

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived human DMBT1 protein
Thr20-Arg1662 (T31A, T42P, L54S, S1629L), with a C-terminal 6-His tag
Accession # AAI53300.1

N-terminal Sequence Analysis Thr20

Predicted Molecular Mass 180 kDa

SPECIFICATIONS

SDS-PAGE 225-285 kDa, under reducing conditions.

Activity Measured by its binding ability in a functional ELISA.
When Recombinant Human Siglec-8 Fc Chimera Protein (Catalog # 9045-SL) is immobilized at 5.0 µg/mL (100 µL/well), the concentration of Recombinant Human DMBT1 His-tag (Catalog # 11032-DB) that produces 50% of the optimal binding response is 0.500-5.00 µg/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.

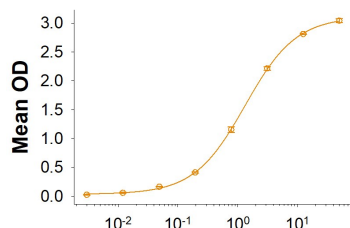
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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

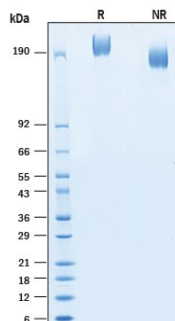
Binding Activity



Recombinant Human DMBT1 (µg/mL)

Recombinant Human DMBT1 His-tag Protein Binding Activity. When Recombinant Human Siglec-8 Fc Chimera Protein (Catalog # 9045-SL) is immobilized at 5.0 µg/mL (100 µL/well), the concentration of Recombinant Human DMBT1 His-tag (Catalog # 11032-DB) that produces 50% of the optimal binding response is 0.500-5.00 µg/mL.

SDS-PAGE



Recombinant Human DMBT1 His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human DMBT1 His-tag Protein (Catalog # 11032-DB) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 225-285 kDa.

BACKGROUND

DMBT1 (Deleted in Malignant Brain Tumor 1) also known as Glycoprotein 340 and salivary agglutinin is a secreted glycoprotein with mass of 340 kDa. It belongs to group B of the SRCR (scavenger cysteine-rich) superfamily with each SRCR domain containing 8 cysteines (1). Primary sequence of DMBT1 is composed of 8-13 SRCR domains (due to alternative splicing), a CUB domain, another SRCR domain, a second CUB domain and ended with a ZP (zona pellucida) domain (2-3). DMBT1 is heavily glycosylated where N-linked and O-linked glycosylation account for almost 25% of the mass (3-4). It is mainly expressed in epithelial cells and mucosal tissues of respiratory and gastrointestinal tracts and urogenital organs. It is also found in human body fluids (saliva, tear, broncho-alveolar lavage, and pancreatic juice) (5-6). Extent of glycosylation varies among different tissues or individuals (7-8). Orthologues of DMBT1 have been found in monkey, mouse, rat, rabbit, bovine, and porcine. Human DMBT1 shares 49% and 35% amino acid homology with mouse and rat homolog. DMBT1 plays an important role in innate immune response. It is an agglutinating agent for several bacteria strains through a specific region in the SRCR domain in a calcium dependent way (9-10). It can also bind to viruses such as influenza A virus and human immunodeficiency virus type I and inhibit their activity. Binding to viruses is mediated by the sialic acid glycan of DMBT-1, independent of calcium. In addition to binding pathogens, DMBT-1 also binds a broad spectrum of host proteins including SP-d, SP-A, secretory IgA, refoil factors (TFFs), MUC5B, complement factor C1q, lactoferrin and DNA (11). Recent studies identify DMBT1 as a high affinity ligand of Siglec-8 in human airways (12). Inactivation of DMBT1 affects stem cell differentiation and results in tumor formation (13).

References:

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