

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human NPRC/NPR3 in direct ELISA.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 1060830
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Human embryonic kidney cell, HEK293-derived human NPRC/NPR3 Met1-Glu481 Accession # P17342
<b>Conjugate</b>	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

<b>Flow Cytometry</b>	Titration recommended for optimal concentration with starting range of 0.1-1 µg/1 million cells. Sample used for this experiment was HEK293 cells transfected with Human NPR3 and eGFP.
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## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

Atrial Natriuretic Peptide Receptor-3 (NPR3), also known as NPRC or ANPR-C, is one of the three natriuretic peptide receptors (1, 2). Mature human NPR3 is a type I transmembrane glycoprotein that contains a 455 amino acid (aa) extracellular domain (ECD), a 23 aa transmembrane segment, and a 37 aa cytoplasmic region. Within the ECD, human NPR3 shares 92% aa sequence identity with mouse and rat NPR3. The natriuretic system is key to the maintenance of vascular tone and cardiovascular homeostasis. It consists of three related natriuretic peptides: atrial natriuretic peptide (ANP), brain natriuretic peptide (BNP), and C-type natriuretic peptide (CNP). It also consists of three single-membrane-spanning receptors (NPRs) to mediate the biological activity of these peptides: NPR1, NPR2, and NPR3. NPR1 and NPR2 are guanylyl cyclase receptors that regulate cGMP levels, while NPR3 lacks enzymatic activity and may act as a clearance receptor (1, 2). Both ANP and BNP exhibit high binding affinities to NPR1 and NPR3, while CNP binds with high affinity to NPR2 and NPR3 (2). NPR3 is known to be expressed in the heart, lung, adrenal gland, heart, cerebral cortex, cerebellum, liver and adipocytes and in some cancers (1, 2). Osteocrin was found to be a specific ligand to NPR3 (3). NPR3 is necessary for Osteocrin to regulate femoral, tibial, and metatarsal bone elongation (4).

### References:

1. Potter, L.R. *et al.* (2006) *Endocr. Rev.* **27**:47.
2. Koller, K. J. and D. V. Goeddel (1992) *Circulation* **86**:1081.
3. Thomas, G. *et al.* (2003) *J. Biol. Chem.* **278**:50563.
4. Moffatt, P. *et al.* (2007) *J. Biol. Chem.* **282**:36454.

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