

# Altered prion protein expression pattern in CSF as a biomarker for creutzfeldt-jakob disease

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Creutzfeldt-Jakob disease (CJD) is the most frequent human Prion-related disorder (PrD). The detection of 14-3-3 protein in the cerebrospinal fluid (CSF) is used as a molecular diagnostic criterion for patients clinically compatible with CJD. However, there is a pressing need for the identification of new reliable disease biomarkers. The pathological mechanisms leading to accumulation of 14-3-3 protein in CSF are not fully understood, however neuronal loss followed by cell lysis is assumed to cause the increase in 14-3-3 levels, which also occurs in conditions such as brain ischemia. Here we investigated the relation between the levels of 14-3-3 protein, Lactate dehydrogenase (LDH) activity and expression of the prion protein (PrP) in CSF of sporadic and familial CJD cases. Unexpectedly, we found normal levels of LDH activity in CJD cases with moderate levels of 14-3-3 protein. Increased LDH activity was only observed in a percentage of the CSF samples that also exhibited high 14-3-3 I