:02.510 you know just a slide to show you here.
NOTE Confidence: 0.867510676383972
00:24:02.510 --> 00:24:04.634 For example whenever you introduce this
NOTE Confidence: 0.867510676383972
00:24:04.634 --> 00:24:07.567 cell line to the opposite minus you see.
NOTE Confidence: 0.867510676383972
00:24:07.570 --> 00:24:09.964 This is why type spleen and then
NOTE Confidence: 0.867510676383972
00:24:09.964 --> 00:24:12.761 this is the tumor. Very mouse split.
NOTE Confidence: 0.867510676383972
00:24:12.761 --> 00:24:14.796 This is a bother significantly
NOTE Confidence: 0.867510676383972
00:24:14.796 --> 00:24:16.564 large sometimes you know obvious
NOTE Confidence: 0.867510676383972
00:24:16.564 --> 00:24:18.034 between 3 to 5 four,
NOTE Confidence: 0.867510676383972
00:24:18.040 --> 00:24:19.870 so the indicating indeed the
NOTE Confidence: 0.867510676383972

00:24:19.870 --> 00:24:21.700 Bobbsey might will see this.
NOTE Confidence: 0.867510676383972

00:24:21.700 --> 00:24:23.152 Far into Hypersolar Carcinoma
NOTE Confidence: 0.867510676383972

00:24:23.152 --> 00:24:24.967 ISO for in the summer.
NOTE Confidence: 0.867510676383972

00:24:24.970 --> 00:24:27.148 Hawk trying to Mount immune response,
NOTE Confidence: 0.867510676383972

00:24:27.150 --> 00:24:30.006 but at the end the tumor wins because
NOTE Confidence: 0.867510676383972

00:24:30.006 --> 00:24:32.587 within two or three weeks there is.
NOTE Confidence: 0.867510676383972

00:24:32.590 --> 00:24:34.410 You know, big tumor produce.
NOTE Confidence: 0.867510676383972

00:24:34.410 --> 00:24:34.744 Either,
NOTE Confidence: 0.867510676383972

00:24:34.744 --> 00:24:37.416 you know when we do the subq injection
NOTE Confidence: 0.867510676383972

00:24:37.416 --> 00:24:40.210 or we do the also topically rejection,
NOTE Confidence: 0.867510676383972

00:24:40.210 --> 00:24:43.250 you can quickly develop this HTC in the
NOTE Confidence: 0.867510676383972

00:24:43.250 --> 00:24:46.377 box emails and then we look at the worst.
NOTE Confidence: 0.867510676383972

00:24:46.380 --> 00:24:48.928 The cells in the privacy you know.
NOTE Confidence: 0.867510676383972

00:24:48.930 --> 00:24:51.858 Certainly we have all the different type of.
NOTE Confidence: 0.867510676383972

00:24:51.860 --> 00:24:54.788 Salsa peace out most of the T cells,
NOTE Confidence: 0.867510676383972

00:24:54.790 --> 00:24:56.920 but actually if you will be

NOTE Confidence: 0.867510676383972

00:24:56.920 --> 00:24:58.810 further phenotype of those cells,

NOTE Confidence: 0.867510676383972

00:24:58.810 --> 00:25:00.976 most of those actually there is

NOTE Confidence: 0.867510676383972

00:25:00.976 --> 00:25:02.420 significant regulatory T cell

NOTE Confidence: 0.867510676383972

00:25:02.480 --> 00:25:04.670 components and also MD SC components,

NOTE Confidence: 0.865788102149963

00:25:04.670 --> 00:25:07.225 so indicating so in this box model.

NOTE Confidence: 0.865788102149963

00:25:07.230 --> 00:25:08.742 Indeed there is email,

NOTE Confidence: 0.865788102149963

00:25:08.742 --> 00:25:10.632 surprised phenotype and so that's

NOTE Confidence: 0.865788102149963

00:25:10.632 --> 00:25:13.090 why the tumor wins and two produces.

NOTE Confidence: 0.865788102149963

00:25:13.090 --> 00:25:15.785 So we think this probably is very

NOTE Confidence: 0.865788102149963

00:25:15.785 --> 00:25:18.630 good model for us to look how we

NOTE Confidence: 0.865788102149963

00:25:18.630 --> 00:25:21.083 can develop a model to test some

NOTE Confidence: 0.865788102149963

00:25:21.083 --> 00:25:23.764 of the ideas we wanted to detach.

NOTE Confidence: 0.865788102149963

00:25:23.770 --> 00:25:25.318 'cause I'm wiser, circular.

NOTE Confidence: 0.865788102149963

00:25:25.318 --> 00:25:26.866 I've seen the others.

NOTE Confidence: 0.865788102149963

00:25:26.870 --> 00:25:29.859 We want to also think about how

NOTE Confidence: 0.865788102149963

00:25:29.859 --> 00:25:31.598 to manipulate manipulate the
NOTE Confidence: 0.865788102149963

00:25:31.598 --> 00:25:33.884 different immune system and to check
NOTE Confidence: 0.865788102149963

00:25:33.884 --> 00:25:37.201 to see if we can have some more
NOTE Confidence: 0.865788102149963

00:25:37.201 --> 00:25:39.296 effective and the tumor immunity.
NOTE Confidence: 0.865788102149963

00:25:39.300 --> 00:25:41.988 So first you know, as I mentioned,
NOTE Confidence: 0.865788102149963

00:25:41.990 --> 00:25:43.526 the clapping and straight,
NOTE Confidence: 0.865788102149963

00:25:43.526 --> 00:25:45.830 you know this highly expressed tumors.
NOTE Confidence: 0.865788102149963

00:25:45.830 --> 00:25:46.979 It'll specific energy.
NOTE Confidence: 0.865788102149963

00:25:46.979 --> 00:25:48.894 So when we did that,
NOTE Confidence: 0.865788102149963

00:25:48.900 --> 00:25:51.964 go in the traditional method that you say,
NOTE Confidence: 0.865788102149963

00:25:51.970 --> 00:25:54.298 OK, we will just be recreated.
NOTE Confidence: 0.865788102149963

00:25:54.300 --> 00:25:56.925 Called in and trying to you know,
NOTE Confidence: 0.865788102149963

00:25:56.930 --> 00:25:57.710 you know,
NOTE Confidence: 0.865788102149963

00:25:57.710 --> 00:25:59.270 build recombinant protein both
NOTE Confidence: 0.865788102149963

00:25:59.270 --> 00:26:01.439 in front bacterial from the East,
NOTE Confidence: 0.865788102149963

00:26:01.440 --> 00:26:03.320 and then use the protein.

NOTE Confidence: 0.865788102149963

00:26:03.320 --> 00:26:06.080 As you know energy and to email those

NOTE Confidence: 0.865788102149963

00:26:06.080 --> 00:26:09.145 mice so this data show you just show

NOTE Confidence: 0.865788102149963

00:26:09.145 --> 00:26:11.599 you after we immunize those mice,

NOTE Confidence: 0.865788102149963

00:26:11.600 --> 00:26:13.100 and then we check,

NOTE Confidence: 0.865788102149963

00:26:13.100 --> 00:26:13.850 you know,

NOTE Confidence: 0.865788102149963

00:26:13.850 --> 00:26:16.286 we did not really see any significant

NOTE Confidence: 0.865788102149963

00:26:16.286 --> 00:26:18.605 changes into in terms of humor

NOTE Confidence: 0.865788102149963

00:26:18.605 --> 00:26:20.615 side before and after vaccination,

NOTE Confidence: 0.865788102149963

00:26:20.620 --> 00:26:23.245 and then we check the cellular immunity

NOTE Confidence: 0.865788102149963

00:26:23.245 --> 00:26:25.189 and humoral immunity and overall.

NOTE Confidence: 0.865788102149963

00:26:25.190 --> 00:26:26.645 Conclusion from that is we

NOTE Confidence: 0.865788102149963

00:26:26.645 --> 00:26:27.518 tried multiple times.

NOTE Confidence: 0.865788102149963

00:26:27.520 --> 00:26:29.368 If we just inject eclectic and straight

NOTE Confidence: 0.865788102149963

00:26:29.368 --> 00:26:31.879 to the mice with another really created any,

NOTE Confidence: 0.865788102149963

00:26:31.880 --> 00:26:33.917 I need two more community in this,

NOTE Confidence: 0.865788102149963

00:26:33.920 --> 00:26:36.188 at least in this mouse model.
NOTE Confidence: 0.865788102149963

00:26:36.190 --> 00:26:38.892 And then we say, you know, you know.
NOTE Confidence: 0.865788102149963

00:26:38.892 --> 00:26:40.968 Then we check the tumor within
NOTE Confidence: 0.865788102149963

00:26:40.968 --> 00:26:42.890 our really see any you know,
NOTE Confidence: 0.865788102149963

00:26:42.890 --> 00:26:44.570 tumor infiltrating emphasize as well.
NOTE Confidence: 0.865788102149963

00:26:44.570 --> 00:26:46.832 So then we just tested this
NOTE Confidence: 0.865788102149963

00:26:46.832 --> 00:26:48.960 idea to see how about.
NOTE Confidence: 0.865788102149963

00:26:48.960 --> 00:26:49.634 You know,
NOTE Confidence: 0.865788102149963

00:26:49.634 --> 00:26:51.319 we think that different approach.
NOTE Confidence: 0.865788102149963

00:26:51.320 --> 00:26:53.984 So why I'm proud that we feel is maybe
NOTE Confidence: 0.865788102149963

00:26:53.984 --> 00:26:56.930 we should think about how to allow the
NOTE Confidence: 0.865788102149963

00:26:56.930 --> 00:26:59.410 light beacon St guide to the real,
NOTE Confidence: 0.865788102149963

00:26:59.410 --> 00:27:02.290 you know the immune organs in case like go
NOTE Confidence: 0.865788102149963

00:27:02.290 --> 00:27:05.466 to the split or go through the lymph node.
NOTE Confidence: 0.865788102149963

00:27:05.470 --> 00:27:07.498 So one idea we did try,
NOTE Confidence: 0.865788102149963

00:27:07.500 --> 00:27:09.887 you know at that time sort of

NOTE Confidence: 0.865788102149963
00:27:09.887 --> 00:27:11.880 thought about it is you know,
NOTE Confidence: 0.865788102149963
00:27:11.880 --> 00:27:13.416 how about we conjugate?
NOTE Confidence: 0.865788102149963
00:27:13.416 --> 00:27:15.720 Collecting three with lymphocytes so using
NOTE Confidence: 0.865788102149963
00:27:15.778 --> 00:27:18.280 this chemical I do not try to pronounce it,
NOTE Confidence: 0.865788102149963
00:27:18.280 --> 00:27:19.050 you know.
NOTE Confidence: 0.865788102149963
00:27:19.050 --> 00:27:20.590 CC and uses conjugate.
NOTE Confidence: 0.865788102149963
00:27:20.590 --> 00:27:22.990 Basically we conjugated the glide Pickens,
NOTE Confidence: 0.865788102149963
00:27:22.990 --> 00:27:24.349 reporting with lymphocytes.
NOTE Confidence: 0.865788102149963
00:27:24.349 --> 00:27:27.923 So that hypothesis hypothesis was to use in
NOTE Confidence: 0.865788102149963
00:27:27.923 --> 00:27:30.587 the table in full size carry this protein,
NOTE Confidence: 0.865788102149963
00:27:30.590 --> 00:27:33.338 the energy and the lymphocytes has
NOTE Confidence: 0.865788102149963
00:27:33.338 --> 00:27:35.566 this natural homing capability and
NOTE Confidence: 0.865788102149963
00:27:35.566 --> 00:27:37.785 they will go to the right email.
NOTE Confidence: 0.865788102149963
00:27:37.790 --> 00:27:38.190 Oregon.
NOTE Confidence: 0.865788102149963
00:27:38.190 --> 00:27:40.590 Maybe that will excite, you know,
NOTE Confidence: 0.865788102149963

00:27:40.590 --> 00:27:42.990 to initiate, and the tumor immunity.
NOTE Confidence: 0.865788102149963

00:27:42.990 --> 00:27:46.190 So actually that's indeed it was the case.
NOTE Confidence: 0.865788102149963

00:27:46.190 --> 00:27:48.997 So this is just to show you.
NOTE Confidence: 0.865788102149963

00:27:49.000 --> 00:27:51.345 You know we conjugated and emphasize with,
NOTE Confidence: 0.865788102149963

00:27:51.350 --> 00:27:53.020 you know, with the protein,
NOTE Confidence: 0.865788102149963

00:27:53.020 --> 00:27:55.030 and then we inject, you know,
NOTE Confidence: 0.865788102149963

00:27:55.030 --> 00:27:56.011 enjoy the back.
NOTE Confidence: 0.865788102149963

00:27:56.011 --> 00:27:58.720 Those info size you know to the mice,
NOTE Confidence: 0.865788102149963

00:27:58.720 --> 00:28:01.058 and then we look at the tumor.
NOTE Confidence: 0.865788102149963

00:28:01.060 --> 00:28:02.650 You fancy the conjugated what
NOTE Confidence: 0.865788102149963

00:28:02.650 --> 00:28:04.240 so you can efficiently surprise
NOTE Confidence: 0.865788102149963

00:28:04.297 --> 00:28:06.385 the tumor growth and this will
NOTE Confidence: 0.865788102149963

00:28:06.385 --> 00:28:07.429 different treatment protocol.
NOTE Confidence: 0.85026603937149

00:28:07.430 --> 00:28:09.768 You can see it's really time dependent,
NOTE Confidence: 0.85026603937149

00:28:09.770 --> 00:28:11.780 and so this is very exciting.
NOTE Confidence: 0.85026603937149

00:28:11.780 --> 00:28:13.460 And then we say, OK,

NOTE Confidence: 0.85026603937149

00:28:13.460 --> 00:28:15.357 let's check it was, you know all

NOTE Confidence: 0.85026603937149

00:28:15.357 --> 00:28:17.479 the cells and different components.

NOTE Confidence: 0.85026603937149

00:28:17.480 --> 00:28:20.522 So this just to show you which acted like.

NOTE Confidence: 0.85026603937149

00:28:20.530 --> 00:28:22.340 This is an ileus part,

NOTE Confidence: 0.85026603937149

00:28:22.340 --> 00:28:24.140 definitely compared to the control,

NOTE Confidence: 0.85026603937149

00:28:24.140 --> 00:28:27.389 you can see a lot of activated T cells.

NOTE Confidence: 0.85026603937149

00:28:27.390 --> 00:28:28.473 More importantly exciting

NOTE Confidence: 0.85026603937149

00:28:28.473 --> 00:28:29.917 is after this congregation.

NOTE Confidence: 0.85026603937149

00:28:29.920 --> 00:28:32.068 Actually we can see the lymphocytes

NOTE Confidence: 0.85026603937149

00:28:32.068 --> 00:28:33.890 actually infiltrated into the tumor.

NOTE Confidence: 0.85026603937149

00:28:33.890 --> 00:28:35.690 So this is a boy.

NOTE Confidence: 0.85026603937149

00:28:35.690 --> 00:28:36.378 We believe.

NOTE Confidence: 0.85026603937149

00:28:36.378 --> 00:28:39.130 This is probably why we you know this

NOTE Confidence: 0.85026603937149

00:28:39.201 --> 00:28:42.146 sortable bikes vaccination approach works.

NOTE Confidence: 0.85026603937149

00:28:42.150 --> 00:28:42.860 So again,

NOTE Confidence: 0.85026603937149

00:28:42.860 --> 00:28:44.990 this is just another different data.
NOTE Confidence: 0.85026603937149

00:28:44.990 --> 00:28:46.904 I you know to show you
NOTE Confidence: 0.85026603937149

00:28:46.904 --> 00:28:48.900 you know how this country,
NOTE Confidence: 0.85026603937149

00:28:48.900 --> 00:28:51.024 you know that just this is
NOTE Confidence: 0.85026603937149

00:28:51.024 --> 00:28:52.086 just demonstrated indeed,
NOTE Confidence: 0.85026603937149

00:28:52.090 --> 00:28:54.183 although the fact that we have seen
NOTE Confidence: 0.85026603937149

00:28:54.183 --> 00:28:56.509 is related to the conjugation between
NOTE Confidence: 0.85026603937149

00:28:56.509 --> 00:28:58.774 the lymphocytes and the collective
NOTE Confidence: 0.85026603937149

00:28:58.774 --> 00:29:01.236 history protein so so for that this
NOTE Confidence: 0.85026603937149

00:29:01.236 --> 00:29:03.073 is but anyways summarize this data,
NOTE Confidence: 0.85026603937149

00:29:03.073 --> 00:29:05.071 so we think you know later
NOTE Confidence: 0.85026603937149

00:29:05.071 --> 00:29:07.000 on we actually purified we.
NOTE Confidence: 0.85026603937149

00:29:07.000 --> 00:29:09.840 Initially we just use the total invoice size,
NOTE Confidence: 0.85026603937149

00:29:09.840 --> 00:29:12.720 but now actually we test it's just isolated.
NOTE Confidence: 0.85026603937149

00:29:12.720 --> 00:29:15.680 These results and it was a tease out,
NOTE Confidence: 0.85026603937149

00:29:15.680 --> 00:29:18.270 so this is a work is ongoing.

NOTE Confidence: 0.85026603937149
00:29:18.270 --> 00:29:20.256 So basically is what our working
NOTE Confidence: 0.85026603937149
00:29:20.256 --> 00:29:22.340 model of our working hypothesis.
NOTE Confidence: 0.85026603937149
00:29:22.340 --> 00:29:24.560 We want to continue to try.
NOTE Confidence: 0.85026603937149
00:29:24.560 --> 00:29:26.947 That is we are using T cell
NOTE Confidence: 0.85026603937149
00:29:26.947 --> 00:29:28.999 as a carrier for tumors,
NOTE Confidence: 0.85026603937149
00:29:29.000 --> 00:29:30.041 therapeutic vaccine delivery.
NOTE Confidence: 0.85026603937149
00:29:30.041 --> 00:29:32.123 So this is where we're testing
NOTE Confidence: 0.85026603937149
00:29:32.123 --> 00:29:33.439 this in hypotheticals.
NOTE Confidence: 0.85026603937149
00:29:33.440 --> 00:29:33.818 Normal,
NOTE Confidence: 0.85026603937149
00:29:33.818 --> 00:29:36.464 I think there's a possibility so those
NOTE Confidence: 0.85026603937149
00:29:36.464 --> 00:29:39.729 can be become a sort of platform 40 sell.
NOTE Confidence: 0.85026603937149
00:29:39.730 --> 00:29:41.610 You know like you know.
NOTE Confidence: 0.85026603937149
00:29:41.610 --> 00:29:43.983 So this is a work I'm going
NOTE Confidence: 0.85026603937149
00:29:43.983 --> 00:29:46.110 to get my laboratory.
NOTE Confidence: 0.85026603937149
00:29:46.110 --> 00:29:47.920 Now let me you know,
NOTE Confidence: 0.85026603937149

00:29:47.920 --> 00:29:50.773 share it with you or some of the other

NOTE Confidence: 0.85026603937149

00:29:50.773 --> 00:29:53.130 things which will also cellular therapy

NOTE Confidence: 0.85026603937149

00:29:53.130 --> 00:29:55.880 related and this one is the Carty.

NOTE Confidence: 0.85026603937149

00:29:55.880 --> 00:29:57.690 So we didn't develop find,

NOTE Confidence: 0.85026603937149

00:29:57.690 --> 00:29:59.500 you know the valuable gladness

NOTE Confidence: 0.85026603937149

00:29:59.500 --> 00:30:00.224 riccardi cells.

NOTE Confidence: 0.85026603937149

00:30:00.230 --> 00:30:02.323 So this is just a diagram to

NOTE Confidence: 0.85026603937149

00:30:02.323 --> 00:30:04.641 show you we use the landing

NOTE Confidence: 0.85026603937149

00:30:04.641 --> 00:30:06.881 viral vector and then basically

NOTE Confidence: 0.85026603937149

00:30:06.881 --> 00:30:09.279 created this Jeep 3 car T cells.

NOTE Confidence: 0.85026603937149

00:30:09.280 --> 00:30:12.960 So right now we created both in the T cell.

NOTE Confidence: 0.85026603937149

00:30:12.960 --> 00:30:16.061 Sales and also we you know we

NOTE Confidence: 0.85026603937149

00:30:16.061 --> 00:30:18.266 created this platform using NK

NOTE Confidence: 0.85026603937149

00:30:18.266 --> 00:30:21.003 cells which I will talk a little

NOTE Confidence: 0.85026603937149

00:30:21.003 --> 00:30:24.007 bit more in the next few minutes.

NOTE Confidence: 0.85026603937149

00:30:24.010 --> 00:30:26.140 So those hasn't been shown.

NOTE Confidence: 0.85026603937149
00:30:26.140 --> 00:30:28.690 You know this is another diagram.
NOTE Confidence: 0.85026603937149
00:30:28.690 --> 00:30:30.850 Other group also developed this.
NOTE Confidence: 0.85026603937149
00:30:30.850 --> 00:30:33.674 Party and then they use a different regions.
NOTE Confidence: 0.85026603937149
00:30:33.680 --> 00:30:35.450 They're focusing on the sea.
NOTE Confidence: 0.85026603937149
00:30:35.450 --> 00:30:37.844 Turn up the protein and then we
NOTE Confidence: 0.85026603937149
00:30:37.844 --> 00:30:40.366 decided to focus in on the end
NOTE Confidence: 0.85026603937149
00:30:40.366 --> 00:30:42.146 terminal because the end terminal
NOTE Confidence: 0.85026603937149
00:30:42.146 --> 00:30:44.672 is on our side of the cell
NOTE Confidence: 0.85026603937149
00:30:44.672 --> 00:30:46.423 membrane with believe you know,
NOTE Confidence: 0.85026603937149
00:30:46.423 --> 00:30:48.894 the in terminal may have better access,
NOTE Confidence: 0.85026603937149
00:30:48.900 --> 00:30:50.710 so this is our party.
NOTE Confidence: 0.85026603937149
00:30:50.710 --> 00:30:52.078 Construct and then we.
NOTE Confidence: 0.85026603937149
00:30:52.078 --> 00:30:54.577 Basically this is also called a third
NOTE Confidence: 0.85026603937149
00:30:54.577 --> 00:30:56.857 generation that you know a platform.
NOTE Confidence: 0.85026603937149
00:30:56.860 --> 00:30:58.624 We divided both in the lending
NOTE Confidence: 0.85026603937149

00:30:58.624 --> 00:31:00.745 virus as well in collaboration with
NOTE Confidence: 0.85026603937149

00:31:00.745 --> 00:31:03.373 another factor that rockers you know,
NOTE Confidence: 0.85026603937149

00:31:03.380 --> 00:31:04.466 don't do so.
NOTE Confidence: 0.85026603937149

00:31:04.466 --> 00:31:06.638 He has a virtual various platform.
NOTE Confidence: 0.85026603937149

00:31:06.640 --> 00:31:08.818 We actually work together and also
NOTE Confidence: 0.85026603937149

00:31:08.818 --> 00:31:11.624 make made made this construct in the
NOTE Confidence: 0.85026603937149

00:31:11.624 --> 00:31:13.764 regional various platform as well.
NOTE Confidence: 0.847436547279358

00:31:13.770 --> 00:31:16.116 So then you know, testing again,
NOTE Confidence: 0.847436547279358

00:31:16.120 --> 00:31:18.460 test this party in in Rachel.
NOTE Confidence: 0.847436547279358

00:31:18.460 --> 00:31:21.197 So it seems to work very well.
NOTE Confidence: 0.847436547279358

00:31:21.200 --> 00:31:24.328 And also we test it in the animals.
NOTE Confidence: 0.847436547279358

00:31:24.330 --> 00:31:26.826 You know this just show you a different
NOTE Confidence: 0.847436547279358

00:31:26.826 --> 00:31:29.874 types of satellites and this is actually
NOTE Confidence: 0.847436547279358

00:31:29.874 --> 00:31:31.754 1545 is immortalized hypothesize,
NOTE Confidence: 0.847436547279358

00:31:31.760 --> 00:31:33.460 set, immortalized levers, allies,
NOTE Confidence: 0.847436547279358

00:31:33.460 --> 00:31:35.585 developer in my laboratories of

NOTE Confidence: 0.847436547279358
00:31:35.585 --> 00:31:37.618 the basis serve as a control.
NOTE Confidence: 0.847436547279358
00:31:37.620 --> 00:31:39.240 You can see though.
NOTE Confidence: 0.847436547279358
00:31:39.240 --> 00:31:41.265 Also the target because this
NOTE Confidence: 0.847436547279358
00:31:41.265 --> 00:31:43.681 tells you know does not have the
NOTE Confidence: 0.847436547279358
00:31:43.681 --> 00:31:46.318 you know the the 1545 cells does
NOTE Confidence: 0.847436547279358
00:31:46.318 --> 00:31:48.428 not have a clapping's resort.
NOTE Confidence: 0.847436547279358
00:31:48.430 --> 00:31:50.482 There's no target and the others
NOTE Confidence: 0.847436547279358
00:31:50.482 --> 00:31:52.731 you know the commonly used a
NOTE Confidence: 0.847436547279358
00:31:52.731 --> 00:31:54.355 cellular carcinoma cell address
NOTE Confidence: 0.847436547279358
00:31:54.355 --> 00:31:56.825 themselves and those type 2 so
NOTE Confidence: 0.847436547279358
00:31:56.825 --> 00:31:58.389 show significant killing effect.
NOTE Confidence: 0.847436547279358
00:31:58.390 --> 00:32:01.046 So this is this is in cell culture
NOTE Confidence: 0.847436547279358
00:32:01.046 --> 00:32:03.919 and then then we also decided to
NOTE Confidence: 0.847436547279358
00:32:03.919 --> 00:32:06.044 introduce it into into animals.
NOTE Confidence: 0.847436547279358
00:32:06.050 --> 00:32:08.724 And indeed you know they were treated.
NOTE Confidence: 0.847436547279358

00:32:08.730 --> 00:32:10.233 Those animals this.
NOTE Confidence: 0.847436547279358

00:32:10.233 --> 00:32:13.239 Our volume compared to the controls.
NOTE Confidence: 0.847436547279358

00:32:13.240 --> 00:32:15.490 And at the Cardinal applicants repartee.
NOTE Confidence: 0.847436547279358

00:32:15.490 --> 00:32:16.990 Indeed, so very effective,
NOTE Confidence: 0.847436547279358

00:32:16.990 --> 00:32:17.740 very effective,
NOTE Confidence: 0.847436547279358

00:32:17.740 --> 00:32:19.990 and also lost almost two months.
NOTE Confidence: 0.847436547279358

00:32:19.990 --> 00:32:22.240 You know, this is really exciting,
NOTE Confidence: 0.847436547279358

00:32:22.240 --> 00:32:24.613 and I think we pretty much feel
NOTE Confidence: 0.847436547279358

00:32:24.613 --> 00:32:26.740 very confident in this construct.
NOTE Confidence: 0.847436547279358

00:32:26.740 --> 00:32:29.464 But now The thing is, you see,
NOTE Confidence: 0.847436547279358

00:32:29.464 --> 00:32:30.308 you know,
NOTE Confidence: 0.847436547279358

00:32:30.308 --> 00:32:32.840 certainly eventually will need to bring
NOTE Confidence: 0.847436547279358

00:32:32.916 --> 00:32:36.116 this to human trial and to see if this this,
NOTE Confidence: 0.847436547279358

00:32:36.120 --> 00:32:38.346 you know construct will be actually
NOTE Confidence: 0.847436547279358

00:32:38.346 --> 00:32:40.240 showing the effectiveness in human.
NOTE Confidence: 0.847436547279358

00:32:40.240 --> 00:32:43.256 So that's certainly you know need a lot.

NOTE Confidence: 0.847436547279358
00:32:43.260 --> 00:32:46.011 Effort and also some other you know
NOTE Confidence: 0.847436547279358
00:32:46.011 --> 00:32:48.787 funding and that will get this stuff.
NOTE Confidence: 0.847436547279358
00:32:48.790 --> 00:32:51.555 So this is a really you know,
NOTE Confidence: 0.847436547279358
00:32:51.560 --> 00:32:54.129 exciting and also we tested the similar
NOTE Confidence: 0.847436547279358
00:32:54.129 --> 00:32:56.478 Carty using PDX mouse model because
NOTE Confidence: 0.847436547279358
00:32:56.478 --> 00:32:58.836 to develop that you know that's
NOTE Confidence: 0.847436547279358
00:32:58.836 --> 00:33:01.040 another thing I mentioned earlier.
NOTE Confidence: 0.847436547279358
00:33:01.040 --> 00:33:03.056 We are very happy to share
NOTE Confidence: 0.847436547279358
00:33:03.056 --> 00:33:05.454 with people you know working on
NOTE Confidence: 0.847436547279358
00:33:05.454 --> 00:33:07.410 hyper disorder carcinoma also.
NOTE Confidence: 0.847436547279358
00:33:07.410 --> 00:33:08.778 Edit cancers as well.
NOTE Confidence: 0.847436547279358
00:33:08.778 --> 00:33:11.594 But we build a multiple PD exercise and
NOTE Confidence: 0.847436547279358
00:33:11.594 --> 00:33:14.910 over the years not only we have the PDX MI,
NOTE Confidence: 0.847436547279358
00:33:14.910 --> 00:33:17.638 so we also have the corresponding cell card.
NOTE Confidence: 0.847436547279358
00:33:17.640 --> 00:33:18.932 Sterilize so you know,
NOTE Confidence: 0.847436547279358

00:33:18.932 --> 00:33:21.390 for you know for both liver cancer,
NOTE Confidence: 0.847436547279358

00:33:21.390 --> 00:33:22.066 pancreatic cancer,
NOTE Confidence: 0.847436547279358

00:33:22.066 --> 00:33:25.140 and we also have other tumors PDX as well.
NOTE Confidence: 0.847436547279358

00:33:25.140 --> 00:33:27.275 So this is just to give allow
NOTE Confidence: 0.847436547279358

00:33:27.275 --> 00:33:29.578 us in future to developer mode.
NOTE Confidence: 0.847436547279358

00:33:29.580 --> 00:33:30.988 You know, you know,
NOTE Confidence: 0.847436547279358

00:33:30.988 --> 00:33:33.100 I would say precision of personal
NOTE Confidence: 0.847436547279358

00:33:33.168 --> 00:33:34.728 email therapy because this way
NOTE Confidence: 0.847436547279358

00:33:34.728 --> 00:33:37.419 we can see if we can derive some.
NOTE Confidence: 0.847436547279358

00:33:37.420 --> 00:33:38.548 More specific hydrogen,
NOTE Confidence: 0.847436547279358

00:33:38.548 --> 00:33:40.428 and from this particular patient,
NOTE Confidence: 0.847436547279358

00:33:40.430 --> 00:33:42.686 and then from that platform to
NOTE Confidence: 0.847436547279358

00:33:42.686 --> 00:33:44.566 build a specific artifice, patients,
NOTE Confidence: 0.847436547279358

00:33:44.566 --> 00:33:46.070 certainly, that's what he,
NOTE Confidence: 0.847436547279358

00:33:46.070 --> 00:33:48.320 what you know in the future.
NOTE Confidence: 0.847436547279358

00:33:48.320 --> 00:33:49.433 Endeavor for that.

NOTE Confidence: 0.847436547279358
00:33:49.433 --> 00:33:52.460 Alright, so the last section of my talk,
NOTE Confidence: 0.847436547279358
00:33:52.460 --> 00:33:55.468 you know it's just one share the lights.
NOTE Confidence: 0.847436547279358
00:33:55.470 --> 00:33:57.726 Turn attention to the you know
NOTE Confidence: 0.847436547279358
00:33:57.726 --> 00:33:58.478 another inmate.
NOTE Confidence: 0.847436547279358
00:33:58.480 --> 00:34:01.105 Email cells which is encased in HTC,
NOTE Confidence: 0.847436547279358
00:34:01.110 --> 00:34:03.623 so you probably ask why we are
NOTE Confidence: 0.847436547279358
00:34:03.623 --> 00:34:05.240 so interested in today.
NOTE Confidence: 0.847436547279358
00:34:05.240 --> 00:34:07.520 So if you look at the.
NOTE Confidence: 0.847436547279358
00:34:07.520 --> 00:34:08.630 The human body.
NOTE Confidence: 0.847436547279358
00:34:08.630 --> 00:34:10.480 The organ contains the highest
NOTE Confidence: 0.847436547279358
00:34:10.480 --> 00:34:12.646 numbers in case ours is a liver.
NOTE Confidence: 0.847436547279358
00:34:12.650 --> 00:34:15.386 If you look at the liver almost 2%
NOTE Confidence: 0.847436547279358
00:34:15.390 --> 00:34:17.310 of the Leeward nucleated cells are
NOTE Confidence: 0.847436547279358
00:34:17.310 --> 00:34:20.168 in case of you probably say it's very,
NOTE Confidence: 0.847436547279358
00:34:20.170 --> 00:34:21.880 you know, surprised you know.
NOTE Confidence: 0.850078701972961

00:34:21.880 --> 00:34:24.274 Actually it's you know, but it does.
NOTE Confidence: 0.850078701972961

00:34:24.280 --> 00:34:27.358 In case I'll do indeed work is very I.
NOTE Confidence: 0.850078701972961

00:34:27.360 --> 00:34:29.406 I would say to say minimum
NOTE Confidence: 0.850078701972961

00:34:29.406 --> 00:34:30.429 is poorly understood.
NOTE Confidence: 0.850078701972961

00:34:30.430 --> 00:34:32.488 Alright, so however, over the years,
NOTE Confidence: 0.850078701972961

00:34:32.490 --> 00:34:34.877 so you see back to even 1990s.
NOTE Confidence: 0.850078701972961

00:34:34.880 --> 00:34:36.260 So people already shown
NOTE Confidence: 0.850078701972961

00:34:36.260 --> 00:34:37.985 that if that you tested.
NOTE Confidence: 0.850078701972961

00:34:37.990 --> 00:34:41.343 In case files from the hypothetical are
NOTE Confidence: 0.850078701972961

00:34:41.343 --> 00:34:44.796 still like compared to the non tumor cells,
NOTE Confidence: 0.850078701972961

00:34:44.800 --> 00:34:47.070 they show the empty cells.
NOTE Confidence: 0.850078701972961

00:34:47.070 --> 00:34:49.340 Had this dysfunctional in terms,
NOTE Confidence: 0.850078701972961

00:34:49.340 --> 00:34:51.610 they have lice killing effect
NOTE Confidence: 0.850078701972961

00:34:51.610 --> 00:34:53.880 and this also reached 2013.
NOTE Confidence: 0.850078701972961

00:34:53.880 --> 00:34:56.150 Another group also reported this,
NOTE Confidence: 0.850078701972961

00:34:56.150 --> 00:34:59.798 but very few later Richard to really show.

NOTE Confidence: 0.850078701972961
00:34:59.800 --> 00:35:01.180 It's a strong evidence.
NOTE Confidence: 0.850078701972961
00:35:01.180 --> 00:35:02.560 Say what is it?
NOTE Confidence: 0.850078701972961
00:35:02.560 --> 00:35:04.285 The NK cells function in
NOTE Confidence: 0.850078701972961
00:35:04.285 --> 00:35:05.320 hypo thyroid carcinoma.
NOTE Confidence: 0.850078701972961
00:35:05.320 --> 00:35:07.050 Alright, so as I mentioned,
NOTE Confidence: 0.850078701972961
00:35:07.050 --> 00:35:09.120 it's a such a big pop.
NOTE Confidence: 0.850078701972961
00:35:09.120 --> 00:35:10.840 You know they have more.
NOTE Confidence: 0.850078701972961
00:35:10.840 --> 00:35:12.910 In case else that many other
NOTE Confidence: 0.850078701972961
00:35:12.910 --> 00:35:14.290 lymphocytes in the liver.
NOTE Confidence: 0.850078701972961
00:35:14.290 --> 00:35:16.954 So that question is how we can find
NOTE Confidence: 0.850078701972961
00:35:16.954 --> 00:35:19.790 that was in his house would do in
NOTE Confidence: 0.850078701972961
00:35:19.790 --> 00:35:21.996 those are the others, you know.
NOTE Confidence: 0.850078701972961
00:35:21.996 --> 00:35:25.910 So this is some people also just very reason.
NOTE Confidence: 0.850078701972961
00:35:25.910 --> 00:35:27.143 You know shredded.
NOTE Confidence: 0.850078701972961
00:35:27.143 --> 00:35:28.787 They were recently recorded.
NOTE Confidence: 0.850078701972961

00:35:28.790 --> 00:35:32.372 If you expand the NK cells and then you
NOTE Confidence: 0.850078701972961

00:35:32.372 --> 00:35:36.206 know you feel so badly in the mouse model,
NOTE Confidence: 0.850078701972961

00:35:36.210 --> 00:35:37.762 actually expand it out.
NOTE Confidence: 0.850078701972961

00:35:37.762 --> 00:35:40.090 In case else does precise anti
NOTE Confidence: 0.850078701972961

00:35:40.162 --> 00:35:42.387 tumor activity in mouse models.
NOTE Confidence: 0.850078701972961

00:35:42.390 --> 00:35:45.678 So this will be like an invisible experiment.
NOTE Confidence: 0.850078701972961

00:35:45.680 --> 00:35:48.728 So it's just indicate you know NK cells
NOTE Confidence: 0.850078701972961

00:35:48.728 --> 00:35:51.088 after expansion they still maintained.
NOTE Confidence: 0.850078701972961

00:35:51.090 --> 00:35:52.944 Activity I think that's a very
NOTE Confidence: 0.850078701972961

00:35:52.944 --> 00:35:54.940 critical for us to talk about.
NOTE Confidence: 0.850078701972961

00:35:54.940 --> 00:35:55.506 You know,
NOTE Confidence: 0.850078701972961

00:35:55.506 --> 00:35:57.770 if we ever wanted to make in case
NOTE Confidence: 0.850078701972961

00:35:57.845 --> 00:35:59.760 out to PSR building platform,
NOTE Confidence: 0.850078701972961

00:35:59.760 --> 00:36:02.252 we have to make sure the expanded
NOTE Confidence: 0.850078701972961

00:36:02.252 --> 00:36:04.688 engage cells would hire that function.
NOTE Confidence: 0.850078701972961

00:36:04.690 --> 00:36:06.450 Right, This is, you know,

NOTE Confidence: 0.850078701972961
00:36:06.450 --> 00:36:09.018 a couple years ago and this is also
NOTE Confidence: 0.850078701972961
00:36:09.018 --> 00:36:11.029 in collaboration with another faculty.
NOTE Confidence: 0.850078701972961
00:36:11.030 --> 00:36:12.434 Don't found in rockers,
NOTE Confidence: 0.850078701972961
00:36:12.434 --> 00:36:13.838 and so we decided.
NOTE Confidence: 0.850078701972961
00:36:13.840 --> 00:36:15.600 Just let's start, you know,
NOTE Confidence: 0.850078701972961
00:36:15.600 --> 00:36:18.768 some of the basics of NK cells in HTC.
NOTE Confidence: 0.850078701972961
00:36:18.770 --> 00:36:21.586 So what the platform we use so is,
NOTE Confidence: 0.850078701972961
00:36:21.590 --> 00:36:22.604 you know we,
NOTE Confidence: 0.850078701972961
00:36:22.604 --> 00:36:25.460 you know we had a transplant program there.
NOTE Confidence: 0.850078701972961
00:36:25.460 --> 00:36:28.050 So we basically for any HTC transplant
NOTE Confidence: 0.850078701972961
00:36:28.050 --> 00:36:31.438 fever so will get the tumor and then we will,
NOTE Confidence: 0.850078701972961
00:36:31.440 --> 00:36:32.158 you know,
NOTE Confidence: 0.850078701972961
00:36:32.158 --> 00:36:35.030 isolate NK cells from the tumor and isolated.
NOTE Confidence: 0.850078701972961
00:36:35.030 --> 00:36:37.358 You know from the adjacent that you know
NOTE Confidence: 0.850078701972961
00:36:37.358 --> 00:36:40.010 zone we call the adjacent alone from the,
NOTE Confidence: 0.850078701972961

00:36:40.010 --> 00:36:40.630 you know,
NOTE Confidence: 0.850078701972961

00:36:40.630 --> 00:36:42.490 the Beamer tissue and also isolated
NOTE Confidence: 0.850078701972961

00:36:42.490 --> 00:36:44.666 the NK cells from the non tumor.
NOTE Confidence: 0.850078701972961

00:36:44.670 --> 00:36:45.294 You know,
NOTE Confidence: 0.850078701972961

00:36:45.294 --> 00:36:46.230 like you said,
NOTE Confidence: 0.850078701972961

00:36:46.230 --> 00:36:47.910 Mount tumor distance period I
NOTE Confidence: 0.850078701972961

00:36:47.910 --> 00:36:49.941 DS 5 centimeter away from the
NOTE Confidence: 0.850078701972961

00:36:49.941 --> 00:36:51.950 tumor and we isolate all those NK
NOTE Confidence: 0.850078701972961

00:36:51.950 --> 00:36:53.689 cells and then we expand it.
NOTE Confidence: 0.850078701972961

00:36:53.690 --> 00:36:56.178 Also in case cells and that's all what
NOTE Confidence: 0.850078701972961

00:36:56.178 --> 00:36:59.288 we do in the same time we get the blood.
NOTE Confidence: 0.850078701972961

00:36:59.290 --> 00:37:02.089 You know patients per for blood in case else.
NOTE Confidence: 0.850078701972961

00:37:02.090 --> 00:37:03.926 And then you know to compare
NOTE Confidence: 0.850078701972961

00:37:03.926 --> 00:37:05.560 with different orders at least.
NOTE Confidence: 0.850078701972961

00:37:05.560 --> 00:37:08.157 Oh groups and see what's the function
NOTE Confidence: 0.850078701972961

00:37:08.157 --> 00:37:11.126 or was the basic plan in case out.

NOTE Confidence: 0.850078701972961
00:37:11.130 --> 00:37:12.980 So what do you know?
NOTE Confidence: 0.850078701972961
00:37:12.980 --> 00:37:15.396 After we did that so we did quite
NOTE Confidence: 0.850078701972961
00:37:15.396 --> 00:37:18.670 a number page and yet you know the
NOTE Confidence: 0.850078701972961
00:37:18.670 --> 00:37:20.398 most common transplant deliveries,
NOTE Confidence: 0.850078701972961
00:37:20.400 --> 00:37:22.997 hepatitis C liver and also the other,
NOTE Confidence: 0.828751385211945
00:37:23.000 --> 00:37:24.480 is alcohol induced cirrhosis?
NOTE Confidence: 0.828751385211945
00:37:24.480 --> 00:37:27.129 And so that's how we literally focusing
NOTE Confidence: 0.828751385211945
00:37:27.129 --> 00:37:29.295 on HC deliver an also alcoholic.
NOTE Confidence: 0.828751385211945
00:37:29.300 --> 00:37:32.428 So with that will do the functional I
NOTE Confidence: 0.828751385211945
00:37:32.428 --> 00:37:35.646 say and then we did a lot of irony.
NOTE Confidence: 0.828751385211945
00:37:35.650 --> 00:37:39.070 Take try to see you with any changes in
NOTE Confidence: 0.828751385211945
00:37:39.070 --> 00:37:42.588 those cells and then later out toward you.
NOTE Confidence: 0.828751385211945
00:37:42.590 --> 00:37:44.794 Know quantitative PCR to
NOTE Confidence: 0.828751385211945
00:37:44.794 --> 00:37:46.998 determine certain specific jeans.
NOTE Confidence: 0.828751385211945
00:37:47.000 --> 00:37:50.256 So this. All right?
NOTE Confidence: 0.828751385211945

00:37:50.256 --> 00:37:53.422 OK, thought to make a Long story
NOTE Confidence: 0.828751385211945

00:37:53.422 --> 00:37:55.981 short because the timing so I will
NOTE Confidence: 0.828751385211945

00:37:55.981 --> 00:37:58.102 not get into the killing I see.
NOTE Confidence: 0.828751385211945

00:37:58.110 --> 00:38:00.385 So basically what we find is that
NOTE Confidence: 0.828751385211945

00:38:00.385 --> 00:38:01.787 there are significant difference
NOTE Confidence: 0.828751385211945

00:38:01.787 --> 00:38:03.983 between all the NK cells we
NOTE Confidence: 0.828751385211945

00:38:03.983 --> 00:38:05.500 isolated from different liver.
NOTE Confidence: 0.828751385211945

00:38:05.500 --> 00:38:07.618 So that might be interested enough.
NOTE Confidence: 0.828751385211945

00:38:07.620 --> 00:38:09.965 It's TV related liver NK cells and
NOTE Confidence: 0.828751385211945

00:38:09.965 --> 00:38:11.839 the alcohol related liver cancer.
NOTE Confidence: 0.828751385211945

00:38:11.840 --> 00:38:14.656 They are also different in terms of function.
NOTE Confidence: 0.828751385211945

00:38:14.660 --> 00:38:16.415 You know they have light
NOTE Confidence: 0.828751385211945

00:38:16.415 --> 00:38:17.819 skin activity in alcohol,
NOTE Confidence: 0.828751385211945

00:38:17.820 --> 00:38:19.580 but how interesting they have
NOTE Confidence: 0.828751385211945

00:38:19.580 --> 00:38:20.636 even higher connectivity.
NOTE Confidence: 0.828751385211945

00:38:20.640 --> 00:38:21.336 HC way.

NOTE Confidence: 0.828751385211945
00:38:21.336 --> 00:38:23.772 Which isn't really surprising to us compared,
NOTE Confidence: 0.828751385211945
00:38:23.780 --> 00:38:24.494 you know.
NOTE Confidence: 0.828751385211945
00:38:24.494 --> 00:38:26.993 So we that suspension with it artistic
NOTE Confidence: 0.828751385211945
00:38:26.993 --> 00:38:29.205 and then you got all the data,
NOTE Confidence: 0.828751385211945
00:38:29.210 --> 00:38:31.794 but we still have sitting on large amount
NOTE Confidence: 0.828751385211945
00:38:31.794 --> 00:38:34.627 of data is still waiting to be analyzed,
NOTE Confidence: 0.828751385211945
00:38:34.630 --> 00:38:35.982 but at least right.
NOTE Confidence: 0.828751385211945
00:38:35.982 --> 00:38:37.672 The moment I can share,
NOTE Confidence: 0.828751385211945
00:38:37.680 --> 00:38:40.060 you know this really very fairly recently.
NOTE Confidence: 0.828751385211945
00:38:40.060 --> 00:38:42.741 Just few months ago with that we
NOTE Confidence: 0.828751385211945
00:38:42.741 --> 00:38:45.051 actually identify the CD 62 L of
NOTE Confidence: 0.828751385211945
00:38:45.051 --> 00:38:47.170 course share cell or I also liked.
NOTE Confidence: 0.828751385211945
00:38:47.170 --> 00:38:48.870 So this has been really
NOTE Confidence: 0.828751385211945
00:38:48.870 --> 00:38:49.550 significantly changed.
NOTE Confidence: 0.828751385211945
00:38:49.550 --> 00:38:51.620 You know, between all those different.
NOTE Confidence: 0.828751385211945

00:38:51.620 --> 00:38:53.304 So here the summary.
NOTE Confidence: 0.828751385211945

00:38:53.304 --> 00:38:55.830 We can see really tabley how
NOTE Confidence: 0.828751385211945

00:38:55.925 --> 00:38:58.559 for whatever reason in NK cells
NOTE Confidence: 0.828751385211945

00:38:58.559 --> 00:39:01.090 isolated from HC be related.
NOTE Confidence: 0.828751385211945

00:39:01.090 --> 00:39:03.505 HTC you know the HC way related
NOTE Confidence: 0.828751385211945

00:39:03.505 --> 00:39:05.881 HTC you actually have a higher
NOTE Confidence: 0.828751385211945

00:39:05.881 --> 00:39:07.565 expression of selected and.
NOTE Confidence: 0.828751385211945

00:39:07.570 --> 00:39:09.844 However in the alcohol related NK
NOTE Confidence: 0.828751385211945

00:39:09.844 --> 00:39:12.169 so you have lower expression so
NOTE Confidence: 0.828751385211945

00:39:12.169 --> 00:39:14.717 this will be the hours they put
NOTE Confidence: 0.828751385211945

00:39:14.717 --> 00:39:17.466 all the guys average as a baseline.
NOTE Confidence: 0.828751385211945

00:39:17.470 --> 00:39:18.994 So it's really interesting.
NOTE Confidence: 0.828751385211945

00:39:18.994 --> 00:39:20.899 You know how this dichotomy,
NOTE Confidence: 0.828751385211945

00:39:20.900 --> 00:39:23.462 which by itself may not be very
NOTE Confidence: 0.828751385211945

00:39:23.462 --> 00:39:24.995 surprising because the difference
NOTE Confidence: 0.828751385211945

00:39:24.995 --> 00:39:27.557 is if you look at the Histology

NOTE Confidence: 0.828751385211945
00:39:27.557 --> 00:39:29.577 between the cancers arising from
NOTE Confidence: 0.828751385211945
00:39:29.577 --> 00:39:32.013 HCV and the cancers arising from.
NOTE Confidence: 0.828751385211945
00:39:32.020 --> 00:39:34.956 Alcohol, the big difference is is you know,
NOTE Confidence: 0.828751385211945
00:39:34.960 --> 00:39:37.168 in the HTV Kaiser or background
NOTE Confidence: 0.828751385211945
00:39:37.168 --> 00:39:38.272 deliver as well.
NOTE Confidence: 0.828751385211945
00:39:38.280 --> 00:39:40.115 You always have the inflammatory
NOTE Confidence: 0.828751385211945
00:39:40.115 --> 00:39:41.216 activity going on.
NOTE Confidence: 0.828751385211945
00:39:41.220 --> 00:39:42.294 In other words,
NOTE Confidence: 0.828751385211945
00:39:42.294 --> 00:39:44.084 you have the inflammatory Emilio
NOTE Confidence: 0.828751385211945
00:39:44.084 --> 00:39:45.270 within those levers,
NOTE Confidence: 0.828751385211945
00:39:45.270 --> 00:39:47.105 which in alcohol induced liver
NOTE Confidence: 0.828751385211945
00:39:47.105 --> 00:39:48.573 cancer or liver cirrhosis.
NOTE Confidence: 0.828751385211945
00:39:48.580 --> 00:39:50.420 You have minimum inflammatory activity.
NOTE Confidence: 0.828751385211945
00:39:50.420 --> 00:39:52.884 So I think this is sort of
NOTE Confidence: 0.828751385211945
00:39:52.884 --> 00:39:54.470 a exciting we want.
NOTE Confidence: 0.828751385211945

00:39:54.470 --> 00:39:57.039 We are thinking about is right now.

NOTE Confidence: 0.828751385211945

00:39:57.040 --> 00:39:59.140 It's really easy to further

NOTE Confidence: 0.828751385211945

00:39:59.140 --> 00:40:01.638 and you know exactly what's the

NOTE Confidence: 0.828751385211945

00:40:01.638 --> 00:40:03.534 actual role of the CD 62.

NOTE Confidence: 0.828751385211945

00:40:03.540 --> 00:40:06.025 All out selecting the role in this

NOTE Confidence: 0.828751385211945

00:40:06.025 --> 00:40:08.350 in case sales particularly is,

NOTE Confidence: 0.828751385211945

00:40:08.350 --> 00:40:11.311 we wanted to see if the inflammatory

NOTE Confidence: 0.828751385211945

00:40:11.311 --> 00:40:13.544 thing all hepatitis virus itself

NOTE Confidence: 0.828751385211945

00:40:13.544 --> 00:40:16.652 contribute that to to that is different.

NOTE Confidence: 0.828751385211945

00:40:16.660 --> 00:40:19.397 So this is our model right now,

NOTE Confidence: 0.828751385211945

00:40:19.400 --> 00:40:22.102 so this is a working model we

NOTE Confidence: 0.828751385211945

00:40:22.102 --> 00:40:23.720 are actively pursuing that.

NOTE Confidence: 0.828751385211945

00:40:23.720 --> 00:40:24.923 As I mentioned,

NOTE Confidence: 0.828751385211945

00:40:24.923 --> 00:40:26.928 this summarize with all our

NOTE Confidence: 0.828751385211945

00:40:26.928 --> 00:40:28.808 current data with NK cells.

NOTE Confidence: 0.828751385211945

00:40:28.810 --> 00:40:30.378 What do you see?

NOTE Confidence: 0.828751385211945

00:40:30.378 --> 00:40:32.730 The in case are higher expression,

NOTE Confidence: 0.828751385211945

00:40:32.730 --> 00:40:34.298 what actually they are?

NOTE Confidence: 0.828751385211945

00:40:34.298 --> 00:40:35.866 Higher higher killing capacity.

NOTE Confidence: 0.87821352481842

00:40:35.870 --> 00:40:38.210 So those are mainly from the

NOTE Confidence: 0.87821352481842

00:40:38.210 --> 00:40:40.571 HC way steaming the HTC, right?

NOTE Confidence: 0.87821352481842

00:40:40.571 --> 00:40:41.744 That's very interesting.

NOTE Confidence: 0.87821352481842

00:40:41.744 --> 00:40:43.368 And however, in contrast,

NOTE Confidence: 0.87821352481842

00:40:43.368 --> 00:40:45.044 the alcohol induced the

NOTE Confidence: 0.87821352481842

00:40:45.044 --> 00:40:47.250 HTC that will lower CD 62.

NOTE Confidence: 0.87821352481842

00:40:47.250 --> 00:40:49.080 And also lower kidding capacity.

NOTE Confidence: 0.87821352481842

00:40:49.080 --> 00:40:50.910 So that's really, you know.

NOTE Confidence: 0.87821352481842

00:40:50.910 --> 00:40:54.195 Allow us to think about if we ever do.

NOTE Confidence: 0.87821352481842

00:40:54.200 --> 00:40:57.128 You know the next step in the future?

NOTE Confidence: 0.87821352481842

00:40:57.130 --> 00:40:58.960 If we develop a therapy?

NOTE Confidence: 0.87821352481842

00:40:58.960 --> 00:41:01.487 Maybe this is where if we understand

NOTE Confidence: 0.87821352481842

00:41:01.487 --> 00:41:03.350 more about the Rover LCD,
NOTE Confidence: 0.87821352481842

00:41:03.350 --> 00:41:06.194 you know you know the CD six tool and
NOTE Confidence: 0.87821352481842

00:41:06.194 --> 00:41:08.967 we potentially can think about is you
NOTE Confidence: 0.87821352481842

00:41:08.967 --> 00:41:12.139 know how we can turn this CD6 tool.
NOTE Confidence: 0.87821352481842

00:41:12.140 --> 00:41:14.744 You know, lower expression one and to
NOTE Confidence: 0.87821352481842

00:41:14.744 --> 00:41:17.697 get together them to be more active against.
NOTE Confidence: 0.87821352481842

00:41:17.700 --> 00:41:19.740 HTC in the alcohol siding
NOTE Confidence: 0.87821352481842

00:41:19.740 --> 00:41:22.220 because of all the HC way.
NOTE Confidence: 0.87821352481842

00:41:22.220 --> 00:41:22.647 However,
NOTE Confidence: 0.87821352481842

00:41:22.647 --> 00:41:25.209 I don't think for this stimulation
NOTE Confidence: 0.87821352481842

00:41:25.209 --> 00:41:27.558 by CT62 will be good idea,
NOTE Confidence: 0.87821352481842

00:41:27.560 --> 00:41:30.026 because if they already have a
NOTE Confidence: 0.87821352481842

00:41:30.026 --> 00:41:32.499 pretty strong in as you know,
NOTE Confidence: 0.87821352481842

00:41:32.500 --> 00:41:35.195 HC way you know for this way
NOTE Confidence: 0.87821352481842

00:41:35.195 --> 00:41:37.030 they already have higher.
NOTE Confidence: 0.87821352481842

00:41:37.030 --> 00:41:39.686 In case our activity and I was also

NOTE Confidence: 0.87821352481842

00:41:39.686 --> 00:41:42.269 higher city 6 two expressions as well.

NOTE Confidence: 0.87821352481842

00:41:42.270 --> 00:41:45.130 So we may have to think about if you know

NOTE Confidence: 0.87821352481842

00:41:45.200 --> 00:41:47.846 what other strategies for HCA Induces.

NOTE Confidence: 0.87821352481842

00:41:47.850 --> 00:41:49.938 So this is a working hypothesis.

NOTE Confidence: 0.87821352481842

00:41:49.940 --> 00:41:51.041 As I mentioned,

NOTE Confidence: 0.87821352481842

00:41:51.041 --> 00:41:53.610 we need to do more cases and

NOTE Confidence: 0.87821352481842

00:41:53.694 --> 00:41:55.530 then to see if we can,

NOTE Confidence: 0.87821352481842

00:41:55.530 --> 00:41:56.328 you know,

NOTE Confidence: 0.87821352481842

00:41:56.328 --> 00:41:58.323 find something most specific and

NOTE Confidence: 0.87821352481842

00:41:58.323 --> 00:42:00.850 to treat you know HTC this is

NOTE Confidence: 0.87821352481842

00:42:00.850 --> 00:42:03.120 the bottom line is I think more

NOTE Confidence: 0.87821352481842

00:42:03.120 --> 00:42:05.353 and more we see this trend which

NOTE Confidence: 0.87821352481842

00:42:05.353 --> 00:42:06.628 is the tumor heterogeneity.

NOTE Confidence: 0.87821352481842

00:42:06.628 --> 00:42:09.840 So we can outline some of the HTC altogether.

NOTE Confidence: 0.87821352481842

00:42:09.840 --> 00:42:12.899 You know, apparently you know for HTC,

NOTE Confidence: 0.87821352481842

00:42:12.900 --> 00:42:14.512 you know differently etiology.
NOTE Confidence: 0.87821352481842

00:42:14.512 --> 00:42:17.710 It seems like to have very different.
NOTE Confidence: 0.87821352481842

00:42:17.710 --> 00:42:20.416 Biology, so we thinking about it,
NOTE Confidence: 0.87821352481842

00:42:20.420 --> 00:42:21.776 developing therapeutic strategy,
NOTE Confidence: 0.87821352481842

00:42:21.776 --> 00:42:24.940 we have to really think about it.
NOTE Confidence: 0.87821352481842

00:42:24.940 --> 00:42:28.100 Take that into a consideration.
NOTE Confidence: 0.87821352481842

00:42:28.100 --> 00:42:29.484 But on the Furthermore,
NOTE Confidence: 0.87821352481842

00:42:29.484 --> 00:42:31.560 I decide you don't mention that
NOTE Confidence: 0.87821352481842

00:42:31.624 --> 00:42:33.289 those two testing that model
NOTE Confidence: 0.87821352481842

00:42:33.289 --> 00:42:34.954 will be the movie thing.
NOTE Confidence: 0.87821352481842

00:42:34.960 --> 00:42:37.361 It might be the HDD itself with
NOTE Confidence: 0.87821352481842

00:42:37.361 --> 00:42:39.080 somehow engage the NK cells.
NOTE Confidence: 0.87821352481842

00:42:39.080 --> 00:42:41.138 So this is our current very
NOTE Confidence: 0.87821352481842

00:42:41.138 --> 00:42:42.510 preliminary is out here.
NOTE Confidence: 0.87821352481842

00:42:42.510 --> 00:42:44.592 We basically culture the HIV positive
NOTE Confidence: 0.87821352481842

00:42:44.592 --> 00:42:46.946 because we can grow hepatitis C in

NOTE Confidence: 0.87821352481842

00:42:46.946 --> 00:42:49.710 those tumor cells and then do code stimulate.

NOTE Confidence: 0.87821352481842

00:42:49.710 --> 00:42:51.768 We called priming the NK cells.

NOTE Confidence: 0.87821352481842

00:42:51.770 --> 00:42:52.456 You know,

NOTE Confidence: 0.87821352481842

00:42:52.456 --> 00:42:55.200 in this case we can just use another.

NOTE Confidence: 0.87821352481842

00:42:55.200 --> 00:42:57.306 You know the NK cells and

NOTE Confidence: 0.87821352481842

00:42:57.306 --> 00:42:58.359 testing the targets.

NOTE Confidence: 0.87821352481842

00:42:58.360 --> 00:43:01.760 But you know, like a 50K562 cell lines,

NOTE Confidence: 0.87821352481842

00:43:01.760 --> 00:43:03.885 so that sell you can

NOTE Confidence: 0.87821352481842

00:43:03.885 --> 00:43:05.585 clearly see after coaching.

NOTE Confidence: 0.87821352481842

00:43:05.590 --> 00:43:08.056 In other words, it's the priming

NOTE Confidence: 0.87821352481842

00:43:08.056 --> 00:43:10.689 the monkey cells with hepatitis C.

NOTE Confidence: 0.87821352481842

00:43:10.690 --> 00:43:11.114 Indeed,

NOTE Confidence: 0.87821352481842

00:43:11.114 --> 00:43:14.506 in deals that you know NK cell functionality.

NOTE Confidence: 0.87821352481842

00:43:14.510 --> 00:43:17.060 But now the question you know

NOTE Confidence: 0.87821352481842

00:43:17.060 --> 00:43:18.760 come to the point.

NOTE Confidence: 0.87821352481842

00:43:18.760 --> 00:43:21.798 I say even you have a strong
NOTE Confidence: 0.87821352481842

00:43:21.798 --> 00:43:23.890 and creating activity in iPad.
NOTE Confidence: 0.87821352481842

00:43:23.890 --> 00:43:24.265 HC,
NOTE Confidence: 0.87821352481842

00:43:24.265 --> 00:43:26.515 they induce Apple cider carcinoma somehow.
NOTE Confidence: 0.87821352481842

00:43:26.520 --> 00:43:29.886 The HCS, you know, take CC is still prevail.
NOTE Confidence: 0.87821352481842

00:43:29.890 --> 00:43:31.354 So In other words.
NOTE Confidence: 0.87821352481842

00:43:31.354 --> 00:43:34.768 So maybe this is by itself is not enough,
NOTE Confidence: 0.87821352481842

00:43:34.770 --> 00:43:36.266 or maybe because remember
NOTE Confidence: 0.87821352481842

00:43:36.266 --> 00:43:38.136 what we have so far.
NOTE Confidence: 0.87821352481842

00:43:38.140 --> 00:43:40.390 Test data is all in the
NOTE Confidence: 0.87821352481842

00:43:40.390 --> 00:43:41.515 individual isolated condition,
NOTE Confidence: 0.87821352481842

00:43:41.520 --> 00:43:43.907 so this is really coming to the
NOTE Confidence: 0.87821352481842

00:43:43.907 --> 00:43:46.545 point that there may be some other
NOTE Confidence: 0.87821352481842

00:43:46.545 --> 00:43:48.849 immune surprising signal type in the
NOTE Confidence: 0.856032311916351

00:43:48.925 --> 00:43:51.229 micro environment which even in visual
NOTE Confidence: 0.856032311916351

00:43:51.229 --> 00:43:53.850 you know the NK cells maintain their.

NOTE Confidence: 0.856032311916351
00:43:53.850 --> 00:43:55.962 In and out, and as you
NOTE Confidence: 0.856032311916351
00:43:55.962 --> 00:43:57.338 know anti tumor activity.
NOTE Confidence: 0.856032311916351
00:43:57.340 --> 00:43:59.092 But however in the.
NOTE Confidence: 0.856032311916351
00:43:59.092 --> 00:44:00.844 Imil surprising micro environment.
NOTE Confidence: 0.856032311916351
00:44:00.850 --> 00:44:03.148 Those are simply just cannot function,
NOTE Confidence: 0.856032311916351
00:44:03.150 --> 00:44:05.712 so that's really tell us you know
NOTE Confidence: 0.856032311916351
00:44:05.712 --> 00:44:08.720 when we deal with HTC is causing by
NOTE Confidence: 0.856032311916351
00:44:08.720 --> 00:44:11.848 C virus versus you know like a narco
NOTE Confidence: 0.856032311916351
00:44:11.848 --> 00:44:14.284 versus the alcohol costs the HTC.
NOTE Confidence: 0.856032311916351
00:44:14.290 --> 00:44:16.594 We have to think about differently
NOTE Confidence: 0.856032311916351
00:44:16.594 --> 00:44:18.726 so this is really, you know,
NOTE Confidence: 0.856032311916351
00:44:18.726 --> 00:44:20.812 just the game with this idea in
NOTE Confidence: 0.856032311916351
00:44:20.812 --> 00:44:24.005 a long days and we are actively
NOTE Confidence: 0.856032311916351
00:44:24.005 --> 00:44:25.415 investigated the possibilities.
NOTE Confidence: 0.856032311916351
00:44:25.420 --> 00:44:27.712 Alright so I think my time
NOTE Confidence: 0.856032311916351

00:44:27.712 --> 00:44:30.039 is almost up and I think.
NOTE Confidence: 0.856032311916351

00:44:30.040 --> 00:44:32.830 This will be the summary and I will say
NOTE Confidence: 0.856032311916351

00:44:32.830 --> 00:44:35.447 you know you can see you know this.
NOTE Confidence: 0.856032311916351

00:44:35.450 --> 00:44:36.718 From both you know,
NOTE Confidence: 0.856032311916351

00:44:36.718 --> 00:44:37.669 patients and mice,
NOTE Confidence: 0.856032311916351

00:44:37.670 --> 00:44:40.214 so there is an email response in HTC.
NOTE Confidence: 0.856032311916351

00:44:40.220 --> 00:44:41.237 That's good sign.
NOTE Confidence: 0.856032311916351

00:44:41.237 --> 00:44:43.610 That means that there is engagement between
NOTE Confidence: 0.856032311916351

00:44:43.668 --> 00:44:45.670 the tumor and then they and ominous.
NOTE Confidence: 0.856032311916351

00:44:45.670 --> 00:44:47.560 Not in the music thing,
NOTE Confidence: 0.856032311916351

00:44:47.560 --> 00:44:49.425 so this created opportunity for
NOTE Confidence: 0.856032311916351

00:44:49.425 --> 00:44:51.720 us to develop an you know,
NOTE Confidence: 0.856032311916351

00:44:51.720 --> 00:44:53.898 better therapy so that it seems
NOTE Confidence: 0.856032311916351

00:44:53.898 --> 00:44:55.783 like this email surprising cells
NOTE Confidence: 0.856032311916351

00:44:55.783 --> 00:44:57.997 are dominant in HD situation and
NOTE Confidence: 0.856032311916351

00:44:57.997 --> 00:45:00.343 about human patients and also adding

NOTE Confidence: 0.856032311916351
00:45:00.343 --> 00:45:02.298 models and we demonstrate uniform.
NOTE Confidence: 0.856032311916351
00:45:02.300 --> 00:45:03.320 Our own study.
NOTE Confidence: 0.856032311916351
00:45:03.320 --> 00:45:03.660 Also,
NOTE Confidence: 0.856032311916351
00:45:03.660 --> 00:45:05.700 many other people study also show
NOTE Confidence: 0.856032311916351
00:45:05.764 --> 00:45:07.999 the tumor explanation of specifically
NOTE Confidence: 0.856032311916351
00:45:07.999 --> 00:45:10.628 molasar PewDiePie scene and those car
NOTE Confidence: 0.856032311916351
00:45:10.628 --> 00:45:13.252 T cells in case cells are indeed promising,
NOTE Confidence: 0.856032311916351
00:45:13.260 --> 00:45:14.788 you know, a therapy.
NOTE Confidence: 0.856032311916351
00:45:14.788 --> 00:45:16.316 And as you know.
NOTE Confidence: 0.856032311916351
00:45:16.320 --> 00:45:18.492 Imagine that in the last section
NOTE Confidence: 0.856032311916351
00:45:18.492 --> 00:45:21.525 of other than in case also we see
NOTE Confidence: 0.856032311916351
00:45:21.525 --> 00:45:23.787 the differences between the HC way
NOTE Confidence: 0.856032311916351
00:45:23.861 --> 00:45:26.207 induce the HTC and alcohol induced
NOTE Confidence: 0.856032311916351
00:45:26.207 --> 00:45:29.308 ACC really tell us we have to think
NOTE Confidence: 0.856032311916351
00:45:29.308 --> 00:45:31.600 about a personalized email therapy approach.
NOTE Confidence: 0.856032311916351

00:45:31.600 --> 00:45:34.312 We have to really see if we can
NOTE Confidence: 0.856032311916351

00:45:34.312 --> 00:45:36.311 separate those cancers with you
NOTE Confidence: 0.856032311916351

00:45:36.311 --> 00:45:38.789 know what cording to their ideology
NOTE Confidence: 0.856032311916351

00:45:38.789 --> 00:45:41.907 and then see developper you know
NOTE Confidence: 0.856032311916351

00:45:41.907 --> 00:45:44.007 more effective therapy accordingly.
NOTE Confidence: 0.856032311916351

00:45:44.010 --> 00:45:46.488 So now the challenge is, you know
NOTE Confidence: 0.856032311916351

00:45:46.488 --> 00:45:49.320 there is another easy to get this done,
NOTE Confidence: 0.856032311916351

00:45:49.320 --> 00:45:52.150 but I think many are really, you know,
NOTE Confidence: 0.856032311916351

00:45:52.150 --> 00:45:54.280 not just in the confined within.
NOTE Confidence: 0.856032311916351

00:45:54.280 --> 00:45:55.696 You know liver cancer.
NOTE Confidence: 0.856032311916351

00:45:55.696 --> 00:45:57.820 Actually you can have this probably
NOTE Confidence: 0.856032311916351

00:45:57.881 --> 00:45:59.586 multi other cancers as well.
NOTE Confidence: 0.856032311916351

00:45:59.590 --> 00:46:02.222 I think this is one area we all
NOTE Confidence: 0.856032311916351

00:46:02.222 --> 00:46:05.249 need to think about how to do this.
NOTE Confidence: 0.856032311916351

00:46:05.250 --> 00:46:06.662 So certainly biomarker for
NOTE Confidence: 0.856032311916351

00:46:06.662 --> 00:46:08.074 getting service absolute liking.

NOTE Confidence: 0.856032311916351

00:46:08.080 --> 00:46:10.156 So even though therapy specially but

NOTE Confidence: 0.856032311916351

00:46:10.156 --> 00:46:12.679 you know we're making inroads right now.

NOTE Confidence: 0.856032311916351

00:46:12.680 --> 00:46:14.120 For example. Total tumor.

NOTE Confidence: 0.856032311916351

00:46:14.120 --> 00:46:15.534 Antigen burden, you know.

NOTE Confidence: 0.856032311916351

00:46:15.534 --> 00:46:17.269 Like the microsatellite instability is,

NOTE Confidence: 0.856032311916351

00:46:17.270 --> 00:46:18.194 as you know,

NOTE Confidence: 0.856032311916351

00:46:18.194 --> 00:46:20.042 has something demonstrate you know as

NOTE Confidence: 0.856032311916351

00:46:20.042 --> 00:46:22.366 a predictive marker for more fighter

NOTE Confidence: 0.856032311916351

00:46:22.366 --> 00:46:24.560 effective therapy for check for me.

NOTE Confidence: 0.856032311916351

00:46:24.560 --> 00:46:26.989 Hey, better so that's the right direction.

NOTE Confidence: 0.856032311916351

00:46:26.990 --> 00:46:29.518 But we still need to think about more

NOTE Confidence: 0.856032311916351

00:46:29.518 --> 00:46:31.325 specific file markers for different

NOTE Confidence: 0.856032311916351

00:46:31.325 --> 00:46:33.922 cancers and see how to get everything.

NOTE Confidence: 0.856032311916351

00:46:33.930 --> 00:46:36.006 And then obviously we almost no.

NOTE Confidence: 0.856032311916351

00:46:36.010 --> 00:46:38.092 There will be some sort of

NOTE Confidence: 0.856032311916351

00:46:38.092 --> 00:46:39.480 tumor resistant coming out,
NOTE Confidence: 0.856032311916351

00:46:39.480 --> 00:46:41.832 so that's where you know we need
NOTE Confidence: 0.856032311916351

00:46:41.832 --> 00:46:44.345 to pay attention or be at least
NOTE Confidence: 0.856032311916351

00:46:44.345 --> 00:46:46.135 consider the possibility of the.
NOTE Confidence: 0.856032311916351

00:46:46.140 --> 00:46:48.612 That the veloppement of resistance and
NOTE Confidence: 0.856032311916351

00:46:48.612 --> 00:46:51.070 its potential mechanism that causes high,
NOTE Confidence: 0.856032311916351

00:46:51.070 --> 00:46:51.892 particularly women,
NOTE Confidence: 0.856032311916351

00:46:51.892 --> 00:46:53.947 sing about personalized email therapy.
NOTE Confidence: 0.826214373111725

00:46:53.950 --> 00:46:56.939 We all know that tumor Hitler genetix
NOTE Confidence: 0.826214373111725

00:46:56.939 --> 00:46:58.880 really does dimension as well,
NOTE Confidence: 0.826214373111725

00:46:58.880 --> 00:47:02.504 but and the other is is really, you know.
NOTE Confidence: 0.826214373111725

00:47:02.504 --> 00:47:05.480 There is a very active field right now
NOTE Confidence: 0.826214373111725

00:47:05.564 --> 00:47:08.112 is a target and you understand you
NOTE Confidence: 0.826214373111725

00:47:08.112 --> 00:47:10.779 know the new energy income information
NOTE Confidence: 0.826214373111725

00:47:10.779 --> 00:47:13.755 because that you can induce new
NOTE Confidence: 0.826214373111725

00:47:13.755 --> 00:47:15.508 energy through radiation therapy.

NOTE Confidence: 0.826214373111725
00:47:15.508 --> 00:47:17.591 Awesome tumor, like original local
NOTE Confidence: 0.826214373111725
00:47:17.591 --> 00:47:19.676 regional therapy for hyper disorder,
NOTE Confidence: 0.826214373111725
00:47:19.680 --> 00:47:20.928 carcinoma injecting chemotherapy,
NOTE Confidence: 0.826214373111725
00:47:20.928 --> 00:47:22.968 agents of radiation, you know,
NOTE Confidence: 0.826214373111725
00:47:22.968 --> 00:47:26.120 create a new energy and so those new
NOTE Confidence: 0.826214373111725
00:47:26.214 --> 00:47:29.273 editions probably will be able to serve
NOTE Confidence: 0.826214373111725
00:47:29.273 --> 00:47:32.646 as a target for us to develop more.
NOTE Confidence: 0.826214373111725
00:47:32.650 --> 00:47:35.980 Like the potential 80 factor.
NOTE Confidence: 0.826214373111725
00:47:35.980 --> 00:47:38.325 You know emails are paid approach OK,
NOTE Confidence: 0.826214373111725
00:47:38.330 --> 00:47:40.706 so with that I would say you know
NOTE Confidence: 0.826214373111725
00:47:40.706 --> 00:47:42.867 thanks to people who are working
NOTE Confidence: 0.826214373111725
00:47:42.867 --> 00:47:45.390 in my life in especially houses MD,
NOTE Confidence: 0.826214373111725
00:47:45.390 --> 00:47:47.400 PhD student, graduate student ID TS.
NOTE Confidence: 0.826214373111725
00:47:47.400 --> 00:47:50.136 Who did all this in case our work and
NOTE Confidence: 0.826214373111725
00:47:50.136 --> 00:47:52.777 Frank and layout with the post office.
NOTE Confidence: 0.826214373111725

00:47:52.780 --> 00:47:55.020 We did also by tumor vaccine work so

NOTE Confidence: 0.826214373111725

00:47:55.020 --> 00:47:57.480 have a lot of collaborations tools.

NOTE Confidence: 0.826214373111725

00:47:57.480 --> 00:47:59.398 Thanks from you know by you know

NOTE Confidence: 0.826214373111725

00:47:59.398 --> 00:48:00.682 really the priority institution

NOTE Confidence: 0.826214373111725

00:48:00.682 --> 00:48:03.088 University of Florida and also ruckers

NOTE Confidence: 0.826214373111725

00:48:03.088 --> 00:48:04.667 University and especially assigned

NOTE Confidence: 0.826214373111725

00:48:04.667 --> 00:48:06.569 don't phone bill who is actually.

NOTE Confidence: 0.826214373111725

00:48:06.570 --> 00:48:08.940 That they did not email about,

NOTE Confidence: 0.826214373111725

00:48:08.940 --> 00:48:10.920 you know shared his eyes,

NOTE Confidence: 0.826214373111725

00:48:10.920 --> 00:48:12.464 speaks parties with us,

NOTE Confidence: 0.826214373111725

00:48:12.464 --> 00:48:14.780 and also the regional viral vector

NOTE Confidence: 0.826214373111725

00:48:14.855 --> 00:48:16.685 system to build better effective

NOTE Confidence: 0.826214373111725

00:48:16.685 --> 00:48:19.022 party and also my long term

NOTE Confidence: 0.826214373111725

00:48:19.022 --> 00:48:21.187 collaborator animal clinic in the.

NOTE Confidence: 0.826214373111725

00:48:21.190 --> 00:48:21.604 Again,

NOTE Confidence: 0.826214373111725

00:48:21.604 --> 00:48:24.502 you know saying You know the Funding

NOTE Confidence: 0.826214373111725

00:48:24.502 --> 00:48:26.824 Agency for support our work over

NOTE Confidence: 0.826214373111725

00:48:26.824 --> 00:48:29.480 the years so I will stop there.

NOTE Confidence: 0.826214373111725

00:48:29.480 --> 00:48:31.060 and I welcome questions,

NOTE Confidence: 0.826214373111725

00:48:31.060 --> 00:48:33.430 ideas from the audience. Thank you.

NOTE Confidence: 0.826214373111725

00:48:33.430 --> 00:48:35.800 Thank you all for your attention.

NOTE Confidence: 0.891910076141357

00:48:36.530 --> 00:48:39.275 A chain thank you and thank you for a

NOTE Confidence: 0.891910076141357

00:48:39.275 --> 00:48:41.781 terrific talk as well as you know the

NOTE Confidence: 0.891910076141357

00:48:41.781 --> 00:48:44.431 work you're doing in this very challenging

NOTE Confidence: 0.891910076141357

00:48:44.431 --> 00:48:46.933 malignancy and and folks should submit

NOTE Confidence: 0.891910076141357

00:48:46.940 --> 00:48:49.016 their questions on the chat button.

NOTE Confidence: 0.891910076141357

00:48:49.020 --> 00:48:52.363 But let me if I may start. Yeah please.

NOTE Confidence: 0.891910076141357

00:48:52.363 --> 00:48:54.889 You very nicely identify the potential

NOTE Confidence: 0.891910076141357

00:48:54.889 --> 00:48:57.084 differences in immune response between

NOTE Confidence: 0.891910076141357

00:48:57.084 --> 00:48:59.646 alcoholic associated legacies as the alcohol

NOTE Confidence: 0.891910076141357

00:48:59.711 --> 00:49:02.117 associated legacies as opposed to viral,

NOTE Confidence: 0.891910076141357

00:49:02.120 --> 00:49:04.941 where given the rise in the role
NOTE Confidence: 0.891910076141357

00:49:04.941 --> 00:49:08.063 of non alcoholic stay out of the
NOTE Confidence: 0.891910076141357

00:49:08.063 --> 00:49:10.348 tightest Nash in HTC pathogenesis,
NOTE Confidence: 0.891910076141357

00:49:10.350 --> 00:49:13.304 where do you see that aligning compared
NOTE Confidence: 0.891910076141357

00:49:13.304 --> 00:49:16.408 to the models you now been studying?
NOTE Confidence: 0.891910076141357

00:49:16.410 --> 00:49:16.840 Yeah,
NOTE Confidence: 0.891910076141357

00:49:16.840 --> 00:49:17.270 so
NOTE Confidence: 0.888022541999817

00:49:17.270 --> 00:49:19.868 my so that's that's a thing.
NOTE Confidence: 0.888022541999817

00:49:19.870 --> 00:49:22.480 There are two issues here alright.
NOTE Confidence: 0.888022541999817

00:49:22.480 --> 00:49:23.952 So yes, Nash Associated
NOTE Confidence: 0.888022541999817

00:49:23.952 --> 00:49:25.360 Hypersolar Carcinoma, you know.
NOTE Confidence: 0.888022541999817

00:49:25.360 --> 00:49:27.035 But these are epidemiologist study
NOTE Confidence: 0.888022541999817

00:49:27.035 --> 00:49:29.100 has seen the rising incidence.
NOTE Confidence: 0.888022541999817

00:49:29.100 --> 00:49:30.940 However, in practice we seem
NOTE Confidence: 0.888022541999817

00:49:30.940 --> 00:49:32.780 very little of those cases,
NOTE Confidence: 0.888022541999817

00:49:32.780 --> 00:49:34.620 you know, because you know,

NOTE Confidence: 0.888022541999817

00:49:34.620 --> 00:49:37.549 I think that's the thing, because you know,

NOTE Confidence: 0.888022541999817

00:49:37.549 --> 00:49:40.879 we use in the liver transplant as our model.

NOTE Confidence: 0.888022541999817

00:49:40.880 --> 00:49:43.010 You know, we get those sites

NOTE Confidence: 0.888022541999817

00:49:43.010 --> 00:49:44.930 where it without that issue.

NOTE Confidence: 0.888022541999817

00:49:44.930 --> 00:49:47.138 I think this is it common.

NOTE Confidence: 0.888022541999817

00:49:47.140 --> 00:49:50.443 We just do not have a lot of cases.

NOTE Confidence: 0.888022541999817

00:49:50.450 --> 00:49:51.902 Actually human tissue cases.

NOTE Confidence: 0.888022541999817

00:49:51.902 --> 00:49:53.717 I would say HTC arising

NOTE Confidence: 0.888022541999817

00:49:53.717 --> 00:49:55.290 from the Nash patients.

NOTE Confidence: 0.888022541999817

00:49:55.290 --> 00:49:58.195 To really it was studied in detail,

NOTE Confidence: 0.888022541999817

00:49:58.200 --> 00:50:01.308 but there are, but they each center

NOTE Confidence: 0.888022541999817

00:50:01.308 --> 00:50:04.417 they will have a really a fuel in.

NOTE Confidence: 0.888022541999817

00:50:04.420 --> 00:50:07.740 The implication is very hard to to do.

NOTE Confidence: 0.888022541999817

00:50:07.740 --> 00:50:08.606 The study.

NOTE Confidence: 0.888022541999817

00:50:08.606 --> 00:50:11.204 Second point is you know if

NOTE Confidence: 0.888022541999817

00:50:11.204 --> 00:50:13.547 you look at it in terms.
NOTE Confidence: 0.888022541999817

00:50:13.550 --> 00:50:16.063 You look at the Histology so the
NOTE Confidence: 0.888022541999817

00:50:16.063 --> 00:50:17.618 alcohol related cirrhosis probably
NOTE Confidence: 0.888022541999817

00:50:17.618 --> 00:50:20.481 will have more resembles to the Nash
NOTE Confidence: 0.888022541999817

00:50:20.481 --> 00:50:22.355 Associated Cirrhosis or carcinogenesis
NOTE Confidence: 0.888022541999817

00:50:22.355 --> 00:50:24.339 because they both contributed.
NOTE Confidence: 0.888022541999817

00:50:24.340 --> 00:50:26.040 For example, how alcohol.
NOTE Confidence: 0.888022541999817

00:50:26.040 --> 00:50:27.315 Induce enough cirrhosis
NOTE Confidence: 0.888022541999817

00:50:27.315 --> 00:50:28.590 and apparel carcinoma,
NOTE Confidence: 0.888022541999817

00:50:28.590 --> 00:50:31.122 probably by messing up the metabolic
NOTE Confidence: 0.888022541999817

00:50:31.122 --> 00:50:33.232 pathway within the liver, right?
NOTE Confidence: 0.888022541999817

00:50:33.232 --> 00:50:36.186 So that's the same way you know.
NOTE Confidence: 0.888022541999817

00:50:36.190 --> 00:50:37.372 Nice related thing.
NOTE Confidence: 0.888022541999817

00:50:37.372 --> 00:50:39.342 It is basically part of
NOTE Confidence: 0.888022541999817

00:50:39.342 --> 00:50:40.830 the metabolic syndrome,
NOTE Confidence: 0.888022541999817

00:50:40.830 --> 00:50:44.628 so I would think if we want to guess,

NOTE Confidence: 0.888022541999817

00:50:44.630 --> 00:50:46.745 I will assume those probably

NOTE Confidence: 0.888022541999817

00:50:46.745 --> 00:50:49.762 more or less related to the to

NOTE Confidence: 0.888022541999817

00:50:49.762 --> 00:50:51.797 the alcohol induced the HTC,

NOTE Confidence: 0.888022541999817

00:50:51.800 --> 00:50:53.508 which is less information.

NOTE Confidence: 0.888022541999817

00:50:53.508 --> 00:50:56.070 So that's the key difference if.

NOTE Confidence: 0.888022541999817

00:50:56.070 --> 00:50:58.476 If we look at that issue,

NOTE Confidence: 0.888022541999817

00:50:58.480 --> 00:51:00.385 you have very little information

NOTE Confidence: 0.888022541999817

00:51:00.385 --> 00:51:02.790 in in Nash or alcohol related

NOTE Confidence: 0.888022541999817

00:51:02.790 --> 00:51:04.910 liver injury or hepatitis C.

NOTE Confidence: 0.888022541999817

00:51:04.910 --> 00:51:06.518 You always have this.

NOTE Confidence: 0.888022541999817

00:51:06.518 --> 00:51:08.126 I'm going chronic inflammation.

NOTE Confidence: 0.888022541999817

00:51:08.130 --> 00:51:10.536 I think that's the key difference.

NOTE Confidence: 0.888022541999817

00:51:10.540 --> 00:51:11.300 I mean,

NOTE Confidence: 0.888022541999817

00:51:11.300 --> 00:51:13.960 it was sort of a surprise was

NOTE Confidence: 0.888022541999817

00:51:13.960 --> 00:51:16.566 may not be a good surprise.

NOTE Confidence: 0.888022541999817

00:51:16.570 --> 00:51:18.815 Become actually see the NK
NOTE Confidence: 0.888022541999817

00:51:18.815 --> 00:51:20.162 cells behavior differently
NOTE Confidence: 0.888022541999817

00:51:20.162 --> 00:51:22.508 in there supposed to groups.
NOTE Confidence: 0.888022541999817

00:51:22.510 --> 00:51:24.928 Interest rates are we don't know,
NOTE Confidence: 0.888022541999817

00:51:24.930 --> 00:51:27.744 so you know to complete with complete
NOTE Confidence: 0.864440381526947

00:51:27.750 --> 00:51:29.760 and know that yeah yeah,
NOTE Confidence: 0.864440381526947

00:51:29.760 --> 00:51:32.322 so a number of our members of
NOTE Confidence: 0.864440381526947

00:51:32.322 --> 00:51:34.200 audience of submitting questions.
NOTE Confidence: 0.864440381526947

00:51:34.200 --> 00:51:36.285 I'll start Marcus bosenberg is
NOTE Confidence: 0.864440381526947

00:51:36.285 --> 00:51:38.370 asking have you considered making
NOTE Confidence: 0.864440381526947

00:51:38.435 --> 00:51:40.649 Carty to either hepatitis B virus,
NOTE Confidence: 0.864440381526947

00:51:40.650 --> 00:51:43.464 hepatitis C virus antigens expressed on the
NOTE Confidence: 0.872639007568359

00:51:43.470 --> 00:51:46.046 cell surface? So we haven't because the
NOTE Confidence: 0.872639007568359

00:51:46.046 --> 00:51:48.616 reason we haven't you thought we really
NOTE Confidence: 0.872639007568359

00:51:48.616 --> 00:51:51.293 worry about that kind of therapy as a
NOTE Confidence: 0.872639007568359

00:51:51.293 --> 00:51:54.092 matter of fact, if you look at the viral

NOTE Confidence: 0.872639007568359
00:51:54.092 --> 00:51:56.098 distribution in the liver, we need,
NOTE Confidence: 0.872639007568359
00:51:56.098 --> 00:51:58.401 you know you have more very expression
NOTE Confidence: 0.872639007568359
00:51:58.401 --> 00:52:01.165 in the non tumor cells and tumor cells.
NOTE Confidence: 0.872639007568359
00:52:01.170 --> 00:52:03.906 You know, for example used in the liver.
NOTE Confidence: 0.872639007568359
00:52:03.910 --> 00:52:06.316 Sample I haven't I disappear if
NOTE Confidence: 0.872639007568359
00:52:06.316 --> 00:52:09.030 you look at the hepatitis B.
NOTE Confidence: 0.872639007568359
00:52:09.030 --> 00:52:11.732 But you know, engaging expression in both
NOTE Confidence: 0.872639007568359
00:52:11.732 --> 00:52:14.487 the tumor tissue Anna noun tumor tissue.
NOTE Confidence: 0.872639007568359
00:52:14.490 --> 00:52:17.448 You tend to have higher expression.
NOTE Confidence: 0.872639007568359
00:52:17.450 --> 00:52:19.436 In the non timit liver tissue.
NOTE Confidence: 0.872639007568359
00:52:19.440 --> 00:52:21.426 So we really worry about it.
NOTE Confidence: 0.872639007568359
00:52:21.430 --> 00:52:24.418 You know you created this type of a target.
NOTE Confidence: 0.872639007568359
00:52:24.420 --> 00:52:26.382 You probably wipe out the liver
NOTE Confidence: 0.872639007568359
00:52:26.382 --> 00:52:28.409 instead of locating the tumor cell.
NOTE Confidence: 0.872639007568359
00:52:28.410 --> 00:52:30.832 So I don't see those are really
NOTE Confidence: 0.872639007568359

00:52:30.832 --> 00:52:32.956 again assumption as part of the
NOTE Confidence: 0.872639007568359

00:52:32.956 --> 00:52:34.990 say that's probably part of the
NOTE Confidence: 0.872639007568359

00:52:34.990 --> 00:52:36.959 reason we haven't really seen.
NOTE Confidence: 0.872639007568359

00:52:36.960 --> 00:52:39.235 People reporting are making those
NOTE Confidence: 0.872639007568359

00:52:39.235 --> 00:52:42.798 hepatitis B or C in a car key yet.
NOTE Confidence: 0.872639007568359

00:52:42.800 --> 00:52:43.200 Yes,
NOTE Confidence: 0.88914829492569

00:52:43.200 --> 00:52:45.115 thank you so question from
NOTE Confidence: 0.88914829492569

00:52:45.115 --> 00:52:47.952 damper chain are the the T cell
NOTE Confidence: 0.88914829492569

00:52:47.952 --> 00:52:50.047 infiltrating cells in the tumor?
NOTE Confidence: 0.88914829492569

00:52:50.050 --> 00:52:52.210 Are they different from the T
NOTE Confidence: 0.88914829492569

00:52:52.210 --> 00:52:54.114 cells in the adjacent hepatitis
NOTE Confidence: 0.88914829492569

00:52:54.114 --> 00:52:56.054 C infected liver and related
NOTE Confidence: 0.88914829492569

00:52:56.054 --> 00:52:59.021 to that would be the effect of
NOTE Confidence: 0.88914829492569

00:52:59.021 --> 00:53:01.246 immune checkpoint therapy on the
NOTE Confidence: 0.88914829492569

00:53:01.246 --> 00:53:03.352 background liver vis-a-vis the tumor.
NOTE Confidence: 0.88914829492569

00:53:03.352 --> 00:53:04.968 If they are different.

NOTE Confidence: 0.839565634727478

00:53:05.650 --> 00:53:07.390 Right, so that's you know,

NOTE Confidence: 0.839565634727478

00:53:07.390 --> 00:53:09.130 uh, you know greater point,

NOTE Confidence: 0.839565634727478

00:53:09.130 --> 00:53:11.218 let's see first so you know,

NOTE Confidence: 0.839565634727478

00:53:11.220 --> 00:53:12.528 for the first part,

NOTE Confidence: 0.839565634727478

00:53:12.528 --> 00:53:14.490 so we didn't have to really

NOTE Confidence: 0.839565634727478

00:53:14.562 --> 00:53:16.788 look at the overall generic key.

NOTE Confidence: 0.839565634727478

00:53:16.790 --> 00:53:18.186 Infiltrating the middle size.

NOTE Confidence: 0.839565634727478

00:53:18.186 --> 00:53:21.017 So we basically we did not sign the

NOTE Confidence: 0.839565634727478

00:53:21.017 --> 00:53:23.046 whole T cells compared, you know,

NOTE Confidence: 0.839565634727478

00:53:23.046 --> 00:53:25.482 the tumor and the non tumor liver.

NOTE Confidence: 0.839565634727478

00:53:25.490 --> 00:53:28.026 So we really focusing on the NK cells

NOTE Confidence: 0.839565634727478

00:53:28.026 --> 00:53:29.851 because we decided just focusing

NOTE Confidence: 0.839565634727478

00:53:29.851 --> 00:53:32.095 on K cells and for different,

NOTE Confidence: 0.839565634727478

00:53:32.100 --> 00:53:33.815 you know for number reasons

NOTE Confidence: 0.839565634727478

00:53:33.815 --> 00:53:35.940 I mentioned so we don't know.

NOTE Confidence: 0.839565634727478

00:53:35.940 --> 00:53:38.766 The total tease out difference between
NOTE Confidence: 0.839565634727478

00:53:38.766 --> 00:53:41.170 humor and the surrounding labor.
NOTE Confidence: 0.839565634727478

00:53:41.170 --> 00:53:44.970 In Hep C and also in alcohol cirrhosis.
NOTE Confidence: 0.839565634727478

00:53:44.970 --> 00:53:48.288 So that's what they II you know.
NOTE Confidence: 0.839565634727478

00:53:48.290 --> 00:53:51.086 A question is whether or not
NOTE Confidence: 0.839565634727478

00:53:51.086 --> 00:53:53.989 you know the for this way,
NOTE Confidence: 0.839565634727478

00:53:53.990 --> 00:53:56.695 the information you know driven
NOTE Confidence: 0.839565634727478

00:53:56.695 --> 00:53:58.318 T cell weather.
NOTE Confidence: 0.839565634727478

00:53:58.320 --> 00:54:00.704 You know you will be able to see
NOTE Confidence: 0.839565634727478

00:54:00.704 --> 00:54:02.636 you know in the inflammatory
NOTE Confidence: 0.839565634727478

00:54:02.636 --> 00:54:05.156 citing and how those are behave,
NOTE Confidence: 0.839565634727478

00:54:05.160 --> 00:54:08.040 so we really don't know at this one.
NOTE Confidence: 0.895448207855225

00:54:09.680 --> 00:54:11.610 Her thank you question from
NOTE Confidence: 0.895448207855225

00:54:11.610 --> 00:54:13.540 under whose and are asking.
NOTE Confidence: 0.895448207855225

00:54:13.540 --> 00:54:15.580 Given the differences in tumor cell
NOTE Confidence: 0.895448207855225

00:54:15.580 --> 00:54:17.452 biology and immune micro environment

NOTE Confidence: 0.895448207855225
00:54:17.452 --> 00:54:19.717 between HTC of different etiologies,
NOTE Confidence: 0.895448207855225
00:54:19.720 --> 00:54:22.016 how do you think about modeling these
NOTE Confidence: 0.895448207855225
00:54:22.016 --> 00:54:24.471 ideologies in animals to more reliably
NOTE Confidence: 0.895448207855225
00:54:24.471 --> 00:54:25.887 test immunotherapeutic approaches?
NOTE Confidence: 0.895448207855225
00:54:25.890 --> 00:54:28.590 Yeah, that's a great point, but I
NOTE Confidence: 0.895448207855225
00:54:28.590 --> 00:54:31.857 think at this moment I don't see we have
NOTE Confidence: 0.895448207855225
00:54:31.857 --> 00:54:34.766 a good model to test that, particularly.
NOTE Confidence: 0.895448207855225
00:54:34.766 --> 00:54:38.240 You know if you look at the mouse model.
NOTE Confidence: 0.895448207855225
00:54:38.240 --> 00:54:40.935 I mean we we. Also created hypothese,
NOTE Confidence: 0.895448207855225
00:54:40.940 --> 00:54:42.280 transgender demise but we've
NOTE Confidence: 0.895448207855225
00:54:42.280 --> 00:54:43.955 never been able to recapitulate
NOTE Confidence: 0.895448207855225
00:54:43.955 --> 00:54:45.860 the similar similar pathogenesis.
NOTE Confidence: 0.895448207855225
00:54:45.860 --> 00:54:48.128 Yes, if you have hepatitis C,
NOTE Confidence: 0.895448207855225
00:54:48.130 --> 00:54:50.386 you know like a transgenic mice,
NOTE Confidence: 0.895448207855225
00:54:50.390 --> 00:54:52.550 but somehow you do not have
NOTE Confidence: 0.895448207855225

00:54:52.550 --> 00:54:54.457 all the information you would
NOTE Confidence: 0.895448207855225

00:54:54.457 --> 00:54:56.815 otherwise see in the human model.
NOTE Confidence: 0.895448207855225

00:54:56.820 --> 00:54:59.459 The reason is when you build a
NOTE Confidence: 0.895448207855225

00:54:59.459 --> 00:55:01.354 transgenic mice, you basically create
NOTE Confidence: 0.895448207855225

00:55:01.354 --> 00:55:03.244 this tolerance for the antigen.
NOTE Confidence: 0.895448207855225

00:55:03.250 --> 00:55:04.790 You know, for example,
NOTE Confidence: 0.895448207855225

00:55:04.790 --> 00:55:07.534 so that means that the minds of
NOTE Confidence: 0.895448207855225

00:55:07.534 --> 00:55:09.670 the host will trade that rise.
NOTE Confidence: 0.895448207855225

00:55:09.670 --> 00:55:10.792 Transgender put in.
NOTE Confidence: 0.895448207855225

00:55:10.792 --> 00:55:12.884 And as a Nitro, you know,
NOTE Confidence: 0.895448207855225

00:55:12.884 --> 00:55:13.478 own protein,
NOTE Confidence: 0.895448207855225

00:55:13.478 --> 00:55:15.789 so we never be able to initiate
NOTE Confidence: 0.895448207855225

00:55:15.789 --> 00:55:18.099 those kind of inflammatory model.
NOTE Confidence: 0.895448207855225

00:55:18.100 --> 00:55:19.186 The other model,
NOTE Confidence: 0.895448207855225

00:55:19.186 --> 00:55:20.996 Israel chemically induced the model.
NOTE Confidence: 0.895448207855225

00:55:21.000 --> 00:55:21.726 You know,

NOTE Confidence: 0.895448207855225
00:55:21.726 --> 00:55:24.630 you know to look at the personal Genesis.
NOTE Confidence: 0.895448207855225
00:55:24.630 --> 00:55:26.737 It's really not the same as all
NOTE Confidence: 0.895448207855225
00:55:26.737 --> 00:55:28.733 because in that in those cases
NOTE Confidence: 0.895448207855225
00:55:28.733 --> 00:55:30.773 you have more liver damage rather
NOTE Confidence: 0.895448207855225
00:55:30.773 --> 00:55:32.979 than actually information driven.
NOTE Confidence: 0.895448207855225
00:55:32.980 --> 00:55:34.428 So for that question,
NOTE Confidence: 0.895448207855225
00:55:34.428 --> 00:55:37.387 I don't think you know we have really
NOTE Confidence: 0.895448207855225
00:55:37.387 --> 00:55:40.610 good model to to look at the email now.
NOTE Confidence: 0.895448207855225
00:55:40.610 --> 00:55:41.684 Check on inhibitor.
NOTE Confidence: 0.895448207855225
00:55:41.684 --> 00:55:43.116 So for that matter,
NOTE Confidence: 0.895448207855225
00:55:43.120 --> 00:55:43.480 alright,
NOTE Confidence: 0.895448207855225
00:55:43.480 --> 00:55:46.360 so you know the one we divided the
NOTE Confidence: 0.895448207855225
00:55:46.360 --> 00:55:48.624 Bobbsey Miz will be good to look
NOTE Confidence: 0.895448207855225
00:55:48.624 --> 00:55:51.021 at the email check only hitter but
NOTE Confidence: 0.895448207855225
00:55:51.021 --> 00:55:53.235 again in that setting you know.
NOTE Confidence: 0.895448207855225

00:55:53.240 --> 00:55:55.448 The difference is is we don't.
NOTE Confidence: 0.895448207855225

00:55:55.450 --> 00:55:57.300 There is no hepatitis infection
NOTE Confidence: 0.895448207855225

00:55:57.300 --> 00:55:58.410 in that system.
NOTE Confidence: 0.895448207855225

00:55:58.410 --> 00:56:00.255 We actually trying to get
NOTE Confidence: 0.895448207855225

00:56:00.255 --> 00:56:02.100 hepatitis C virus windows privacy,
NOTE Confidence: 0.895448207855225

00:56:02.100 --> 00:56:04.308 HTC and trying to do that,
NOTE Confidence: 0.895448207855225

00:56:04.310 --> 00:56:07.254 but for some some reason we still cannot.
NOTE Confidence: 0.895448207855225

00:56:07.260 --> 00:56:08.732 In a, you know,
NOTE Confidence: 0.895448207855225

00:56:08.732 --> 00:56:10.204 recapitulate the inflammatory response.
NOTE Confidence: 0.895448207855225

00:56:10.210 --> 00:56:12.428 You know in that, in, in,
NOTE Confidence: 0.895448207855225

00:56:12.428 --> 00:56:14.636 in, in, the in the system.
NOTE Confidence: 0.895448207855225

00:56:14.640 --> 00:56:17.592 So again you know like you know just
NOTE Confidence: 0.895448207855225

00:56:17.592 --> 00:56:19.806 like them, please ask the earlier.
NOTE Confidence: 0.895448207855225

00:56:19.806 --> 00:56:22.020 So for those you know differences.
NOTE Confidence: 0.895448207855225

00:56:22.020 --> 00:56:24.288 You know whether you have inflammatory.
NOTE Confidence: 0.895448207855225

00:56:24.290 --> 00:56:26.600 Changes in HTC of lice inflammatory

NOTE Confidence: 0.895448207855225
00:56:26.600 --> 00:56:28.827 transition alcohol induced that HTC will
NOTE Confidence: 0.895448207855225
00:56:28.827 --> 00:56:31.018 be when you use trackpoint in Haverhill.
NOTE Confidence: 0.895448207855225
00:56:31.020 --> 00:56:32.082 How they behave?
NOTE Confidence: 0.895448207855225
00:56:32.082 --> 00:56:34.560 We don't know for whatever the reason.
NOTE Confidence: 0.895448207855225
00:56:34.560 --> 00:56:36.751 If you look at the clinical trial
NOTE Confidence: 0.895448207855225
00:56:36.751 --> 00:56:38.798 they conducted the network T service
NOTE Confidence: 0.895448207855225
00:56:38.798 --> 00:56:40.543 out because actually hoping serving
NOTE Confidence: 0.895448207855225
00:56:40.543 --> 00:56:43.048 as a reviewer when this separated.
NOTE Confidence: 0.895448207855225
00:56:43.050 --> 00:56:44.820 You know some middle ground.
NOTE Confidence: 0.895448207855225
00:56:44.820 --> 00:56:47.263 I say can you tell me can
NOTE Confidence: 0.895448207855225
00:56:47.263 --> 00:56:48.720 you separate this out?
NOTE Confidence: 0.895448207855225
00:56:48.720 --> 00:56:51.544 Can you say alcohol, HTC patient you know?
NOTE Confidence: 0.895448207855225
00:56:51.550 --> 00:56:54.398 And also HC? Wait patience when you use.
NOTE Confidence: 0.895448207855225
00:56:54.400 --> 00:56:55.096 Checkpoint inhibitor,
NOTE Confidence: 0.895448207855225
00:56:55.096 --> 00:56:56.488 do they behave differently?
NOTE Confidence: 0.895448207855225

00:56:56.490 --> 00:56:58.940 Out behavior? Say I mean with them.
NOTE Confidence: 0.895448207855225

00:56:58.940 --> 00:56:59.638 I mean,
NOTE Confidence: 0.895448207855225

00:56:59.638 --> 00:57:02.430 I guess probably you know the case number.
NOTE Confidence: 0.895448207855225

00:57:02.430 --> 00:57:02.781 Overall,
NOTE Confidence: 0.895448207855225

00:57:02.781 --> 00:57:05.238 you know you'll still have a relatively
NOTE Confidence: 0.895448207855225

00:57:05.238 --> 00:57:07.309 fewer numbers of people with alcohol.
NOTE Confidence: 0.895448207855225

00:57:07.310 --> 00:57:10.350 HTC I think majority the patient is still
NOTE Confidence: 0.895448207855225

00:57:10.350 --> 00:57:13.593 is like a HC way or HP way related HTC.
NOTE Confidence: 0.895448207855225

00:57:13.600 --> 00:57:15.660 I think that's really important
NOTE Confidence: 0.895448207855225

00:57:15.660 --> 00:57:18.170 because I think that you know.
NOTE Confidence: 0.895448207855225

00:57:18.170 --> 00:57:20.984 What you got the checkpoint inhibitor
NOTE Confidence: 0.895448207855225

00:57:20.984 --> 00:57:23.476 should absolutely considered an I in
NOTE Confidence: 0.895448207855225

00:57:23.476 --> 00:57:25.652 in the sighting of Nitro I will say
NOTE Confidence: 0.895448207855225

00:57:25.722 --> 00:57:27.657 to you know physiological difference
NOTE Confidence: 0.895448207855225

00:57:27.657 --> 00:57:29.973 in terms of the path biology,
NOTE Confidence: 0.895448207855225

00:57:29.973 --> 00:57:31.838 for example whether or not

NOTE Confidence: 0.895448207855225
00:57:31.838 --> 00:57:33.330 they have the indulgence
NOTE Confidence: 0.886137664318085
00:57:33.400 --> 00:57:34.868 inflammatory milio or macro
NOTE Confidence: 0.886137664318085
00:57:34.868 --> 00:57:37.070 environment or not I think that
NOTE Confidence: 0.886137664318085
00:57:37.137 --> 00:57:39.127 could make this huge difference.
NOTE Confidence: 0.886137664318085
00:57:39.130 --> 00:57:41.680 I think this is actually one
NOTE Confidence: 0.886137664318085
00:57:41.680 --> 00:57:44.899 of the area I was saying is.
NOTE Confidence: 0.886137664318085
00:57:44.900 --> 00:57:47.105 We should have really look at the
NOTE Confidence: 0.886137664318085
00:57:47.105 --> 00:57:48.699 difference between the two groups
NOTE Confidence: 0.886137664318085
00:57:48.699 --> 00:57:50.750 for tumors and when we use the
NOTE Confidence: 0.886137664318085
00:57:50.750 --> 00:57:52.340 checkpoint inhibitor that we can
NOTE Confidence: 0.886137664318085
00:57:52.340 --> 00:57:54.200 probably learn a lot because one,
NOTE Confidence: 0.886137664318085
00:57:54.200 --> 00:57:56.060 as I said, almost no information.
NOTE Confidence: 0.886137664318085
00:57:56.060 --> 00:57:58.909 The others has a lot of information.
NOTE Confidence: 0.886137664318085
00:57:58.910 --> 00:58:01.658 Yeah I need to see more
NOTE Confidence: 0.865558862686157
00:58:01.660 --> 00:58:04.516 data on that. Yeah and last question
NOTE Confidence: 0.865558862686157

00:58:04.516 --> 00:58:07.373 from Jeff Score is DPC three
NOTE Confidence: 0.865558862686157

00:58:07.373 --> 00:58:09.437 expressed in Cholangio Carcinoma?
NOTE Confidence: 0.865558862686157

00:58:09.440 --> 00:58:12.632 And what about cells and HTC
NOTE Confidence: 0.865558862686157

00:58:12.632 --> 00:58:14.228 that show cholangiocarcinoma
NOTE Confidence: 0.865558862686157

00:58:14.228 --> 00:58:17.128 differentiation? As a feature of
NOTE Confidence: 0.773542881011963

00:58:17.130 --> 00:58:18.770 HTC. No, it doesn't.
NOTE Confidence: 0.773542881011963

00:58:18.770 --> 00:58:21.902 You know a guy picking 3 does
NOTE Confidence: 0.773542881011963

00:58:21.902 --> 00:58:24.787 not express in Columbia Personal.
NOTE Confidence: 0.773542881011963

00:58:24.790 --> 00:58:27.769 And when you know with the mic style tumor,
NOTE Confidence: 0.773542881011963

00:58:27.770 --> 00:58:29.756 you know we call it the.
NOTE Confidence: 0.773542881011963

00:58:29.760 --> 00:58:32.400 You know, the mix type 2 in both.
NOTE Confidence: 0.773542881011963

00:58:32.400 --> 00:58:33.724 So you have hypercellular
NOTE Confidence: 0.773542881011963

00:58:33.724 --> 00:58:34.717 at Michelangelo Carcinoma.
NOTE Confidence: 0.773542881011963

00:58:34.720 --> 00:58:35.917 In that exciting?
NOTE Confidence: 0.773542881011963

00:58:35.917 --> 00:58:37.912 Yes, some other hypercellular carcinoma
NOTE Confidence: 0.773542881011963

00:58:37.912 --> 00:58:39.951 can be staying for clapping and

NOTE Confidence: 0.773542881011963
00:58:39.951 --> 00:58:42.638 three so I have to say that I think
NOTE Confidence: 0.773542881011963
00:58:42.638 --> 00:58:44.647 this is we haven't done that yet.
NOTE Confidence: 0.773542881011963
00:58:44.650 --> 00:58:46.570 So this is all this idea
NOTE Confidence: 0.773542881011963
00:58:46.570 --> 00:58:48.290 to the audience you know.
NOTE Confidence: 0.773542881011963
00:58:48.290 --> 00:58:50.530 So in the later literature they have
NOTE Confidence: 0.773542881011963
00:58:50.530 --> 00:58:52.181 demonstrated by email his chemistry
NOTE Confidence: 0.773542881011963
00:58:52.181 --> 00:58:54.071 they have seen like a certain
NOTE Confidence: 0.773542881011963
00:58:54.071 --> 00:58:55.640 percentage of prostate cancer.
NOTE Confidence: 0.773542881011963
00:58:55.640 --> 00:58:57.535 Breast cancer colon cancer also
NOTE Confidence: 0.773542881011963
00:58:57.535 --> 00:59:00.016 expressed like if we say 10 between
NOTE Confidence: 0.773542881011963
00:59:00.016 --> 00:59:02.166 5 to 10% of those cancers also
NOTE Confidence: 0.773542881011963
00:59:02.166 --> 00:59:03.886 expressed clapping and three right
NOTE Confidence: 0.773542881011963
00:59:03.886 --> 00:59:05.930 so those are in the literature.
NOTE Confidence: 0.773542881011963
00:59:05.930 --> 00:59:07.645 Those really any doctor type
NOTE Confidence: 0.773542881011963
00:59:07.645 --> 00:59:09.017 of report out there.
NOTE Confidence: 0.773542881011963

00:59:09.020 --> 00:59:11.078 We never look at it ourselves,
NOTE Confidence: 0.773542881011963

00:59:11.080 --> 00:59:14.158 but for some of you know anybody you know.
NOTE Confidence: 0.773542881011963

00:59:14.160 --> 00:59:16.904 You know if you are interested in that,
NOTE Confidence: 0.773542881011963

00:59:16.910 --> 00:59:19.220 it may be you know you can
NOTE Confidence: 0.773542881011963

00:59:19.220 --> 00:59:21.019 look into some of those.
NOTE Confidence: 0.773542881011963

00:59:21.020 --> 00:59:23.134 I mean, it's not surprising that guy
NOTE Confidence: 0.773542881011963

00:59:23.134 --> 00:59:25.838 pick once we also exploiting some tumors.
NOTE Confidence: 0.773542881011963

00:59:25.840 --> 00:59:29.109 Because this is just one of those,
NOTE Confidence: 0.773542881011963

00:59:29.110 --> 00:59:30.070 you know.
NOTE Confidence: 0.773542881011963

00:59:30.070 --> 00:59:31.030 Amber Amber,
NOTE Confidence: 0.773542881011963

00:59:31.030 --> 00:59:33.910 Genesis type of property got re
NOTE Confidence: 0.773542881011963

00:59:34.001 --> 00:59:36.575 express and in the in cancer.
NOTE Confidence: 0.773542881011963

00:59:36.580 --> 00:59:38.920 So just through this information
NOTE Confidence: 0.910409500201543

00:59:38.920 --> 00:59:41.408 out there. Thank you, that was really a
NOTE Confidence: 0.910409500201543

00:59:41.408 --> 00:59:43.408 superb talk and we're so fortunate now
NOTE Confidence: 0.910409500201543

00:59:43.408 --> 00:59:46.067 to have you as a member of our cancer.

NOTE Confidence: 0.910409500201543

00:59:46.070 --> 00:59:48.051 Centers are welcome and we look forward.