

Sponge used to study organ rejection

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A University of Barcelona researcher found the red beard sea sponge, which grows near Florida, could help determine why organ are rejected in humans.

The red beard sponge has a cell-to-cell recognition system that, on a basic level, is similar to that of humans but much simpler. It's also a good organism for laboratory research, since its cells and cell adhesion molecules can be isolated with simple, fast and non-disruptive methods and studied, according to Fernandez-Busquets.

In experiments this summer at the Marine Biological Laboratory in Woods Hole, Mass., Fernandez-Busquets studied the cells and molecules believed to be involved in the process of tissue rejection. By grafting together pieces of different individual sponges that will reject each other -- a process that approximates what sometimes happens in human transplants -- the scientists have observed that cells known as gray cells migrate to and amass at the graft site, a clear suggestion that they are involved in non-self tissue recognition and rejection.

Researchers believe gray cells may be a primitive form of the human immune system's human killer cells.

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