

On Sunday morning, Japan's Hayabusa2 space probe dropped a capsule from space, delivering an asteroid sample to Earth. The capsule landed in Woomera, Australia, and was recovered by JAXA's team. This marks the end of a six-year, 3.25 billion-mile mission aimed at studying our solar system's early days and the origins of life on Earth. The sample came from Ryugu, a dark, carbon-rich asteroid 180 million miles away. Hayabusa2 reached Ryugu in June 2018, spent 18 months studying it, and collected samples in February and July 2019. Ryugu is a near-Earth, carbonaceous asteroid containing hydrates and organic materials. Scientists believe asteroids like Ryugu may have contributed to the origins of life on Earth. Hayabusa2's clean sample collection provides a clearer understanding of asteroids' contents compared to meteorites, which are altered by Earth's atmosphere. Hayabusa2 follows Hayabusa, JAXA's first asteroid sample return mission, which returned in 2010 with micrograms of dust from the asteroid Itokawa. NASA's OSIRIS-REx mission, which also aims to unravel solar system mysteries by studying asteroid samples, collected a 2-pound sample from Bennu, an asteroid similar to Ryugu, and will return to Earth in 2023. Hayabusa2's mission will continue with a "bonus mission" to another asteroid, 2001 CC21, and later to 1998 KY26, possibly containing water.