Prestin could be used as a new biomarker of choroid plexus tumor

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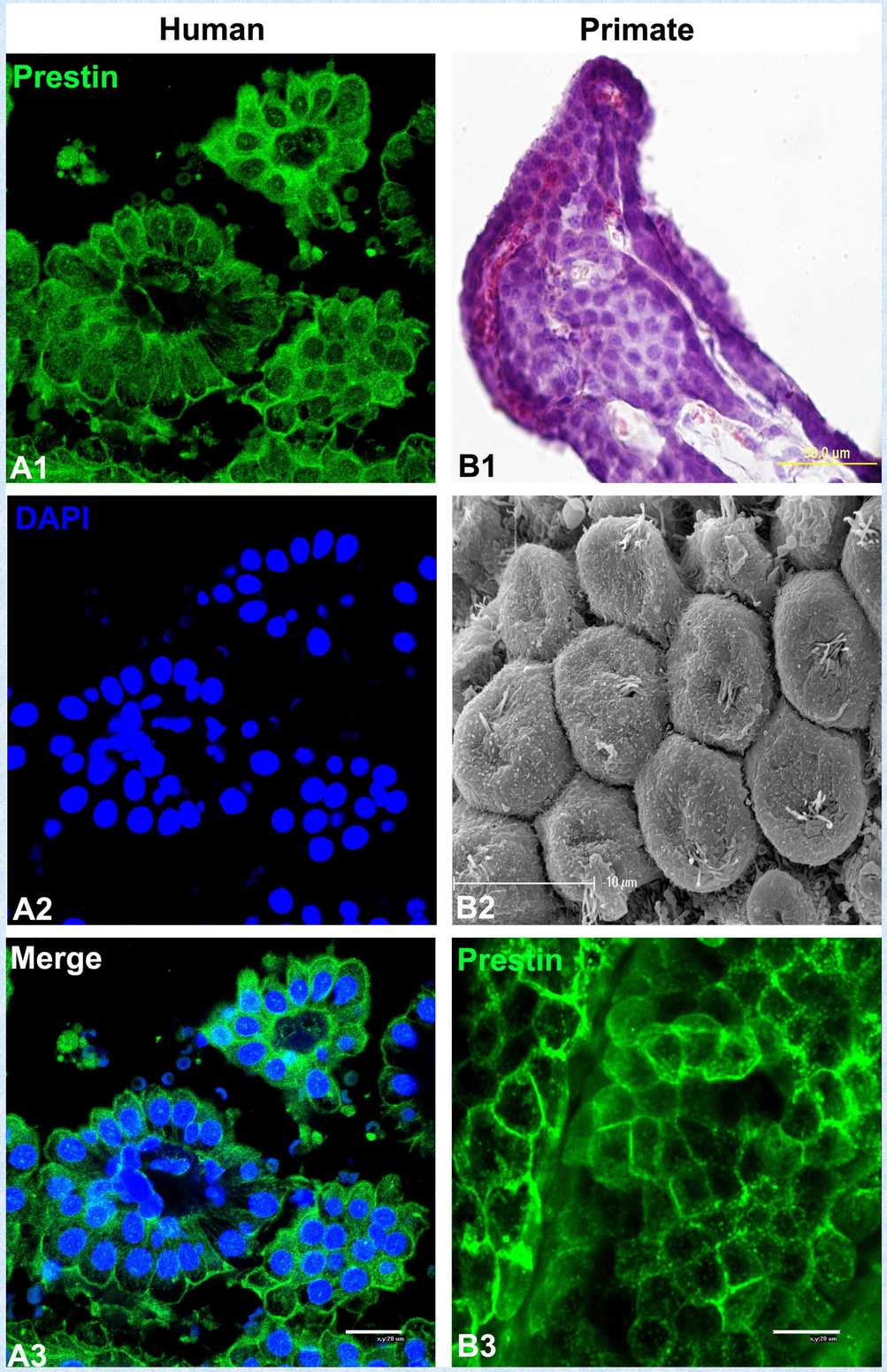
Background:

The Most choroid plexus (CP) neoplasms are papillomas (CPPs) show characteristic columnar epithelium sitting on a fibrovascular network and form multiple papillary projections. However some atypical CPPs and choroid plexus carcinomas (CPCs) show typical architectural and cytological features and mimic other neuroepithelial neoplasms. A specific biomarker of CP neoplasms may help to improve the diagnosis.

Design:

Human and primate tissue was used for this study. Human CP was collected from formalin fixed paraffin embedded surgical specimen. Rhesus monkeys (Macaca mulatta) used for this study are housed at the California National Primate Research Center. CP are obtained from wild type rhesus monkeys that have undergone scheduled necropsy for unrelated purposes



and that have no demonstrated neurological deficits. The CP specimens are processed for immunofluorescent staining and scanning electron microscopy.

Results:

Human and primate CP cells all express Prestin, a motor protein, which is responsible for amplification and frequency tuning in cochlea. CP cells also display enriched stereocilia-like microvilli localized to apical membrane.

Conclusion:

The stable cross-species expression of Prestin in non-human primate and human choroid plexus epithelium, suggests it could be used as a new biomarker for choroid plexus neoplasms.