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Product Information

Anti- Derlin-3
produced in rabbit, affinity isolated antibody

Catalog Number **D2194**

Product Description

Anti-Derlin-3 is produced in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 192-205 of human Derlin-3 (Gene ID: 91319), conjugated to KLH. The corresponding sequence differs by 3 amino acids in mouse and 2 in rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Derlin-3 recognizes human Derlin-3. The antibody can be used in several applications including immunoblotting (~26 kDa), immunoprecipitation, and immunofluorescence. Detection of the Derlin-3 band by immunoblotting is specifically inhibited by the immunizing peptide.

Derlin-3, is involved in the degradation of misfolded glycoproteins in the ER.[1,2] 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.[3] 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).[2] Derlin-1, Derlin-2 and Derlin-3 are the mammalian homologues of yeast Der1p, a transmembrane protein required for yeast ERAD.[1,2] Derlin-1 is required for the dislocation of misfolded proteins from the ER lumen to the cytosol.[4,5] Derlin-3 shares ~30% sequence identity with Derlin-1 and spans the lipid bilayer of the ER four times, showing structural similarity to Derlin-1.[1] Derlin-2 and Derlin-3 are components of the mammalian ERAD, and are upregulated by the UPR. Overexpression of Derlin-2 or Derlin-3 accelerates degradation of misfolded glycoprotein, whereas their knockdown blocks degradation.[2] Derlin-2 and Derlin-3 interact with each other and are associated with other proteins known to be involved in ERAD, such as EDEM and the cytosolic p97 AAA ATPase. They also interact with the mammalian orthologs of the yeast Hrd1p/Hrd3p ubiquitin-ligase complex.[1,2]

Reagent

Supplied as a solution in 0.01 M PBS, 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 2.0-5.0 µg/mL is recommended using a whole extract of HEK-293T cells expressing recombinant human Derlin3.

Immunoprecipitation: a working amount of 5-10 µg is recommended using an extract HEK-293T cells expressing recombinant human Derlin-3.

Immunofluorescence: a working concentration of 10-20 µg/mL is recommended using human HeLa cells.

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

References

1. Lilley, B.N., and Ploegh, H.L., *Proc. Natl. Acad. Sci. USA*, **102**, 14296-14301 (2005).
2. Oda, Y., et al., *J. Cell Biol.*, **172**, 383-393 (2006).

3. Kostova, Z., and Wolf, D.H., *EMBO J*., **22**, 2309-2317 (2003).
4. Lilley, B.N., and Ploegh, H.L., *Nature*, **429**, 834-840 (2004).
5. Ye, Y., et al., *Nature***, 429**, 841-847 (2004).

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