

## PIGR Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	polymeric immunoglobulin receptor;Pigr
Protein Construction:	A DNA sequence encoding the extracellular domain (Met 1-Lys 645) of mouse PIGR (NP_035212.2) precursor was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Lys 19
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	O70570
Molecular Weight:	70.8 kDa (predicted); 90-100 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Measured by its binding ability in a functional ELISA. Immobilized recombinant mouse PIGR at 5 µg/ml (100 µl/well) can bind mouse IgM with a linear range of 0.156-10 µg/ml.
Purity:	> 97 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Polymeric immunoglobulin receptor, also known as PIGR, is a member of the immunoglobulin superfamily and a Fc receptor. The ectodomain of this receptor consists of five units with homology to the variable units of immunoglobulins and a transmembrane region, which also has some homology to certain immunoglobulin variable regions. PIGR is expressed on several glandular epithelia including those of liver and breast. The deduced

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amino-acid sequence has a length of 764 residues and shows an overall similarity of 56% and 64% with the rabbit and rat counterpart. PIGR mediates transcellular transport of polymeric immunoglobulin molecules, and thus facilitates the secretion of IgA and IgM. During this process, a cleavage occurs that separates the extracellular (known as the secretory component) from the transmembrane segment of PIGR.

### Reference

Coyne, R. S. et al., 1995, J. Biol. Chem. 269 (50) :31620-31625.

Kaetzel, C.S., 2001, Curr Biol. 11(1): R35-38.

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