

ON FINE DISTRIBUTION OF ROD DERIVED CONE VIABILITY FACTOR IN THE RABBIT RETINA

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Among inherited retinal degenerations most dominant are rod-cone dependent forms, hence for curving or preventing retina related blindness efforts are directed to rescue photoreceptors. A novel protein derived from rods is of special interest because of its potential to rescue cone cells [1]. This thioredoxin-like protein was named - rod derived cone viability factor (RdCVF) [1]. By light immunohistochemistry RdCVF is mostly localized in region involving rod outer and inner segments (ROS & RIS) [1]. Meantime fine distribution of RdCVF has no yet clarified. Namely for this purpose current study was undertaken.

Initially RdCVF-C (PG-61) rabbit polyclonal antibodies and gold colloid (average 20 nm size) were prepared by method described earlier [1,2]. Antibody and colloidal gold conjugation was carried by method described previously [3]. Per one gold particle about 5-45 molecules PG-61 conjugated depending from diameter of colloid. Dark adapted wild rabbits *Oryctolagus niger* were used in this study. Incubation solution was made on the base described in [4]. 10 different combinations were used in this study for immunohistochemical reaction between RdCVF and antibody-gold conjugate; including development of ultra thin sections of isolated retina fixed with 1.25 % Glutaraldehyde then treated with or without NH₄Cl or Triton X-100 or block staining with the same variations, with or without OsO₄ fixation, method described in literature [5]. Clear results were obtained after additional staining, with PG-61 conjugated with colloidal gold, of ultra thin sections of block stained samples, treated before embedding with 0.2M NH₄Cl and 0.1 % Triton X-100. Homogenously distributed reaction product mainly was observed in upper part of outer nuclear layer in the RIS region, rarely in ROS region and in very few cases in inner nuclear layer. The results of this preliminary study is in agreement with previous results [1] and evidence RdCVF localization mostly in RIS region.

References

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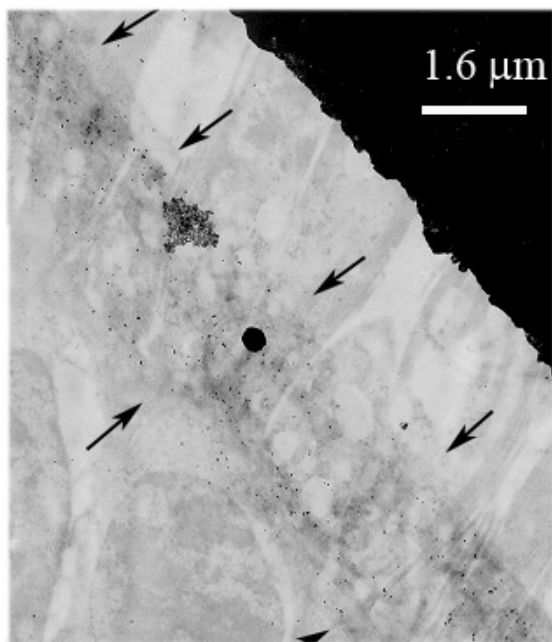


Figure 1 ONL and RIS region Arrows indicate reaction product in distal RIS region

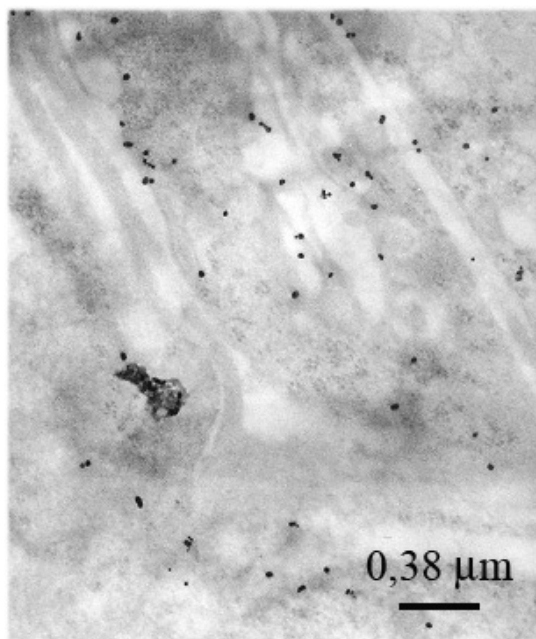


Figure 2. Fragment from RIS region

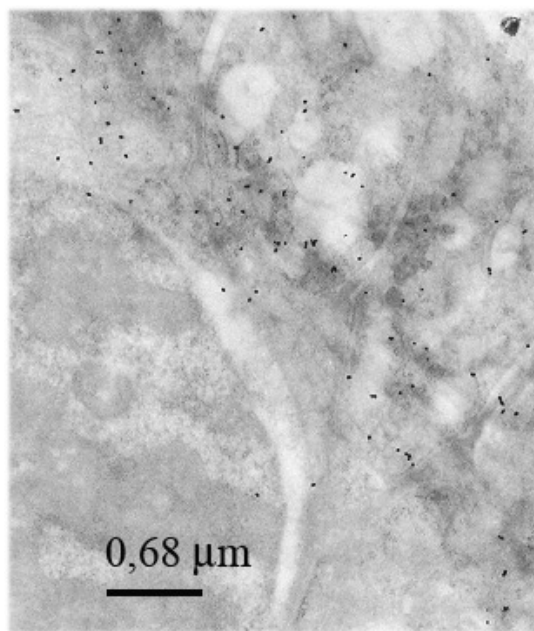


Figure 3 Reaction product in distal RIS region upper to nucleus..

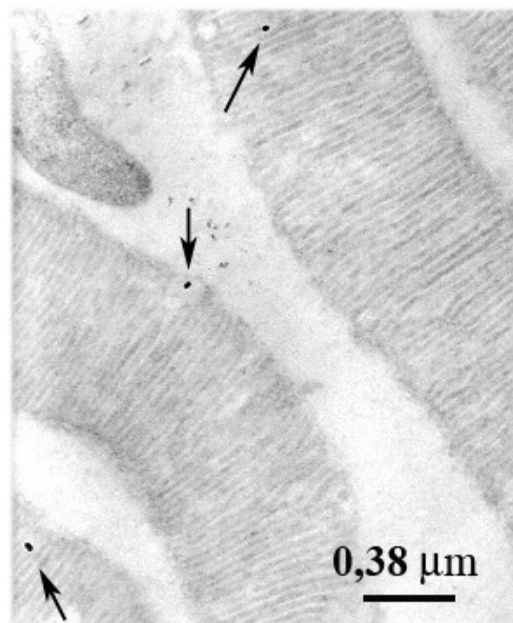


Figure 4 Rare reaction product on ROS,

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