

## Product Information

### Anti-EDEM2 (C-terminal)

produced in rabbit, affinity isolated antibody

Catalog Number **E1782**

#### Product Description

Anti-EDEM2 (C-terminal) is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acids 558-572 of human EDEM2 (GeneID: 55741), conjugated to KLH. The corresponding sequence is identical in mouse and rat EDEM2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-EDEM2 (C-terminal) recognizes human and rat EDEM2. The antibody may be used in various immunochemical techniques including immunoblotting (~70 kDa) and immunofluorescence. Detection of the EDEM2 band by immunoblotting is specifically inhibited with the immunizing peptide.

EDEM2 (ER degradation-enhancing alpha-mannosidase-like protein 2), a stress-regulated mannosidase-like protein, targets misfolded glycoproteins for degradation in an N-glycan dependent manner.<sup>1,2</sup> 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.<sup>3</sup> 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).<sup>4</sup> Three EDEM homologues, EDEM1, EDEM2 and EDEM3 have been identified, which are transcriptionally upregulated upon ER stress by the activated IRE1/Xbp-1 branch.<sup>5</sup> EDEM2, similarly to EDEM1, is localized to the ER, mainly as a soluble glycoprotein, interacts with calnexin and lacks mannosidase activity.<sup>1,2,6</sup> Over-expression of EDEM2 accelerates ERAD by promoting the release of terminally misfolded glycoproteins from the calnexin cycle, without affecting the rate of degradation of non-glycosylated polypeptides or the maturation of model secretory proteins.<sup>2</sup>

#### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a 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, 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 0.5-1.0 µg/mL is recommended using whole extracts of human HepG2 and rat NRK cells.

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

#### References

1. Mast, S.W., et al., *Glycobiology*, **15**, 421-436 (2005).
2. Olivari, S., et al., *J. Biol. Chem.*, **280**, 2424-2428 (2005).
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).

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