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Product Information

Anti-EDEM1
produced in rabbit, affinity isolated antibody

Catalog Number **E8406**

Product Description

Anti-EDEM1 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 629-646 of human EDEM1 (GeneID: 9695), conjugated to KLH via an N-terminal cysteine residue. The corresponding sequence is identical in mouse EDEM1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-EDEM1 recognizes glycosylated and non-glycosylated human and mouse EDEM1 (75/65 kDa). Applications include immunoblotting and immunoprecipitation. Detection of the EDEM1 bands by immunoblotting is specifically inhibited with the immunizing peptide.

EDEM1 (ER degradation-enhancing alpha-mannosidase-like protein 1), a putative mannose-binding lectin, targets misfolded glycoproteins for degradation in an N-glycan dependent manner.[1] Proteins that fail to fold in the ER are transferred from the ER to the cytosol where they are destroyed by the ubiquitin-proteasome system.[2] Quality control in the ER is regulated by productive folding and ER-associated degradation (ERAD) mechanisms. Accelerated refolding and degradation of unfolded proteins are induced in response to ER stress by a transcriptional program termed the unfolded protein response (UPR).[3] Three EDEM homologues, EDEM1, EDEM2, and EDEM3 have been identified, which are transcriptionally upregulated upon ER stress by the activated IRE1/Xbp-1 branch.[4] In mammalian cells, EDEM1 is localized to the ER, mainly as a soluble glycoprotein, interacts with the COOH-terminus of calnexin and lacks mannosidase activity.[6] Overexpression of EDEM accelerates ERAD by promoting the release of terminally misfolded glycoproteins from calnexin, whereas down-regulation of EDEM delays ERAD.[5, 7]

Reagent

Supplied as a solution in 0.01 M PBS, pH 7.4, containing 15 mM sodium azide as preservative.

Antibody concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 0.5-1.0 µg/mL is recommended using whole extracts of HEK-293T cells expressing recombinant human EDEM1.

Immunoprecipitation: a working amount of 0.5-1.0 µg is recommended using an extract of HEK-293T cells expressing recombinant mouse EDEM1 protein.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working concentration by titration.

References

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3. Oda, Y., et al., *J. Cell Biol.*, **172**, 383-393 (2006).
4. Ni, M. and Lee, A.S., *FEBS Lett.*, **581,** 3641-3651 (2007).
5. Oda, Y., et al., *Science*, **299**, 1394-1397 (2003).
6. Mast, S.W., et al., *Glycobiology*, **15**, 421-436 (2005).
7. Molinari, M., et al., *Science*, **299**, 1397-1400 (2003).

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