

**DESCRIPTION**

**Source** Mouse myeloma cell line, NS0-derived mouse NPRA/NPR1 protein  
Ser29-Glu469, with a C-terminal 6-His tag  
Accession # P18293

**N-terminal Sequence Analysis** Ser29

**Predicted Molecular Mass** 50 kDa

**SPECIFICATIONS**

**SDS-PAGE** 59-71 kDa, reducing conditions

**Activity** Bioassay data are not available.

**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 250 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**

Bioactivity not tested



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R&D Systems proteins are almost always sold with a bioassay to indicate activity. However, we recognize that sometimes proteins might be novel, and their bioactivity may not be well understood. In addition, some researchers may wish to use polypeptides to make antibodies. To facilitate the advancement of new science, we now offer our Innovator Series of proteins.

**BACKGROUND**

Mouse Natriuretic Peptide Receptor-1 (NPR1), also known as NPRA, ANP-R1 or guanylyl cyclase-A, is a 130 kDa member of the guanylyl cyclase family of proteins. NPR1 is a type I transmembrane glycoprotein that contains a 441 amino acid extracellular domain (ECD) (aa 29-469) for ligand binding, and a 567 amino acid cytoplasmic region that contains both a protein kinase domain and a guanylate cyclase domain. NPR1 is expressed most highly in kidney, adrenal and adipose tissue (1). NPR1 operates as an oligomer and binds both ANP (atrial natriuretic peptide) and BNP (B-type natriuretic peptide). Binding of ANP to the extracellular ligand binding domain, plus ATP to the intracellular kinase domain activates a cytoplasmic guanylate cyclase (1). This process induces bronchodilation and a reduction in blood pressure (2). Over the extracellular domain, mouse NPR1 is 97% and 86% identical to rat and human NPR1, respectively.

**References:**

1. Koller K.J. *et al.* (1991) Science **252**:120.
2. Oliver, P.M. *et al.* (1998). PNAS **95**:2547.