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Product Information

Monoclonal Anti-EDEM3, Clone EDEM3-1
produced in mouse, purified immunoglobulin

Product Number **E0409**

Product Description

Monoclonal Anti-EDEM3 (mouse IgG1 isotype) is derived from the hybridoma EDEM3-1 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 EDEM3 (GeneID: 80267), conjugated to KLH. The corresponding sequence is identical in mouse and rat EDEM3. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2.

Monoclonal Anti-EDEM3 reacts with human, mouse, and rat EDEM3. The antibody may be used in various immunochemical techniques including immunoblotting (~120 kDa).

EDEM3 (ER degradation enhancer, mannosidase alpha-like 3), a soluble EDEM homolog, enhances glycoprotein endoplasmic reticulum-associated degradation (ERAD) and mannose 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, 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 phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.0 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the 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 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 a whole extract of mouse 3T3 or rat NRK cells.

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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4. Oda, Y. et al., *J. Cell Biol.*, **172**, 383-393 (2006).
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