

عنوان مقاله:

Myelin proteolipid protein as an effective autoantigen in multiple sclerosis

محل انتشار:

اولین کنگره بین المللی و سیزدهمین کنگره ژنتیک ایران (سال: 1393)

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خلاصه مقاله:

Myelin proteolipid protein (PLP) is the most abundant protein in central nervous system (CNS) myelin. Its abundance in, and restriction to, CNS myelin and its post-translational modification by acylation make PLP an effective autoantigen, which can induce experimental autoimmune encephalomyelitis in rodents and non-human primates and is a target of pathogenic autoimmunity in people with multiple sclerosis. Goal of this research is to study if PLP act as an auto antigen in multiple sclerosis. The isoforms of human PLP protein sequences were obtained from NCBI. Then, Uniprot KB was used to find protein properties. Meta prediction method was used to find its epitopes. For this aim some T and B cell epitope prediction sites were used to predict PLPs epitopes against HLAs which are common in Iranian patients. The overlap regions which were predicted by most of the sites, selected as immunogenic regions. NCBI results revealed that PLP has two isoforms; one isoform is PLP with 276 amino acid and second, DM20 which is 35 amino acids shorter than PLP. Uniprot KB data revealed that this protein is a hydrophobic integral membrane protein containing four trans-membrane regions, one cytoplasmic and two extracellular loops. Three common zones were selected as immunogenic regions by meta-prediction. Therefore the epitopes of PLP may cause MS by molecular mimicry mechanism

کلمات کلیدی:

myelin proteolipid protein, multiple sclerosis, HLA, epitope prediction, molecular mimicry

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<https://civilica.com/doc/328214>

