Package, and a Fish Package, each of which has an independent life support system. In IML-2, each cassette held an egg container with individual egg holes (6-mm diameter, approximately 12 mm deep).

A slow rotating centrifuge microscope and camera system, Nizemi, developed by DLR (formerly DARA), the German space agency, was used to examine and videotape the behavior of the jellyfish ephyrae and polyps at up to 15 varying levels of G and at a temperature of 28 °C (to facilitate swimming activity). The Nizemi provides observation of samples under variable acceleration levels between 10^{-3} and 1.5 G and a controllable temperature between 18 and 37 °C.

Jellyfish were housed in the European Space Agency’s Biorack facility within Biorack Type I containers. For descriptions of the facility and containers, see IML-1.

A Refrigerator/Incubator Module (R/IM) held fixed jellyfish specimens. The R/IM is a temperature-controlled holding unit flown in the Shuttle middeck that maintains a cooled or heated environment. It is divided into two holding cavities and can contain up to six shelves accommodating experiment hardware. An Ambient Temperature Recorder (ATR-4) was placed inside the R/IM. For a general description of the ATR-4, see IML-1.

The PEMBSIS experiment used hardware provided by the National Space Development Agency (NASDA) of Japan. As part of the NASDA Life Science Cell Culture Kit, this experiment used six petri-dish-like Plant Fixation Chambers (PFCs). The PFCs were used to hold the cultured plant cells for the PEMBSIS experiment. These containers are completely sealed. The PFCs allow plant cells exposed to space flight to be fixed in orbit by insertion of a chemical fixative via syringe through a septum port.

Together, the semicircular canals and the otolith organs make up the vestibular apparatus of the inner ear, which provides information to the brain about balance and motion in 3-D space. The gravity-dependent otolith organs, lined with hair cell receptors and otoconia, detect linear acceleration of the head. When the head moves, the otoconia lag behind, bending the hair cell receptors and changing the directional signal to the brain.