

Marburg's variant of multiple sclerosis correlates with a less compact structure of myelin basic protein.

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Multiple sclerosis (MS) is an autoimmune disease in which the myelin sheath of the central nervous system is degraded, and the 18.5 kDa isoform of myelin basic protein (MBP) is reduced in cationicity. In a unique case of acute, fulminating MS (Marburg's variant), MBP is considerably less cationic than MBP from both normal, and chronic MS-afflicted individuals. This electron microscopical study has identified that, in vitro, the less cationic Marburg MBP isomer forms a more extended protein-lipid complex than MBP from healthy or chronic MS-afflicted individuals. This correlation implies that chemical modifications to MBP in vivo contribute directly to the structural instability of myelin, and subsequent autoantigenic presentation of this protein, observed in vivo in MS.

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