

DESCRIPTION

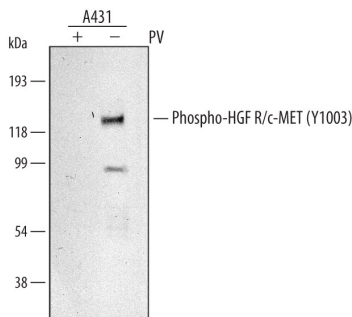
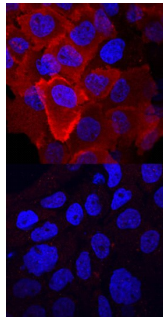
Species Reactivity	Human
Specificity	Detects human and mouse HGF R/c-MET when phosphorylated at Y1003.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	Phosphopeptide containing human HGF R Y1003 site
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. 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
Western Blot	1 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human breast cancer tissue

DATA

<p>Western Blot</p>  <p>Detection of Human Phospho-HGF R/c-MET (Y1003) by Western Blot. Western blot shows lysates of A431 human epithelial carcinoma cell line untreated (-) or treated (+) with 100 µM pervanadate (PV) for 10 minutes. PVDF membrane was probed with 1 µg/mL of Rabbit Anti-Human Phospho-HGF R/c-MET (Y1003) Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4059), followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for Phospho-HGF R/c-MET (Y1003) at approximately 140 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunocytochemistry</p>  <p>Phospho-HGF R/c-MET (Y1003) in A431 Human Cell Line. HGF R/c-MET phosphorylated at Y1003 was detected in immersion fixed A431 human epithelial carcinoma cell line untreated (lower panel) or treated (upper panel) with pervanadate using Rabbit Anti-Human Phospho-HGF R/c-MET (Y1003) Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4059) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Rabbit IgG Secondary Antibody (red; Catalog # NL004) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>
---	---

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

HGF R, also known as Met (from *N*-methyl-*N*-nitro-*N*-nitrosoguanidine induced), is a glycosylated receptor tyrosine kinase that plays a central role in epithelial morphogenesis and cancer development. HGF R is synthesized as a single chain precursor which undergoes cotranslational proteolytic cleavage. This generates a mature HGF R that is a disulfide-linked dimer composed of a 50 kDa extracellular α chain and a 145 kDa transmembrane β chain (1, 2). The extracellular domain (ECD) contains a seven bladed β -propeller sema domain, a cysteine-rich PSI/MRS, and four Ig-like E-set domains, while the cytoplasmic region includes the tyrosine kinase domain (3, 4). Proteolysis and alternate splicing generate additional forms of human HGF R which either lack of the kinase domain, consist of secreted extracellular domains, or are deficient in proteolytic separation of the α and β chains (5 - 7). The sema domain, which is formed by both the α and β chains of HGF R, mediates both ligand binding and receptor dimerization (3, 8). Ligand-induced tyrosine phosphorylation in the cytoplasmic region activates the kinase domain and provides docking sites for multiple SH2-containing molecules (9, 10). HGF stimulation induces HGF R downregulation *via* internalization and proteasome-dependent degradation (11). In the absence of ligand, HGF R forms noncovalent complexes with a variety of membrane proteins including CD44v6, CD151, EGF R, Fas, Integrin $\alpha 6/\beta 4$, Plexins B1, 2, 3, and MSP R/Ron (12 - 19). Ligation of one complex component triggers activation of the other, followed by cooperative signaling effects (12 - 19). Formation of some of these heteromeric complexes is a requirement for epithelial cell morphogenesis and tumor cell invasion (12, 16, 17). Paracrine induction of epithelial cell scattering and branching tubulogenesis results from the stimulation of HGF R on undifferentiated epithelium by HGF released from neighboring mesenchymal cells (20). Genetic polymorphisms, chromosomal translocation, overexpression, and additional splicing and proteolytic cleavage of HGF R have been described in a wide range of cancers (1). Within the ECD, human HGF R shares 86% - 88% aa sequence identity with canine, mouse, and rat HGF R.

References:

1. Birchmeier, C. *et al.* (2003) *Nat. Rev. Mol. Cell Biol.* **4**:915.
2. Corso, S. *et al.* (2005) *Trends Mol. Med.* **11**:284.
3. Gherardi, E. *et al.* (2003) *Proc. Natl. Acad. Sci.* **100**:12039.
4. Park, M. *et al.* (1987) *Proc. Natl. Acad. Sci.* **84**:6379.
5. Crepaldi, T. *et al.* (1994) *J. Biol. Chem.* **269**:1750.
6. Prat, M. *et al.* (1991) *Mol. Cell. Biol.* **12**:5954.
7. Rodrigues, G.A. *et al.* (1991) *Mol. Cell. Biol.* **11**:2962.
8. Kong-Beltran, M. *et al.* (2004) *Cancer Cell* **6**:75.
9. Naldini, L. *et al.* (1991) *Mol. Cell. Biol.* **11**:1793.
10. Ponzetto, C. *et al.* (1994) *Cell* **77**:261.
11. Jeffers, M. *et al.* (1997) *Mol. Cell. Biol.* **17**:799.
12. Orian-Rousseau, V. *et al.* (2002) *Genes Dev.* **16**:3074.
13. Klosek, S.K. *et al.* (2005) *Biochem. Biophys. Res. Commun.* **336**:408.
14. Jo, M. *et al.* (2000) *J. Biol. Chem.* **275**:8806.
15. Wang, X. *et al.* (2002) *Mol. Cell* **9**:411.
16. Trusolino, L. *et al.* (2001) *Cell* **107**:643.
17. Giordano, S. *et al.* (2002) *Nat. Cell Biol.* **4**:720.
18. Conrotto, P. *et al.* (2004) *Oncogene* **23**:5131.
19. Follenzi, A. *et al.* (2000) *Oncogene* **19**:3041.
20. Sonnenberg, E. *et al.* (1993) *J. Cell Biol.* **123**:223.