WEBVTT

NOTE duration: ”00:02:06.122”

NOTE Confidence: 0.93587315

00:00:01.120 --> 00:00:03.520 Mapping lung aging, why older

NOTE Confidence: 0.93587315

00:00:03.520 --> 00:00:05.299 lungs lose repair capacity.

NOTE Confidence: 0.99410313

00:00:08.639 --> 00:00:10.000 As we age, the risk

NOTE Confidence: 0.99410313

00:00:10.000 --> 00:00:11.780 of lung diseases increases.

NOTE Confidence: 0.99482876

00:00:14.754 --> 00:00:15.875 But why the lungs become

NOTE Confidence: 0.99482876

00:00:15.875 --> 00:00:18.114 more vulnerable over time is

NOTE Confidence: 0.99482876

00:00:18.114 --> 00:00:19.414 still not fully understood.

NOTE Confidence: 0.9988443

00:00:20.675 --> 00:00:22.675 To address this, researchers created

NOTE Confidence: 0.9988443

00:00:22.675 --> 00:00:23.875 a detailed map of how

NOTE Confidence: 0.9988443

00:00:23.875 --> 00:00:25.810 lung cells change during normal

NOTE Confidence: 0.9965203

00:00:27.710 --> 00:00:29.390 aging. By analyzing different lung

NOTE Confidence: 0.9965203

00:00:29.390 --> 00:00:30.990 cells one by one, they

NOTE Confidence: 0.9965203

00:00:30.990 --> 00:00:32.430 found that different cell types

NOTE Confidence: 0.9965203

00:00:32.430 --> 00:00:33.729 age at different speeds.

NOTE Confidence: 0.98186076

00:00:37.070 --> 00:00:38.370 Two key cell populations,

NOTE Confidence: 0.965131

00:00:39.229 --> 00:00:40.675 cells that help repair air

NOTE Confidence: 0.965131

00:00:40.675 --> 00:00:41.795 sacs and cells that line

NOTE Confidence: 0.965131

00:00:41.795 --> 00:00:43.555 lung blood vessels showed the

NOTE Confidence: 0.965131

00:00:43.555 --> 00:00:44.454 largest changes.

NOTE Confidence: 0.98916924

00:00:44.915 --> 00:00:46.595 Importantly, a critical group of

NOTE Confidence: 0.98916924

00:00:46.595 --> 00:00:47.975 repair cells in the lung

NOTE Confidence: 0.98916924

00:00:48.114 --> 00:00:49.635 known for maintaining healthy air

NOTE Confidence: 0.98916924

00:00:49.635 --> 00:00:51.395 sacs was reduced in older

NOTE Confidence: 0.98916924

00:00:51.395 --> 00:00:51.895 lungs.

NOTE Confidence: 0.9998356

00:00:52.920 --> 00:00:54.440 This loss may help explain

NOTE Confidence: 0.9998356

00:00:54.440 --> 00:00:55.719 why aging lungs are more

NOTE Confidence: 0.9998356

00:00:55.719 --> 00:00:57.420 prone to injury and disease.

NOTE Confidence: 0.9912597

00:01:02.359 --> 00:01:04.540 The researchers also observed increasing

NOTE Confidence: 0.9912597

00:01:04.600 --> 00:01:05.659 cellular noise,

NOTE Confidence: 0.99256754

00:01:06.145 --> 00:01:07.985 meaning gene activity becomes less

NOTE Confidence: 0.99256754

00:01:07.985 --> 00:01:09.285 orderly with age,

NOTE Confidence: 0.9996809

00:01:11.105 --> 00:01:12.645 making it a strong indicator

NOTE Confidence: 0.9996809

00:01:12.785 --> 00:01:14.165 of biological aging.

NOTE Confidence: 0.9978509

00:01:20.229 --> 00:01:20.729 Surprisingly,

NOTE Confidence: 0.98108953

00:01:21.510 --> 00:01:23.030 cells showing classic signs of

NOTE Confidence: 0.98108953

00:01:23.030 --> 00:01:23.530 senescence,

NOTE Confidence: 0.9990259

00:01:23.909 --> 00:01:25.670 often linked to aging, did

NOTE Confidence: 0.9990259

00:01:25.670 --> 00:01:27.050 not increase as expected.

NOTE Confidence: 0.97994435

00:01:28.150 --> 00:01:29.830 This study represents the largest

NOTE Confidence: 0.97994435

00:01:29.830 --> 00:01:31.110 single cell map of human

NOTE Confidence: 0.97994435

00:01:31.110 --> 00:01:32.810 lung aging so far.

NOTE Confidence: 0.99434173

00:01:36.145 --> 00:01:37.825 It provides a valuable foundation

NOTE Confidence: 0.99434173

00:01:37.825 --> 00:01:39.525 for understanding why lung resilience

NOTE Confidence: 0.99434173

00:01:39.665 --> 00:01:40.965 declines with age

NOTE Confidence: 0.98897845

00:01:46.170 --> 00:01:48.030 and may guide future strategies

NOTE Confidence: 0.98897845

00:01:48.170 --> 00:01:49.450 to prevent age related lung

NOTE Confidence: 0.98897845

00:01:49.450 --> 00:01:49.950 diseases.