



High Schooler Studies Genes in Space

1
00:00:06,060 --> 00:00:05,250

[Music]

2
00:00:19,830 --> 00:00:06,070

[Applause]

3
00:00:22,870 --> 00:00:21,349
when i was four i told my mother i was

4
00:00:24,710 --> 00:00:22,880
going to be an astronaut so it's kind of

5
00:00:26,310 --> 00:00:24,720
being a perpetual thing from there and i

6
00:00:27,910 --> 00:00:26,320
figure if i'm going to be an astronaut i

7
00:00:29,990 --> 00:00:27,920
don't want to be getting sick

8
00:00:31,189 --> 00:00:30,000
and if someone isn't doing what i think

9
00:00:33,510 --> 00:00:31,199
about the immune system why don't i go

10
00:00:36,709 --> 00:00:33,520
look at it myself this is the mini pcr

11
00:00:39,590 --> 00:00:36,719
machine designed by mini pcr

12
00:00:42,470 --> 00:00:39,600
pcr is polymerase chain reaction

13
00:00:44,389 --> 00:00:42,480

so dna amplification we now have more

14

00:00:46,549 --> 00:00:44,399

dna amplification capabilities on the

15

00:00:48,150 --> 00:00:46,559

station but when this went up it was the

16

00:00:49,670 --> 00:00:48,160

first

17

00:00:51,590 --> 00:00:49,680

hi this is tim peake on board the

18

00:00:54,389 --> 00:00:51,600

international space station and this is

19

00:00:56,150 --> 00:00:54,399

a message to anna sophia to say a huge

20

00:00:58,470 --> 00:00:56,160

congratulations for your willing

21

00:01:00,869 --> 00:00:58,480

submission to investigate the effects of

22

00:01:02,630 --> 00:01:00,879

cosmic radiation and microgravity on the

23

00:01:04,229 --> 00:01:02,640

body's immune system so you're meant to

24

00:01:05,910 --> 00:01:04,239

have a balanced ratio of your t helper

25

00:01:07,590 --> 00:01:05,920

one and two for two cells but when

26

00:01:10,070 --> 00:01:07,600

you're in space you get a much more

27

00:01:12,149 --> 00:01:10,080

dominant t helper two phenotype which

28

00:01:14,710 --> 00:01:12,159

decreases your cell-mediated immunity

29

00:01:17,020 --> 00:01:14,720

and just generally hampers your immune

30

00:01:32,310 --> 00:01:17,030

system