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""REFERENCES""""A STRUCTURAL PERSPECTIVE OF PEPTIDES FROM MYELIN BASIC PROTEIN""; ""ABSTRACT""; ""ABBREVIATIONS""; ""INTRODUCTION""; ""CRYSTAL STRUCTURE OF HLA-DR2 (DRA*0101, DRB1*1501) COMPLEXED WITH A PEPTIDE FROM HUMAN MYELIN BASIC PROTEIN MBP85-99""; ""Peptide interactions with HLA-DR2A""; ""Peptide interactions with Ob.1A.12 TCR""; ""STRUCTURE OF HUMAN MHC CLASS II COMPLEXED WITH A LONGER EPITOPE PEPTIDE (MBP86-105) FROM HUMAN MYELIN BASIC PROTEIN""; ""Interactions with HLA-DR2a / 2b""; ""Interactions with TCR""
""Structure of a human TCR complexed with a peptide from human MBP89-101 and a MHC class II molecule""

Sommario/riassunto

The compact myelin sheath formed around nerve axons speeds up nerve conduction and also nurtures the axon. Destruction of this sheath in demyelinating diseases such as multiple sclerosis (MS) results in nerve conduction failure and neurodegeneration. Myelin basic protein (MBP) is the second most abundant protein of central nervous system (CNS) myelin (after the proteolipid protein), representing about 30 % of the total myelin protein and about 10 % of myelin by weight. It is also present in peripheral nervous system (PNS) myelin but as a lower percentage of the total protein. This book addresses the structure, different isoforms, post-translational modifications, immunogenicity, and novel functions of MBP and its possible involvement in MS. MBP is a natively unfolded protein, is conformationally adaptable to different environments, and probably has additional roles in the myelinating cells and in myelin besides its well-established role in adhesion of the cytosolic surfaces of myelin in the CNS.