Recombinant Mouse TEM8/ANTXR1 Fc Chimera

Catalog Number: 10202-AR

DESCRIPTION

Source

Mouse myeloma cell line, NS0-derived mouse TEM8/ANTXR1 protein

Mouse TEM8/ANTXR1 (Glu31-Ser319) Accession # Q9CZ52	IEGRMDP	Mouse IgG_{2a} (Glu98-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Glu31
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	60 kDa

SPECIFICATIONS

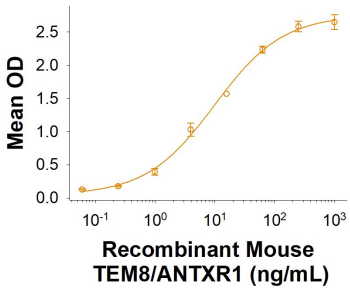
SDS-PAGE	62-81 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Anthrax Protective Antigen is immobilized at 1.5 µg/mL (100 µL/well), the concentration of Recombinant Mouse TEM8/ANTXR1 Fc Chimera (Catalog # 10202-AR) that produces 50% of the optimal binding response is 5-30 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

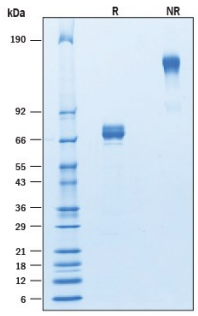
DATA

Binding Activity



When Anthrax Protective Antigen is immobilized at 1.5 µg/mL, 100 µL/well, Recombinant Mouse TEM8/ANTXR1 Fc Chimera (Catalog # 10202-AR) binds with an ED_{50} of 5-30 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse TEM8/ANTXR1 Fc Chimera (Catalog # 10202-AR) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 62-81 kDa and 125-160 kDa, respectively.

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BACKGROUND

Anthrax toxin receptor 1 (ANTXR1), also known as Tumor endothelial marker 8 (TEM8), is a glycoprotein of the Anthrax Toxin Receptor family that is expressed by endothelial cells. TEM8/ANTXR1 contains a 289 amino acid (aa) extracellular domain, a 21 aa transmembrane domain, and a 222 aa cytoplasmic domain. Isoforms diverging at the C-termiuns include 564 aa (80-85 kDa), 368 aa (60 kDa), and potentially secreted isoforms of 330 aa and 297 aa (45 kDa) (1). The extracellular domain shares structural similarity with von Willebrand factor type (vWFA) domains, which are characterized by their interactions with ECM components (2, 3). The extracellular domain is involved in reorganization of cell actin cytoskeleton (2, 3). TEM8/ANTXR1 binds Anthrax Protective Antigen with lesser affinity that Anthrax Receptor 2 and induces toxin internalization (4). TEM8/ANTXR1 has been implicated in tumor angiogenesis, as its expression has been shown to up-regulate in tumor blood vessels and is characterized as a tumor endothelial marker (5). TEM8/ANTXR1 was reported to be an amplifier of Wnt signaling in tumor microenvironment (6). Additionally, TEM8/ANTXR1 serves as the receptor for Seneca Valley virus, an oncolytic picornavirus affecting neuroendocrine cancers (7). Mouse TEM8/ANTXR1 shares 99% and 100% aa identity with human and rat TEM8/ANTXR1, respectively, within the extracellular domain.

References:

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2. Hotchkiss, K. *et al.* (2004). Experimental Cell Research. **305**:133.
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4. Fu, S. *et al.* (2010) PLOS One. **5**:e11203.
5. Carson-Walter, EB. *et al.* (2001). Cancer Res. **18**:6649.
6. Verma, K. *et al.* (2011) PLOS One. **6**:e22334.
7. Miles, L. *et al.* (2017). J Clin Invest. **8**:2957.

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