D-5 The distributions of Phosphotyrosine-modified proteins during *Bomyx* wing morphogenesis

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We have monoclonal antibodies specific for Phosphotyrosine(PTyr) residues to examine the distributional changes of PTyr-modified proteines during *Bombyx* wing morphogenesis by immunocytochemical methods and have confirmed ultrastructural charaeteristics of imunoreactive region by electron microscopy.

Until early 5th instar larva, PTyr-modified proteins are higly concentrated at the apical surfaces of wing pouch. Electron microscopy reveals that this regions are the well established adherence junctions of epithelium. No other regions of wing pouch show immunoreactivity. At the late 5th instar larva, basal regions and prevein cells as well as apical regions show immunoreactivity against monoclonal PTyr antibody. At the end of 5th instar larva, median epithelial cells of wing pouch are appeared to be immunoreactivity. This results are proposed that functional plasticity of wing pouch epithelium is increased as wing morphogenesis.

D-6 The wing morphogenesis of Silk moth(*Bombyx mori*)

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During *Bombyx* wing morphogenesis, The wing imaginal discs have undergo characteristic cellular events. To modelize Lepidopteran wing metamorphogenesis, we have used two methods, conventional electron microscopy and Ruthenium red en-block staining of electron microscopy.

Wing imaginal disc is composed of which a sheet of peripodial epithelium completely covers the apical surface of another epithelium of wing pouch destined to form the wing blade. In the 3rd instal larva, the wing pouch are basically unfolded and one-layered epithelium. In the 4th instar larva, the epithelium of wing pouch is folded into two-layered epithelium like a neural tube formation. In the 5th insatr larva, tracheole, hemocytes and prevein cells invade inward to the extracellular space between basal surfaces of wing pouch. At the end of 5th instar larva, the epihelium of wing pouch are ultrastructually divided into two regions, prevein region and inter-prevein region. In the prepupal stage, the wing pouch are flattened and enlarged into the wing bade.

The peripodial epithelium in the 5th instar larva is cuboidal and thick basal lamina are distributed at the basal region of cuboidal epithelium but also their dorsal and ventral surfaces are highly convoluted and stain intensively with Ruthenium red. During evagination, the Rutheium red-positive materials disappear and the cuboidal cells are contracted to help the evagination of wing blade.