

P012 Distribution of NG2 proteoglycan in glial plasma membrane
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NG2⁺ cells including oligodendrocyte precursor cells are found in large numbers throughout the CNS. Some NG2⁺ cells receive synaptic input mediated by glutamate and GABA receptors. Recently, the climbing fibre innervation of NG2⁺ cells was reported in the mammalian cerebellum. These results suggest rapid communication between neurons and NG2⁺ cells. To determine the location and structural basis for this signalling we use freeze-fracture replica immunogold labelling for NG2 and neurotransmitter receptors. We have recently applied this new method to several membrane receptors in the cerebellum and shown it to be a highly sensitive technique. We have established the identification of NG2⁺ cells in immunogold labeled replicas on tissue from unfixed rat brains. The NG2⁺ proteoglycan appears to be uniformly distributed over the cell body and processes of the NG2⁺ cells. Experiments are in progress to establish the distribution of receptors in NG2⁺ cell membranes, and the association of these membranes with neurons and other cells.