Recombinant Human TREM-1 His-tag

Catalog Number: 10337-TR

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human TREM-1 protein Ala21-Arg200, with a C-terminal 6-His tag Accession # Q9NP99.1
N-terminal Sequence Analysis	Ala21
Predicted Molecular Mass	21 kDa

SPECIFICATIONS

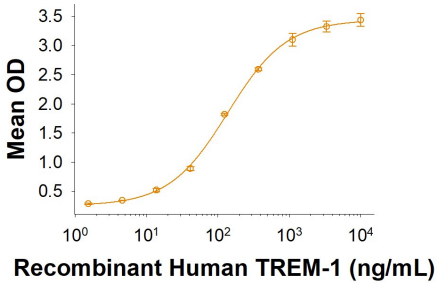
SDS-PAGE	30-45 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human PGLYRP1/PGRP-S Protein (Catalog # 2590-PGB) is coated at 2 µg/mL (100 µL/well), the concentration of Recombinant Human TREM-1 His-tag (Catalog # 10337-TR) that produces 50% of the optimal binding response is found to be approximately 50-300 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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/mL in PBS.
Shipping	The product is shipped with polar packs. 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



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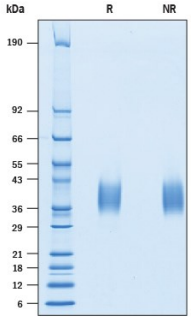
SDS-PAGE



2 µg/lane of Recombinant Human TREM-1 His-tag (Catalog # 10337-TR) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 30-45 kDa.

BACKGROUND

TREM-1 (Triggering Receptor Expressed on Myeloid cells), also known as CD354, along with TREM-2, and rodent specific TREM-3, comprise a group of Ig superfamily proteins regulating the activation and differentiation of myeloid cells. Human TREM-1 is type I transmembrane protein containing a single Ig-like domain in the extracellular domain (ECD), a transmembrane region and a short cytoplasmic tail. The mature ECD of human TREM-1 shares 45% identity with mouse TREM-1. Several other TREM family members have been reported that are structurally similar but share less than 30% amino acid identity. TREM-1, expressed on monocytes and neutrophils, associates with the adapter protein, DAP12, to deliver an activating signal to elicit and amplify the innate inflammatory response triggered by bacteria (1, 2). A few potential TREM-1 ligands have been identified, including HMGB1 and PGLYRP1 (1-2). HMGB1 (high mobility group Box 1), a ubiquitous nuclear protein, is secreted by myeloid cells during inflammation and has been suggested as an additional TREM-1 ligand (1). However, HMGB1 alone has been found unable to trigger TREM-1 activation and may require co-activating molecules (1). PGLYRP1 (peptidoglycan recognition receptor 1), mainly found in granulocytes, binds to peptidoglycan and cell wall components such as LPS, and has been identified as another potential TREM-1 ligand (1, 2). PGLYRP1, when complexed with PGN, is able to activate TREM-1 and enhance cytokine production in human neutrophils and macrophages (2).

References:

1. Tammaro, *et al.* (2017) Pharmacology & Therapeutics. **177**:81.
2. Read, *et al.* (2015) J Immunol. **194**:1417.

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