

## MOG Protein, Human, Recombinant (aa 30-149, His)

### General Information

Synonyms:	NRCLP7;BTNL11;myelin oligodendrocyte glycoprotein;BTN6;MOGIG2
Protein Construction:	A DNA sequence encoding the extracellular domain of human MOG (NP_996532.2) (Gly 30-Tyr 149) was expressed, fused with a polyhistidine tag at the C-terminus and an additional Met at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	Q16653-1
Molecular Weight:	15 kDa (predicted); 19 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

**Stability & Storage:**

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Myelin oligodendrocyte glycoprotein (MOG) is a transmembrane protein belonging to the immunoglobulin superfamily and contains an Ig-like domain followed by two potential membrane-spanning regions. MOG is expressed only in the CNS with very low content (approximately 0.1% total proteins) in the oligodendroglia membrane. Three possible functions for MOG were suggested: (a) a cellular adhesive molecule, (b) a regulator of

oligodendrocyte microtubule stability, and (c) a mediator of interactions between myelin and the immune system, in particular, the complement cascade. A direct interaction might exist between the membrane-associated regions of MOG and the myelin-specific glycolipid galactocerebroside (Gal-C), and such an interaction may have important consequences regarding the membrane topology and function of both molecules. It is considered that MOG is an autoantigen capable to produce demyelinating multiple sclerosis-like diseases in experimental animals.

### Reference

Chekhonin VP, et al. (2003) Myelin oligodendroglial glycoprotein: the structure, functions, role in pathogenesis of demyelinating disorders. *Biomed Khim.* 49(5): 411-23.

Hilton AA, et al. (1995) Characterization of cDNA and Genomic Clones Encoding Human Myelin Oligodendrocyte Glycoprotein. *J Neurochem.* 65(1): 309-18.

Johns TG, et al. (1999) The Structure and Function of Myelin Oligodendrocyte Glycoprotein. *J Neurochem.* 72(1): 1-9.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481