LABELING OF CHOLESTEROL-ENRICHED MEMBRANE MICRODOMAINS WITH OSTREOLYSIN A

Membrane nanodomains, such as membrane rafts, are transient, dynamic and unstable membrane entitiesenriched in sphingomyelin (SM) and cholesterol (Chol). They are involved in numerous cellular functions. An increasing amount of experimental data urges for the development of new techniques and approaches that would allow structural and functional characterization of membrane rafts. In particular, non-toxicfluorescently labeled cytolytic proteins that interact specifically with molecules enriched in lipid rafts are gaining interest.

Ostreolysin A (OlyA), a 15-kDa protein from the edible oyster mushroom (*Pleurotus ostreatus*), is a representative of aegerolysin protein family. In concert with a 59-kDa protein, pleurotolysin B, it forms transmembrane pores and induces lysis of cells. When alone, OlyA or its fluorescent fusion derivative (OlyA-mCherry) specifically recognize and bind to Chol/SM-enriched membrane domains of living cells and artificial lipid bilayers, and therefore, OlyA seems an appropriate candidate for development of a new membrane raft marker.