Temporal and spatial expression pattern of Nnat during mouse eye development.

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Abstract

BACKGROUND: Neuronatin (Nnat) was initially identified as a highly expressed gene in neonatal mammalian brain. In this study, we analyze the spatial and temporal expression pattern of Nnat during mouse eye development as well as in the adult.

METHODS: The expression of Nnat was analyzed on mRNA as well as protein level. The presence of Nnat transcripts in the adult retina was examined using reverse transcription-polymerase chain reaction (RT-PCR). Nnat protein expression was evaluated by Western blot and immunohistochemistry during eye development at embryonic day (E) 12, 15, 16 and postnatal day (P) 7, 14, 30 and 175 (adult).

RESULTS: Immunohistochemical studies of the developing mouse eye revealed Nnat expression in embryonic and adult neuroretina as well as in corneal epithelial, stromal, endothelial cells and in lens epithelium. Expression of Nnat was detected from E12 onwards and was also present in adult eyes.

CONCLUSIONS: The expression pattern suggests that Nnat may play an important role during eye development and in the maintenance of mature eye.

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