

## DESCRIPTION

<b>Species Reactivity</b>	Human/Rat
<b>Specificity</b>	Detects rat EphA5 in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 15% cross-reactivity with recombinant mouse (rm) EphA4, rmEphA3, rmEphA6, rmEphA7, rmEphA8, and recombinant rat EphB1 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant rat EphA5 Met1-Gln573 Accession # P54757
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

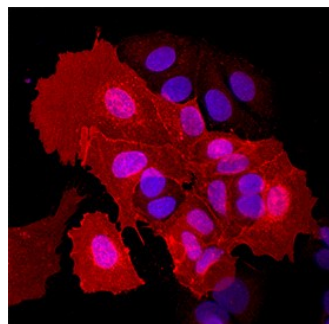
## APPLICATIONS

**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.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Rat EphA5 Fc Chimera (Catalog # 541-A5)
<b>Immunocytochemistry</b>	5-15 µg/mL	See Below

## DATA

### Immunocytochemistry



**EphA5 in MCF-7 Human Cell Line.** EphA5 was detected in immersion fixed MCF-7 human breast cancer cell line using Goat Anti-Human/Rat EphA5 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF541) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to transmembrane proteins. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

EphA5, also known as Ehk1, Bsk, Cek7, Hek7, and Rek7 (1), is a member of the Eph receptor family which binds members of the ephrin ligand family. There are two classes of receptors, designated A and B. Both the A and B class receptors have an extracellular region consisting of a globular domain, a cysteine-rich domain, and two fibronectin type III domains. This is followed by the transmembrane region and cytoplasmic region. The cytoplasmic region contains a juxtamembrane motif with two tyrosine residues, which are the major autophosphorylation sites, a kinase domain, and a conserved sterile alpha motif (SAM) in the carboxy tail which contains one conserved tyrosine residue. Activation of kinase activity occurs after ligand recognition and binding. EphA5 has been shown to bind ephrin-A5, ephrin-A1, ephrin-A2, ephrin-A3, and ephrin-A4 (2, 3). The extracellular domains of rat EphA5 share 98.5% amino acid identity with the mouse homolog and 96.5% identity with the human homolog. Only membrane-bound or Fc-clustered ligands are capable of activating the receptor *in vitro*. While soluble monomeric ligands bind the receptor, they do not induce receptor autophosphorylation and activation (2). *In vivo*, the ligands and receptors display reciprocal expression (3). It has been found that nearly all receptors and ligands are expressed in developing and adult neural tissue (3). The Eph/ephrin families also appear to play a role in angiogenesis (3).

### References:

1. *Eph Nomenclature Committee [letter]* (1997) *Cell* **90**:403.
2. Flanagan, J.G. and P. Vanderhaeghen (1998) *Annu. Rev. Neurosci.* **21**:309.
3. Pasquale, E.B. (1997) *Curr. Opin. Cell Biol.* **9**:608.