

# Subpopulation of coelomic epithelium cells of starfish *Asterias rubens* L. able to long-term proliferation in culture.

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Methods of isolation and cultivation of cells from various tissues of the sea star *Asterias rubens* L. were elaborated and an analysis of the behavior in culture and incorporation of BrdU was performed. The reproducible BrdU incorporation was detected in coelomic epithelium cells. The behavior of coelomocytes and the coelomic epithelium cells in culture depended on the time after the injury of the animals in which the cells were isolated, whereas, for the axial organ and Tiedemann's bodies, no differences were revealed. After 2 months of cultivation, the formation of colony-like aggregates comprised of small epitheliocytes with high nuclear-cytoplasmic ratio, incorporating BrdU, was characteristic of coelomic epithelial cells. In coelomic epithelium the subpopulation of cells enriched with small epitheliocytes able to migrate from coelomic epithelium into the coelomic fluid has been found. Based on previously obtained data demonstrating the selective attachment of small epitheliocytes to laminin we undertook the cultivation of coelomic epithelial cells on laminin and estimation of their proliferative activity. First, laminin attachment results in increasing of proliferating cells proportion compared to in vivo (7-10 % against 0.2 %). Second, five days after seeding the formation of small aggregates comprised with small cells with high nuclear-cytoplasmic ratio has been found. The large coelomocyte-like cells formed networks. Later small cells have been found in large aggregates on the surface of well-spread cells. Third, proliferative activity was confirmed after BrdU incorporation and staining with anti-phospho-histone H3 antibody. It preserved in culture at least up to 1 month. Fourth, two types of proliferating cells has been found with different behavior in culture: preferentially attached to substrate, forming aggregates and small cells detached during cultivation. Morphology of small epitheliocytes, proliferative activity and ability to migration suggest that small epitheliocytes possess some properties of stem cells.