

NASA Biological Specimen Repository

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The NASA Biological Specimen Repository (NBSR) was established in 2006 to collect, process, preserve and distribute spaceflight-related biological specimens from long duration ISS astronauts. This repository provides unique opportunities to study longitudinal changes in human physiology spanning many missions. The NBSR collects blood and urine samples from all participating ISS crewmembers who have provided informed consent. These biological samples are collected once before flight, during flight scheduled on flight days 15, 30, 60, 120 and within 2 weeks of landing. Postflight sessions are conducted 3 and 30 days after landing. The number of in-flight sessions is dependent on the duration of the mission. Specimens are maintained under optimal storage conditions in a manner that will maximise their integrity and viability for future research

The repository operates under the authority of the NASA/JSC Committee for the Protection of Human Subjects to support scientific discovery that contributes to our fundamental knowledge in the area of human physiological changes and adaptation to a microgravity environment. The NBSR will institute guidelines for the solicitation, review and sample distribution process through establishment of the NBSR Advisory Board. The Advisory Board will be composed of representatives of all participating space agencies to evaluate each request from investigators for use of the samples. This process will be consistent with ethical principles, protection of crewmember confidentiality, prevailing laws and regulations, intellectual property policies, and consent form language. Operations supporting the NBSR are scheduled to continue until the end of U.S. presence on the ISS. Sample distribution is proposed to begin with selections on investigations beginning in 2017. The availability of the NBSR will contribute to the body of knowledge about the diverse factors of spaceflight on human physiology.