

P013 A comparative study to demonstrate diversity of ectoenzyme in retina of different animal species: a comprehensive study

Syed Hussain

Inst of Biology, Baltimore MD & J H University USA

The neuronal glial cell function demands an asymmetric morphology together with a chemical differentiation of various cellular parts. In neurons the plasma lemma of various organelles dendrites, axons and terminals of neurons have a different physiology and composition. A preliminary study on neuro-ectodermal glial cells the Muller type as it innervates it demonstrates a diversity in their function thus demonstrating HETEROGENEITY which indeed is a novel finding.

The detailed histo and cytochemical studies revealed that various ectoenzymes distribution on plasma lemma is a unique finding, although the astrocytes have a similar arrangement as they innervate and encase various neuronal processes and have perivascular foot plates as these cells are in contact with functionally divergent neuronal processes.

Two different ectoenzymes 5'-nucleotidase and acetylcholinesterase has provided us greater insight into the retinal physiology i.e. the glial cells plasma lemma was positive in outer retinal layers of rodents and fishes whereas in amphibians the inner retinal were demonstrating positive enzyme activity. Thus it leads to conclude that different retinal layers are physiologically active in process of vision and this opens new venues in vision physiology and offers a new insight to glial heterogeneity.