

**DESCRIPTION**

<b>Source</b>	Mouse myeloma cell line, NS0-derived mouse Mesothelin protein Gln36-Leu288, with a C-terminal 6-His tag Accession # Q61468.1
<b>N-terminal Sequence Analysis</b>	Gln36 inferred from enzymatic pyroglutamate treatment revealing Thr37
<b>Structure / Form</b>	Monomer
<b>Predicted Molecular Mass</b>	29 kDa

**SPECIFICATIONS**

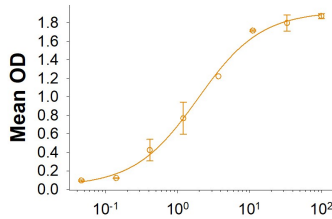
<b>SDS-PAGE</b>	29-45 kDa, under reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Recombinant Mouse Osteopontin/OPN (Catalog # 441-OP) is immobilized at 0.5 µg/mL, 100 µL/well, Recombinant Mouse Mesothelin N-Terminal (aa 36-288) (Catalog # 10516-MS) binds with an ED <sub>50</sub> of 2-12 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

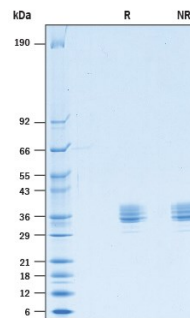
**DATA**

**Binding Activity**



When Recombinant Mouse Osteopontin/OPN Protein (Catalog # 441-OP) is immobilized at 0.5 µg/mL, 100 µL/well, it binds Recombinant Mouse Mesothelin (aa 36-288) His-tag Protein (Catalog # 10516-MS) with an ED<sub>50</sub> of 2-12 ng/mL.

**SDS-PAGE**



2 µg/lane of Recombinant Mouse Mesothelin (aa 36-288) His-tag Protein (Catalog # 10516-MS) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 29-45 kDa.

**BACKGROUND**

Mesothelin N-terminal, commonly known as Megakaryocyte Potentiating Factor (MPF), is a 31 kDa soluble protein that was originally identified in an PHC-Y5 culture system where it exhibited megakaryocyte potentiating activity (1). MPF is closely related to mesothelin (MSLN), a 40 kDa glycosylphosphatidylinositol (GPI)-linked protein that is highly overexpressed in various types of cancer, such as mesothelioma, ovarian and pancreatic cancers (2). Both MPF and MSLN originate from a common 71 kDa precursor protein that harbors a furin cleavage site between amino acid residues 288-293. The 31 kDa soluble N-terminal MPF fragment is secreted into blood and the C-terminal 40 kDa fragment remains membrane-bound and classified as mature mesothelin (3). Mouse MPF is composed of residues 36-288 from the precursor protein and contains one N-linked glycosylation site (N93) and one phosphorylated serine (S202). Mouse MPF shares 56% and 84% sequence identity with human and rat MPF, respectively. It is expressed mainly in the heart and lungs (4) and can be upregulated in the presence of Wnt-1 (5). MSLN was shown to be capable of binding to cancer antigen 125/mucin16 (CA125/MUC16). Apart from its role as a megakaryocyte potentiating cytokine, MPF may have the potential to serve as a biomarker for detection and monitoring of malignant mesothelioma and related cancers (6).

**References:**

1. Yamaguchi, N. *et al.* (1994) *J. Biol. Chem.* **260**: 22:805.
2. Hassan R. *et al.* (2004) *Clin. Cancer Res.* **10**:3937.
3. Shiomi, K. *et al.* (2006) *Cancer. Sci.* **97**:928.
4. Bera T.K. Pastan I. (2000) *Mol. Cell. Biol.* **20**:2902.
5. Prieve M.G. Moon R.T. (2003) *BMC Dev Biol.* **3**:2.
6. Raiko, I. *et al.* (2017) *Biochem. Biophys. Res. Com.* **486**:526.