

Recombinant Human Myelin Basic Protein (Tagged)
ab43614

1 Image

Description	
Product name	Recombinant Human Myelin Basic Protein (Tagged)
Purity	> 65 % Densitometry.
Expression system	Escherichia coli
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MSPILGYWKIKGLVQPTRLLEYLEEKYEEHLYERDEGDK WRNKKFELGLEFPNLPYYIDGDVKLTQSMAIIRYADKHN MLGGCPKERA EISMLEGAVL DIRYGVSR YSKDFETLKVDFLSKLPEML KMFEDRLCHK TYLNGDHVTH PDFMLYDALD VVLYMDPMCL DAFPKLVCFKKRIEAIQID KYLKSSKYIA WPLQGQWQATF GGGDHPPKSD LVPRGSPEFM ASQKRPSQRHGSKYLATAST MDHARHGFLP RHRDTGILDS IGRFFGGDRG APKRGSGKDS HHPARTAHYGSLPQKSHGRT QDENPVVHFF KNIVTPRTPP PSQKGGRGLS LSRFSWGAEG QRPFGYGGRASDYKSAHKG FKGVDAQGTL SKIFKLGGRD SRSGSPMARR
Predicted molecular weight	36 kDa including tags
Tags	GST tag N-Terminus
Additional sequence information	GST-tag ID: P08515 (226aa), Thrombin site: 221-226aa, 3-AA Linker: 227-229aa, MBP protein: 230-400aa (NM_001025090).

Specifications

Our **Abpromise guarantee** covers the use of **ab43614** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications Functional Studies

SDS-PAGE

Form

Liquid

Additional notes

ab43614 (Human Myelin Basic Protein full length protein) can be utilized as a substrate for the following active protein Kinases:

ab51435 (Active human Aurora B full length protein)

ab55692 (Active human CaMKK full length protein)

ab55700 (Active human MAP3K8 protein fragment)

ab55712 (Active human MAP4K6 protein fragment)

ab55721 (Active Raf1 (mutated F341 Q) protein fragment)

ab60013 (Active human MEK2 full length protein)

ab60300 (Active ITK protein fragment)

ab60325 (Active human ASK1 protein fragment)

ab60341 (Active human MST4 full length protein)

ab60900 (Active TXK protein fragment)

ab61414 (Active mouse PAK3 full length protein)

ab63173 (Active TGF beta Receptor II protein fragment)

ab63177 (Active human IPL-1/STK13/Aurora C full length protein)

Preparation and Storage

Stability and Storage

Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles.

pH: 7.50

Constituents: 0.00174% PMSF, 0.00385% DTT, 0.79% Tris HCl, 0.00292% EDTA, 25% Glycerol (glycerin, glycerine), 0.29% Sodium chloride, 0.31% Glutathione

General Info

Function

The classic group of MBP isoforms (isoform 4-isoform 14) are with PLP the most abundant protein components of the myelin membrane in the CNS. They have a role in both its formation and stabilization. The smaller isoforms might have an important role in remyelination of denuded axons in multiple sclerosis. The non-classic group of MBP isoforms (isoform 1-isoform 3/Golli-MBPs) may preferentially have a role in the early developing brain long before myelination, maybe as components of transcriptional complexes, and may also be involved in signaling pathways in T-cells and neural cells. Differential splicing events combined with optional post-translational modifications give a wide spectrum of isomers, with each of them potentially having a specialized function. Induces T-cell proliferation.

Tissue specificity

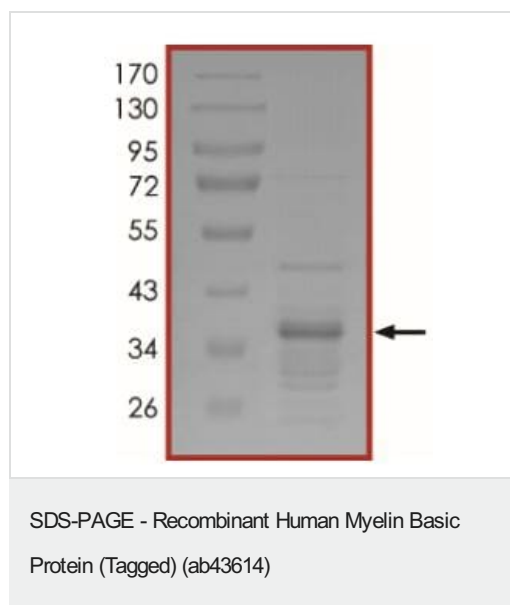
MBP isoforms are found in both the central and the peripheral nervous system, whereas Golli-MBP isoforms are expressed in fetal thymus, spleen and spinal cord, as well as in cell lines derived from the immune system.

Involvement in disease

Note=The reduction in the surface charge of citrullinated and/or methylated MBP could result in a weakened attachment to the myelin membrane. This mechanism could be operative in demyelinating diseases such as chronic multiple sclerosis (MS), and fulminating MS (Marburg disease).

Sequence similarities	Belongs to the myelin basic protein family.
Developmental stage	Expression begins abruptly in 14-16 week old fetuses. Even smaller isoforms seem to be produced during embryogenesis; some of these persisting in the adult. Isoform 4 expression is more evident at 16 weeks and its relative proportion declines thereafter.
Post-translational modifications	<p>Several charge isomers of MBP; C1 (the most cationic, least modified, and most abundant form), C2, C3, C4, C5, C6, C7, C8-A and C8-B (the least cationic form); are produced as a result of optional PTM, such as phosphorylation, deamidation of glutamine or asparagine, arginine citrullination and methylation. C8-A and C8-B contain each two mass isoforms termed C8-A(H), C8-A(L), C8-B(H) and C8-B(L), (H) standing for higher and (L) for lower molecular weight. C3, C4 and C5 are phosphorylated. The ratio of methylated arginine residues decreases during aging, making the protein more cationic.</p> <p>The N-terminal alanine is acetylated (isoform 3, isoform 4, isoform 5 and isoform 6). Arg-241 was found to be 6% monomethylated and 60% symmetrically dimethylated.</p>
Cellular localization	Myelin membrane. Cytoplasmic side of myelin.

Images



SDS-PAGE analysis of ab43614.

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