

Product Specification Sheet

**Mouse Myelin-oligodendrocyte glycoprotein (MOG 35-55) Antibodies**

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|----------------------|--|---------------------|
| <b>Cat #</b> MOG15-S | Rabbit Anti-Mouse MOG peptide (35-55) antiserum            | <b>SIZE:</b> 100 ul |
| <b>Cat #</b> MOG15-A | Rabbit Anti-Mouse MOG peptide (35-55) IgG, aff pure        | <b>SIZE:</b> 100 ug |
| <b>Cat #</b> MOG15-P | Mouse MOG control/blocking peptide (35-55)                 | <b>SIZE:</b> 100 ug |
| <b>Cat #</b> MOG15-C | Recom. purified Mouse MOG Protein (1-125aa) control for WB | <b>SIZE:</b> 100 ul |

Myelin-oligodendrocyte glycoprotein (MOG) is a member of the immunoglobulin (Ig) superfamily, exclusively expressed in the central nervous system (CNS). MOG is an intrinsic membrane protein characterized by a N-terminal extracellular immunoglobulin-like variable (Ig-like V-type) domain, two hydrophobic transmembrane domains and a cytoplasmic C-terminal region. The N-terminal MOG domain has strong homology with the N-terminus of butyrophilin, a protein expressed in the lactating mammary gland. Human MOG gene is localized to chromosome 6p22-p21.3 (band C of mouse chromosome 17) at the distal end of the MHC class Ib region. **Despite the similar names, oligodendrocyte-myelin glycoprotein (OMG) is a separate protein encoded within a large intron of the NF1 gene.** The 2 glycoproteins are associated specifically with oligodendrocytes and myelin, but have quite different roles in myelinogenesis and are structurally unrelated. MOG is an intrinsic membrane molecule with 2 transmembrane domains, whereas OMG is anchored in the outer leaflet of the plasma membrane through a glycopospholipid tail. OMG belongs to the family of proteins with a series of tandem leucine-rich repeats, while MOG is a member of the Ig superfamily.

Although MOG is a relatively minor component of the myelin membrane, it is a primary auto-antigen target involved in the pathogenesis of immune-mediated demyelinating diseases including experimental autoimmune encephalomyelitis (EAE) and multiple sclerosis. The MOG 35-55 peptide is an immunodominant epitope of MOG that induces strong T and B cell responses. A single injection of this peptide fragment can produce an exacerbating-relapsing neurologic disease with extensive plaque-like demyelination, which may serve as a model for investigating multiple sclerosis.

**Sources of Antigen and Antibodies**

|                     |  |
|---------------------|--|
| <b>Antigen</b>      | MOG35-55 aa peptide from mouse MOG (1) ; <b>Designated (MOG15-P or control peptide)</b> conjugated to KLH      |
| <b>Ab Host/type</b> | Rabbit, polyclonal antiserum <b>#MOG15-S</b> and IgG, purified over antigen-agarose column ( <b>#MOG15-A</b> ) |
| <b>2-Ab</b>         | Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)                              |
| <b>-ve control</b>  | # 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control                  |

Recombinant mouse MOG protein (1-125 aa) was expressed in E. coli (>95% pure, ~14.2 Kda, low endotoxin @ <0.1EU/mg). For Western blot +ve control (Cat # **MOG15-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of RELMG31-C for good visibility with antibody Cat # **MOG15-S** or #MOG15-A. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **MOG15-C** solution prior to heating and loading on gels. This

preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

**Form & Storage of Antibodies/Peptide Control**

**Antiserum (unpurified)**

100ul solution lyophilized powder  
Supplied in Buffer: 0.05% azide  
**Reconstitute powder in 100 ul PBS**

**Affinity pure IgG**

100 ug/100ul solution lyophilized powder  
Supplied in **Buffer:** PBS+0.1% BSA  
**Reconstitute powder in PBS at 1mg/ml**

**Control/blocking peptide**

100 ug/100 ul solution lyophilized powder  
Supplied in Buffer: PBS pH 7.5,  
**Reconstitute powder in PBS at 1 mg/ml.**

**Storage**

**Short-term:** unopened, undiluted liquid vials at -20oC and powder at 4oC or -20oC..

**Long-term:** at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

**Stability:** 6-12 months at -20oC or below.

**Shipping:** 4oC for solutions and room temp for powder

**Suggested Use**

Western: antibody at 1-5 ug/ml or 1:500-1:2000 dilution; MOG is ~26 kda  
ELISA: 0.1-2 ug/ml

**Specificity**

Rat and mouse MOG35-55 peptide is 100% conserved common marmoset, 95% in chimp, bovine, Pongo pygmaeus (Orangutan), pig, and human MOG. MOG35-55 sequence is found in MOG isoforms alpha-1, alpha-2, beta-2, beta-3, beta-4, and isoforms 9. Antibody cross-reactivity in various species is not known. The control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity.

**General References:** Pham-Dinh, D (1995) Genomics 29: 345-352; Pham-Dinh, D. (1995) Immunogenetics 42: 386-391; Pham-Dinh, D (1993) PNAS 90: 7990-7994; Roth, M.-P (1995) Genomics 28: 241-250; Ichikawa M (1996) J. Immunol. 157, 919-926; Bernard CC (1997) J. Mol. Med. 75, 77-87; Slavin A (1998) Autoimmunity 28, 109-120

*This product is for In vitro research use only.*

Related items

**Monoclonal Antibodies to MOG35-55, and MOG autoantibodies detection kit**  
MOG15-S-A-P 110804A