

Cell membrane regions in preimplantation mouse embryos

Izquierdo,

Lopez,

Marticorena,

Cell membrane regions characterized by alkaline phosphatase activity are described in cleaving mouse embryos and early blastocysts. Enzyme activity is demonstrated by light and electron microscopy, from the late 4-cell stage onwards, on the cell surfaces between blastomeres but not on the outer surface of the embryo. Experiments with dissociated morulae show that this is probably not an artifact due to the retention of the enzyme reaction product between the blastomeres. With the electron microscope the activity is also demonstrated in crystalloid bodies within the cytoplasm. The localization and growth during cleavage of cell membrane regions with enzyme activity is interpreted as the result of new cell membrane formation and/or as a relation of the crystalloid bodies with the cell membrane through the cortical system of microtubules and filaments.