

Product Information

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Anti-EDEM3

produced in rabbit, affinity isolated antibody

Catalog Number **E8906**

Product Description

Anti-EDEM3 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 470-485 of human EDEM3 (GeneID: 80267), conjugated to KLH. The corresponding sequence is identical in mouse and rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-EDEM3 recognizes human, mouse, and rat EDEM3. Applications include immunoblotting (~120 kDa) and immunoprecipitation. Detection of the EDEM3 band by immunoblotting is specifically inhibited by the immunizing peptide.

EDEM3 (ER degradation enhancer, mannosidase alpha-like 3), a soluble EDEM homolog, enhances glycoprotein endoplasmic reticulum-associated degradation (ERAD) and mannosidase trimming.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.^{2,3} Quality control in the ER is regulated by productive folding and 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).⁴ Three EDEM homologs, EDEM1, EDEM2, and EDEM3 have been identified, which are transcriptionally upregulated upon ER stress by the activated IRE1/Xbp-1 branch.⁵ In mammalian cells, EDEM1 is localized to the ER, mainly as a soluble glycoprotein, and interacts with the COOH-terminus of calnexin and lacks mannosidase activity.⁶ Over-expression of EDEM1 accelerates ERAD by promoting the release of terminally misfolded glycoproteins from calnexin.^{6,8} EDEM3 accelerates ERAD of misfolded glycoproteins as well, but in contrast to EDEM1, it greatly stimulates mannosidase trimming *in vivo*.¹

Reagent

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

Antibody Concentration: ~1.2 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, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 2-5 µg/mL is recommended using a whole extract of rat PC12 cells.

Immunoprecipitation: a working amount of 2-5 µg is recommended using mouse 3T3 and human HepG2 cell lysates.

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

References

1. Hirao, K., et al., *J. Biol. Chem.*, **281**,9650-9658 (2006).
2. Hosokawa, N., et al., *EMBO Rep.*, **2**, 415-422 (2001).
3. Kostova, Z., and Wolf, D.H., *EMBO J.*, **22**, 2309-2317 (2003).
4. Oda, Y., et al., *J. Cell Biol.*, **172**, 383-393 (2006).
5. Ni, M., and Lee, A.S., *FEBS Lett.*, **581**, 3641-3651 (2007).
6. Oda, Y., et al., *Science*, **299**, 1394-1397 (2003).
7. Mast, S.W., et al., *Glycobiology*, **15**, 421-436 (2005).
8. Molinari, M., et al., *Science*, **299**, 1397-1400 (2003).

ST,DXP,PHC 01/08-1

Sigma brand products are sold through Sigma-Aldrich, Inc.
Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications.
Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply.
Please see reverse side of the invoice or packing slip.

SIGMA-ALDRICH™