Revision 1

AMFR Antibody

#9590 Store at -20C

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H Mk Dg	Endogenous	75	Rabbit	#Q9UKV5	267

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

AMFR Antibody recognizes endogenous levels of total AMFR protein. This antibody does not cross-react with HRD1.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human AMFR protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Autocrine motility factor receptor (AMFR/gp78) is a putative seven transmembrane domain G protein-coupled receptor that functions, in part, at the cell surface as a cytokine receptor for autocrine motility factor/phosphoglucose isomerase (AMF/PGI). AMFR is also localized to an intracellular mitochondria-associated smooth ER domain where it functions as an E3 ubiquitin ligase (1). AMFR function, as both a cytokine receptor and ubiquitin ligase, is linked to a variety of cellular signaling cascades associated with metastasis development and increased invasiveness. AMFR was initially proposed to be a RING-H2 E3 ubiquitin ligase after sequence analysis identified a catalytic RING finger and CUE motif, which are responsible for ubiquitin ligase activity and ubiquitin binding, respectively (2,3). Indeed, AMFR is a key component and amongst the best characterized ubiquitin ligases of the endoplasmic reticulum associated degradation (ERAD) machinery, a process involving recognition of misfolded proteins, ubiquitination, deglycosylation, retro-translocation to the cytosol, and targeting to the proteasome (4). Recent studies have shown that AMFR plays an important role in cholesterol homeostasis via the sterol-mediated ubiquitination of HMG-CoA reductase and its cofactor Insig-1 (5,6). Furthermore, AMFR has been implicated in the degradation of apolipoprotein B100 (7). It was recently reported that AMFR degrades the metastasis suppressor KAI-1/CD-82, representing the first evidence that AMFR ubiquitin ligase activity is involved in metastasis development (8). Increased expression of AMFR correlates with a high incidence of recurrence and reduced survival in patients with bladder, colorectal, and gastric cancers (9-11).

Background References

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3. Ponting, C.P. (2000) *Biochem J* 351 Pt 2, 527-35.
4. Meusser, B. et al. (2005) *Nat Cell Biol* 7, 766-72.
5. Song, B.L. et al. (2005) *Mol Cell* 19, 829-40.
6. Lee, J.N. et al. (2006) *J Biol Chem* 281, 39308-15.
7. Liang, J.S. et al. (2003) *J Biol Chem* 278, 23984-8.
8. Tsai, Y.C. et al. (2007) *Nat Med* 13, 1504-9.
9. Hirono, Y. et al. (1996) *Br J Cancer* 74, 2003-7.
10. Nakamori, S. et al. (1994) *Cancer* 74, 1855-62.
11. Otto, T. et al. (1997) *Am J Pathol* 150, 1919-23.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **Mk:** Monkey **Dg:** Dog

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