

# One billion base pairs sequenced on the space station

September 22 2016

---



Credit: NASA

Aboard the International Space Station, NASA astronaut Kate Rubins checks a sample for air bubbles prior to loading it in the biomolecule sequencer. When Rubins' expedition began, zero base pairs of DNA had

been sequenced in space. Within just a few weeks, she and the Biomolecule Sequencer team had sequenced their one billionth base of DNA on the orbiting laboratory.

"I [have a] genomics background, [so] I get really excited about that kind of stuff," Rubins said in a downlink shortly after reaching the one billion [base pairs](#) sequenced goal.

The [Biomolecule Sequencer](#) investigation seeks to demonstrate that DNA sequencing in microgravity is possible, and adds to the suite of genomics capabilities aboard the space station. With a way to sequence DNA in space, astronauts could diagnose an illness, or identify microbes growing in the International Space Station and determine whether or not they represent a health threat. A space-based DNA sequencer would be an important tool to help protect astronaut health during long duration missions on the journey to Mars, and future explorers could also potentially use the technology to identify DNA-based life forms beyond Earth.

Provided by NASA

Citation: One billion base pairs sequenced on the space station (2016, September 22) retrieved 27 April 2024 from <https://phys.org/news/2016-09-billion-base-pairs-sequenced-space.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--