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Product Information

Anti-Protease-7 antibody produced in rabbit
Affinity isolated antibody

Product Number **SAB4200823**

Product Description

Anti-Protease-7 antibody is developed in rabbit using a synthetic peptide corresponding to the N-terminal region of *E. coli* (K12) Protease 7 (geneID: 945185) conjugated to KLH. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Protease-7 antibody specifically recognizes Protease-7 from *E. coli* and *Shigella flexneri,* and does not crossreact with *Proteus mirabilis*. The antibody may be used in various immunochemical techniques including immunoblotting (doublet ~35 kDa). Detection of the Protease 7 band by immunoblotting is specifically inhibited by the immunizing peptide.

E. coli Protease-7, also known as Omptin (ompT) or Outer membrane protein 3B, belongs to the omptin family of outer membrane proteases found in several Gram-negative bacteria of the *Enterobacteriaceae* family. Omptins are unique proteases combining features of both serine and aspartate proteases activity. Several group members may also have cysteine protease and metalloproteases activities;[1] however, all share a conserved active site. The proteolytic activity of the enzyme is dependent on the interaction with the lipid A region of the lipopolysaccharide (LPS).[1-2]

Omptins cleave a variety of substrates at the host-pathogen interface, including plasminogen and antimicrobial peptides.[1] The physiological substrates of omptins consist of both host and bacterial proteins. In the host-pathogen interface, bacterial proteases play a critical role as virulence factors by degrading host immune response and extracellular matrix proteins, and by interfering with host hemostasis. The omptin proteases can be secreted into the host environment, attached to the pathogen cell surface, or be embedded in the bacterial membrane.[1-3] Enterohaemorrhagic *E. coli* OmpT was reported to mediate the degradation of LL-37 which is the only known human antimicrobial peptide (AMP) of the cathelicidin family.[3-4]

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 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 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 concentration of 0.5–1 µg/mL is recommended using *E. coli* lysate.

Note: In order to obtain best results in different techniques and preparations, it is recommended to determine optimal working concentration by titration test.

References

1. Brannon, J.R. et al., *Infect. Immun.*, **83**, 2300-11 (2015).
2. Vandeputte-Rutten, L. et al., *EMBO J.*, **20**, 5033-9 (2001).
3. Thomassin, J.L. et al., *Infect. Immun.*, **80**, 483-92 (2012).
4. Urashima, A. et al., *Cell Microbiol.*, **19** (2017).

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