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AMFR Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2162a

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q9UKV5
Other Accession	P26442
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	72996
Antigen Region	571-601

Additional Information

Gene ID	267
Other Names	E3 ubiquitin-protein ligase AMFR, 632-, Autocrine motility factor receptor, AMF receptor, RING finger protein 45, gp78, AMFR, RNF45
Target/Specificity	This AMFR antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 571-601 amino acids of human AMFR.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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	AMFR Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AMFR {ECO:0000303|PubMed:10456327, ECO:0000312|HGNC:HGNC:463}
Function	E3 ubiquitin-protein ligase that mediates the polyubiquitination of lysine and cysteine residues on target proteins, such as CD3D, CYP3A4, CFTR, INSIG1, SOAT2/ACAT2 and APOB for proteasomal degradation

(PubMed:10456327, PubMed:11724934, PubMed:12670940, PubMed:19103148, PubMed:24424410, PubMed:28604676). Component of a VCP/p97-AMFR/gp78 complex that participates in the final step of endoplasmic reticulum-associated degradation (ERAD) (PubMed:10456327, PubMed:11724934, PubMed:19103148, PubMed:24424410). The VCP/p97-AMFR/gp78 complex is involved in the sterol-accelerated ERAD degradation of HMGCR through binding to the HMGCR-INSIG1 complex at the ER membrane (PubMed:16168377, PubMed:22143767). In addition, interaction of AMFR with AUP1 facilitates interaction of AMFR with ubiquitin-conjugating enzyme UBE2G2 and ubiquitin ligase RNF139, leading to sterol-induced HMGCR ubiquitination (PubMed:23223569). The ubiquitinated HMGCR is then released from the ER into the cytosol for subsequent destruction (PubMed:16168377, PubMed:22143767, PubMed:23223569). In addition to ubiquitination on lysine residues, catalyzes ubiquitination on cysteine residues: together with INSIG1, mediates polyubiquitination of SOAT2/ACAT2 at 'Cys-277', leading to its degradation when the lipid levels are low (PubMed:28604676). Catalyzes ubiquitination and subsequent degradation of INSIG1 when cells are depleted of sterols (PubMed:17043353). Mediates polyubiquitination of INSIG2 at 'Cys-215' in some tissues, leading to its degradation (PubMed:31953408). Also regulates ERAD through the ubiquitination of UBL4A a component of the BAG6/BAT3 complex (PubMed:21636303). Also acts as a scaffold protein to assemble a complex that couples ubiquitination, retranslocation and deglycosylation (PubMed:21636303). Mediates tumor invasion and metastasis as a receptor for the GPI/autocrine motility factor (PubMed:10456327). In association with LMBR1L and UBAC2, negatively regulates the canonical Wnt signaling pathway in the lymphocytes by promoting the ubiquitin-mediated degradation of CTNNB1 and Wnt receptors FZD6 and LRP6 (PubMed:31073040). Regulates NF-kappa-B and MAPK signaling pathways by mediating 'Lys-27'-linked polyubiquitination of TAB3 and promoting subsequent TAK1/MAP3K7 activation (PubMed:36593296). Required for proper lipid homeostasis (PubMed:37119330).

Cellular Location

Endoplasmic reticulum membrane; Multi-pass membrane protein. Note=Palmitoylation promotes localization to the peripheral endoplasmic reticulum

Tissue Location

Widely expressed..

Background

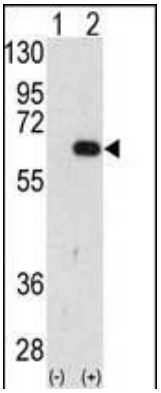
Autocrine motility factor (AMF) is a protein secreted by tumor cells that stimulates tumor motility. The gene for AMFR encodes a 323-amino acid polypeptide that has a single transmembrane domain and several putative glycosylation sites. The protein sequence has some homology to human tumor protein p53.

References

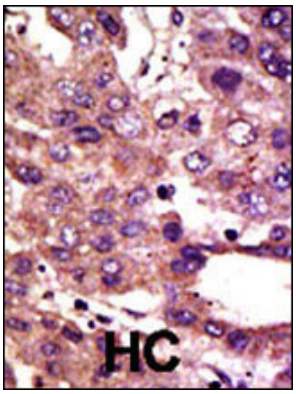
Huang, B., et al., Biochem. Biophys. Res. Commun. 212(3):727-742 (1995).
Watanabe, H., et al., J. Biol. Chem. 266(20):13442-13448 (1991).

Images

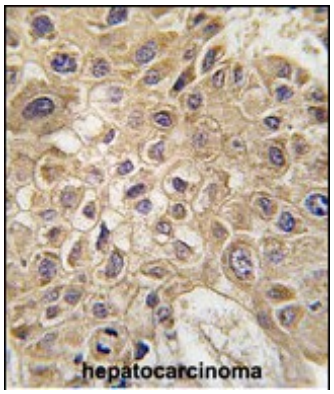
Western blot analysis of AMFR (arrow) using AMFR Antibody (C-term) (Cat.#AP2162a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the AMFR gene (Lane 2) (Origene



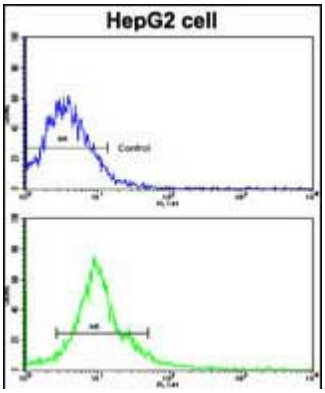
Technologies).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with AMFR Antibody (C-term) (Cat.#AP2162a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Flow cytometric analysis of HepG2 cells using AMFR Antibody (C-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Giant cell tumors of the bone: molecular profiling and expression analysis of Ephrin A1 receptor, Claudin 7, CD52, FGFR3 and AMFR.
- Phosphoglucose isomerase/autocrine motility factor promotes melanoma cell migration through ERK activation dependent on autocrine production of interleukin-8.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.