Recombinant Mouse MDL-1/CLEC5A

Catalog Number: 8438-CL

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Tyr26-Lys190, with an N-terminal 9-His tag Accession # Q9R007
N-terminal Sequence Analysis	His
Predicted Molecular Mass	20 kDa

SPECIFICATIONS

SDS-PAGE	34-45 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse Galectin-9 is immobilized at 0.5 µg/mL (100 µL/well), the concentration of Recombinant Mouse MDL-1/CLEC5A that produces 50% optimal binding response is approximately 0.1-0.5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 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.

BACKGROUND

MDL-1 (Myeloid DAP12-associating lectin 1), also known as CLEC5A, is an approximately 40 kDa member of the C-type lectin family (1). Mature mouse MDL-1 is a glycosylated type 2 transmembrane protein that associates into a homodimer on the cell surface (2). It consists of a 165 amino acid (aa) extracellular domain (ECD) with one C-type lectin (CTL) domain and a juxtamembrane stalk region, a 21 aa transmembrane segment, and a 4 aa cytoplasmic domain (3). Within the ECD, mouse MDL-1 shares 67% and 81% aa sequence identity with human and rat MDL-1, respectively. The transmembrane segment contains a lysine residue that mediates interactions with the signaling protein DAP12 (3). Alternative splicing generates a short isoform of mouse MDL-1 that lacks 25 aa of the stalk region (3, 4). MDL-1 is expressed on monocytes, macrophages, and neutrophils (3, 4). Its expression is up-regulated on monocytes in rheumatoid arthritis (5). MDL-1 functions as a cell attachment receptor for all four serotypes of dengue virus as well as Japanese encephalitis virus, although the short isoform binds significantly more weakly (2, 6, 7). These interactions trigger DAP12 phosphorylation, the production of multiple inflammatory cytokines, vascular leakage, and disruption of the blood-brain barrier (6-8). This recombinant protein corresponds to the long isoform of mouse MDL-1.

References:

1. Hoving, J.C. *et al.* (2014) Cell. Microbiol. **16**:185.
2. Watson, A.A. *et al.* (2011) J. Biol. Chem. **286**:24208.
3. Bakker, A.B.H. *et al.* (1999) Proc. Natl. Acad. Sci. USA **96**:9792.
4. Aoki, N. *et al.* (2009) J. Leukoc. Biol. **85**:508.
5. Chen, D.-Y. *et al.* (2014) PLoS ONE **9**:e86105.
6. Chen, S.-T. *et al.* (2012) PLoS Pathogens **8**:e1002655.
7. Chen, S.-T. *et al.* (2008) Nature **453**:672.
8. Wu, M.-F. *et al.* (2013) Blood **121**:95.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449