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MET/HGFR Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1005a

Product Information

Application	IF, WB, E
Primary Accession	P08581
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	4AT247
Calculated MW	155541

Additional Information

Gene ID	4233
Other Names	Hepatocyte growth factor receptor, HGF receptor, HGF/SF receptor, Proto-oncogene c-Met, Scatter factor receptor, SF receptor, Tyrosine-protein kinase Met, MET
Target/Specificity	This monoclonal antibody is generated from mice immunized with purified recombinant protein encoding the catalytic domain of human Met.
Dilution	IF~~1:100 WB~~1:500~1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MET/HGFR Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MET
Function	Receptor tyrosine kinase that transduces signals from the extracellular matrix into the cytoplasm by binding to hepatocyte growth factor/HGF ligand. Regulates many physiological processes including proliferation, scattering, morphogenesis and survival. Ligand binding at the cell surface induces autophosphorylation of MET on its intracellular domain that provides docking

	sites for downstream signaling molecules. Following activation by ligand, interacts with the PI3-kinase subunit PIK3R1, PLCG1, SRC, GRB2, STAT3 or the adapter GAB1. Recruitment of these downstream effectors by MET leads to the activation of several signaling cascades including the RAS-ERK, PI3 kinase-AKT, or PLCgamma-PKC. The RAS-ERK activation is associated with the morphogenetic effects while PI3K/AKT coordinates prosurvival effects. During embryonic development, MET signaling plays a role in gastrulation, development and migration of neuronal precursors, angiogenesis and kidney formation. During skeletal muscle development, it is crucial for the migration of muscle progenitor cells and for the proliferation of secondary myoblasts (By similarity). In adults, participates in wound healing as well as organ regeneration and tissue remodeling. Also promotes differentiation and proliferation of hematopoietic cells. May regulate cortical bone osteogenesis (By similarity).
Cellular Location	Membrane; Single-pass type I membrane protein.
Tissue Location	Expressed in normal hepatocytes as well as in epithelial cells lining the stomach, the small and the large intestine Found also in basal keratinocytes of esophagus and skin. High levels are found in liver, gastrointestinal tract, thyroid and kidney. Also present in the brain. Expressed in metaphyseal bone (at protein level) (PubMed:26637977).

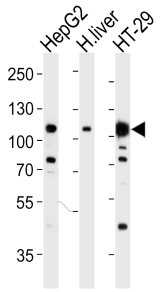
Background

The proto-oncogene MET product is the hepatocyte growth factor receptor and encodes tyrosine-kinase activity. The primary single chain precursor protein is post-translationally cleaved to produce the alpha and beta subunits, which are disulfide linked to form the mature receptor. Various mutations in the MET gene are associated with papillary renal carcinoma. Two transcript variants encoding different isoforms have been found for this gene.

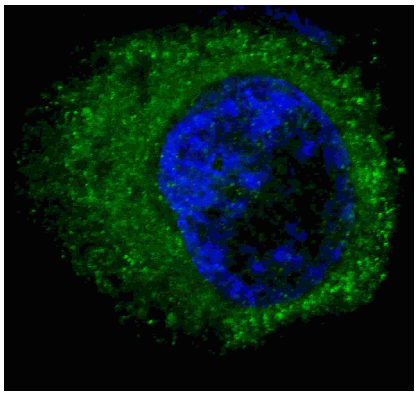
References

References for protein:
1.MET receptor sequence variants R970C and T992I lack transforming capacity. Tyner JW, et al. Cancer Res, 2010 Aug 1. PMID 20670955.
2.Further evidence for the role of MET in autism susceptibility. Thanseem I, et al. Neurosci Res, 2010 Oct. PMID 20615438.
3.Increased HGF and c-Met in muscle tissues of polymyositis and dermatomyositis patients: beneficial roles of HGF in muscle regeneration. Sugiura T, et al. Clin Immunol, 2010 Sep. PMID 20580899.
4.Correlation between hepatocyte growth factor receptor and vascular endothelial growth factor-A in breast carcinoma. Gisterek I, et al. Folia Histochem Cytobiol, 2010 Jan 1. PMID 20529820.
5.MET overexpressing chordomas frequently exhibit polysomy of chromosome 7 but no MET activation through sarcoma-specific gene fusions. Grabellus F, et al. Tumour Biol, 2010 Jun. PMID 20512480.
References for HepG2 cell line:
1. Knowles BB, et al. (1980). Human hepatocellular carcinoma cell lines secrete the major plasma proteins and hepatitis B surface antigen. Science 209: 497-499.[PubMed: 6248960].
2. Darlington GJ, et al. (1987). Growth and hepatospecific gene expression of human hepatoma cells in a defined medium. In Vitro Cell. Dev. Biol. 23: 349-354.[PubMed: 3034851].
3. Ihrke, G; Neufeld, EB; Meads, T; Shanks, MR; Cassio, D; Laurent, M; Schroer, TA; Pagano, RE et al. (1993). "WIF-B cells: an in vitro model for studies of hepatocyte polarity". Journal of Cell Biology 123 (6): 1761–1775. [PubMed:7506266].
4. Mersch-Sundermann, V.; Knasmüller, S.; Wu, X. J.; Darroudi, F.; Kassie, F. (2004). "Use of a human-derived liver cell line for the detection of cytoprotective, antigenotoxic and cogenotoxic agents". Toxicology 198 (1–3): 329–340. [PubMed:15138059].

Images



Western blot analysis of lysates from HepG2, H. liver, HT-29 cell line (from left to right), using MET/HGFR Antibody(4AT247. 86. 63). 4AT247. 86. 63 was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:3000 dilution was used as the secondary antibody. Lysates at 35µg per lane.



Fluorescent confocal image of HepG2 cells stained with MET/HGFR antibody. HepG2 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.2%, 30 min). Cells were then incubated with AM1005a MET/HGFR primary antibody (1:100, 2 h at room temperature). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-mouse antibody (green) was used (1:1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 µg/ml, 5 min). Note the highly specific localization of the MET immunosignal to the cytoplasm, supported by Human Protein Atlas Data (http://www.proteinatlas.org/ENSG00000105976).