

DESCRIPTION

Source	<i>Spodoptera frugiperda</i> , Sf 21 (stably transfected)-derived		
	<div>Mouse RP105 (Thr21 - Ser626) Accession #Q62192</div>	DIEGRMD	<div>Human IgG₁ (Pro100 - Lys330)</div>
	N-terminus		C-terminus

N-terminal Sequence Thr21

Analysis

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 94.7 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 100-110 kDa, reducing conditions

Activity Measured by its ability to bind with rmMD-1 in a functional ELISA.

Endotoxin Level <1.0 EU per 1 µg of the protein by the LAL method.

Purity >90%, by SDS-PAGE under reducing conditions and visualized by silver stain.

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 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

Radioprotective, 105 kDa (RP105), also known as CD180 and lymphocyte antigen 64 (LY64), is a type I transmembrane glycoprotein with extracellular leucine-rich repeats (LRR) typically found in Toll-like receptor (TLR) family members. However, it has a short cytoplasmic tail and lacks the Toll-IL-1R (TIR) domain that defines the IL-1 R/TLR superfamily. Mouse RP105 cDNA encodes a 661 amino acid (aa) residues protein with a 20 aa signal peptide, a 606 aa extracellular domain, a 24 aa transmembrane domain and an 11 aa cytoplasmic region (1). It shares 78% aa sequence identity with its human counterpart (2). RP105 is expressed primarily on mature B cells and macrophages. The extracellular domain of RP105 associates with a secreted protein MD-1 (also known as LY 86) that is required for efficient RP105 cell surface expression and function (3). Cell surface RP105/MD-1 complex, in conjunction with TLR4, mediates the innate immune response to bacterial lipopolysaccharide (LPS) in B cells. Activation of the RP105 complex has been shown to protect against apoptosis, induce B-cell proliferation, and up-regulate B7.2, a co-stimulatory molecule (4, 5).

References:

1. Miyake, K. *et al.* (1995) J. Immunol. **154**:3333.
2. Fugier-Vivier, I. *et al.* (1997) Eur. J. Immunol. **27**:1824.
3. Miyake, K. *et al.* (1998) J. Immunol. **161**:1348.
4. Ogata, H. *et al.* (2000) J. Exp. Med. **192**:23.
5. Nagai, Y. *et al.* (2002) Blood **99**:1699.