

## AMFR Protein, Human, Recombinant (His)

### General Information

Synonyms:	AMFR;Autocrine motility factor receptor (AMF receptor);gp78;RNF45;E3 ubiquitin-protein ligase AMFR;RING finger protein 45
Protein Construction:	515-601 aa
Species:	Human
Expression Host:	E. coli
Accession:	Q9UKV5
Molecular Weight:	14.1 kDa (predicted)
AA Sequence:	NSPVERPSSDQEEGETSAQTERVPLDLSRLEETLDFGEVEVEPSEVEDFEARGSRFSKSADERQRMLVQRKD ELLQQARKRFLNKS

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100  $\mu$ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

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. Component of a VCP/p97-AMFR/gp78 complex that participates in the final step of endoplasmic reticulum-associated degradation

(ERAD). 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. 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. The ubiquitinated HMGCR is then released from the ER into the cytosol for subsequent destruction. 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. Catalyzes ubiquitination and subsequent degradation of INSIG1 when cells are depleted of sterols. Mediates polyubiquitination of INSIG2 at 'Cys-215' in some tissues, leading to its degradation. Also regulates ERAD through the ubiquitination of UBL4A a component of the BAG6/BAT3 complex. Also acts as a scaffold protein to assemble a complex that couples ubiquitination, retranslocation and deglycosylation. Mediates tumor invasion and metastasis as a receptor for the GPI/autocrine motility factor. 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.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481