Distribution of Neuronal Proteins in Two North Atlantic Cnidarians

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Our C-AIM project aims to use advanced microscopy and imaging techniques to investigate the marine life of Narragansett Bay. Here, we use flash photography, confocal florescent light microscopy, and transmission electron microscopy to investigate the anatomy and nervous systems of two Cnidarian species from the Bay. Antibodies against neuronal proteins including the synaptic vesicle marker SV2, the post synaptic protein PSD95, and the Alzheimer's protein APP as well as the DNA marker DAPI help to define the location and distribution of neurons in these species.

Here, in preliminary findings, we visualize nerve terminals with yet undefined roles within these organisms. The positive antibody staining demonstrates that these neuronal proteins are conserved in species from Cnidarians to humans. Further work is need to understand how these neurons act in a coordinated fashion to control feeding, swimming, and other behaviors of these life forms.