

Essential for Research

a- Nature of Research: The overall goal of the EcAMSat mission, is to investigate how and whether space microgravity affects the antibiotic resistance of *E. coli*, a bacterial pathogen responsible for urinary tract infection in humans and animals. Bacterial antibiotic resistance may pose a danger to astronauts in microgravity, where the immune response is weakened. Scientists believe that the results of this experiment could help design effective countermeasures to protect astronauts' health during long-duration human space missions.

b - Necessary for Project: The capability requested is essential to mission success. The value of the experiment is the data regarding bacterial growth, and there is no other way to get the data back to earth, besides radio transmission.

c – Existing Facilities Inadequate: This is the only facility to bring data from the experiment back to earth.