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Product Information

Anti-EDEM1 antibody,Mouse monoclonal
clone EDEM1-17, purified from hybridoma cell culture

Product Number **E8159**

Product Description

Monoclonal Anti-EDEM1 (mouse IgG2a isotype) is derived from the hybridoma EDEM1-17 produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a synthetic peptide corresponding to a fragment of human EDEM1 (GeneID: 9695), conjugated to KLH. The corresponding sequence differs by a single amino acid in mouse and rat. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-EDEM1 recognizes human and mouse EDEM1. The antibody may be used in several immunochemical techniques including immunoblotting (75/65 kDa) and immunoprecipitation. A non-specific band of ~95 kDa may be detected in some cell extract preparations.

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 EDEM1 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 phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses.

Storage/Stability

Store at –20 °C. For continuous use, the product may be stored at 2–8 °C for up to one month. For extended storage, freeze at –20 °C 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 dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1-2 μg/mL is recommended using whole extracts of HEK-293T cells expressing recombinant human or mouse EDEM1.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions 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).
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