Recombinant Mouse PGLYRP1/PGRP-S

Catalog Number: 2696-PG/CF

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse PGLYRP1/PGRP-S protein Cys17-Glu182, with a C-terminal 6-His tag Accession # O88593
N-terminal Sequence Analysis	Cys17
Predicted Molecular Mass	19.7 kDa

SPECIFICATIONS

SDS-PAGE	19 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized peptidoglycan at 5 µg/mL (100 µL/well) can bind Recombinant Mouse PGLYRP1/PGRP-S with a dose range of 3-200 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in Citrate Phosphate and NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile 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

The mouse PGRP family comprises four peptidoglycan recognition proteins that may function as innate immunity pattern recognition molecules (1, 2). Termed PGRP-L, PGRP-Iα, PGRP-Iβ and PGRP-S, they are all products of separate genes, and all are named for the relative length of their translated product (3). PGRP-L (for long) is 530 amino acids (aa) in length, while PGRP-Iα and Iβ are intermediate (I) in length at 347 aa and 374 aa, respectively, and PGRP-S is shortest at 182 aa in length (3, 4). All mouse PGRPs bind peptidoglycan and Gram-positive bacteria, and all have at least three C-terminal PGRP domains at variable sites that are highly conserved from insects to mammals (3). Mouse PGRP-S, the first described member of the family, is an 18 kDa secreted protein associated with neutrophils (4, 5). The mature molecule is 166 aa in length and presumably contains three variably-sized peptide-carbohydrate recognition sequences. Mouse PGRP-S is 86%, 69% and 72% aa identical to rat, bovine and human mature PGRP-S, respectively. Studies with PGRP-S deficient mice indicate that knock-out mice have increased susceptibility to infections with low (but not high) pathogenicity bacteria. Neutrophils from knock-out mice exhibit normal phagocytosis of bacteria but are defective in intracellular killing and digestion of nonpathogenic bacteria (5). The three longer PGRP members are all membrane-bound molecules that contain two membrane-spanning segments. Both the N- and C-termini are depicted as being extracellular with a joining cytoplasmic domain. All three transmembrane forms show at least one PGRP domain on the C-terminal extracellular region; other PGRP domains are variably distributed over their two extracellular and one cytoplasmic region (3).

References:

1. Girardin, S.E. and D.J. Philpott (2004) Eur. J. Immunol. **34**:1777.
2. Steiner, H. (2004) Immunol. Rev. **198**:83.
3. Kiselev, S.L. *et al.* (1998) J. Biol. Chem. **273**:18633.
4. Kang, D. *et al.* (1998) Proc. Natl. Acad. Sci. USA **95**:10078.
5. Dziarski, R. *et al.* (2003) Blood **102**:689.

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