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# Down's syndrome

## Precocious neurofilament antigen expression

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### SUMMARY

Neuronal cytoskeletal abnormalities may be a common factor in the neurobiologic causes of diverse forms of mental deficiency including Down's syndrome (DS). MabN210 which recognizes the 210 kDa subunit of neurofilaments was applied to sections of autopsy-derived DS and control central nervous system tissue. The findings included precocious and possibly aberrant neurofilament antigen expression during the first few months of life in DS cerebellar basket cell axons. Staining of central white matter tracts revealed an increased caliber of immunoreactive axons suggesting a widespread abnormality in mabN210 antigen expression in DS neurons. This abnormal regulation of normal neurofilament antigenic epitopes may be causally related to the development of Alzheimer's disease in DS.

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**Key words:** Down's syndrome; Monoclonal antibodies; Neurofilaments

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### INTRODUCTION

Down's syndrome (DS) is the most common identified cause of mental retardation with an incidence of 1.5 per 1 000 births (Menkes 1979). Even with the trisomic 21st chromosome as a marker, it is not at all clearly understood how this additional genetic material causes neurologic impairment (Coyle et al. 1986).