

Product Datasheet

Gasdermin-D Protein, Mouse, Recombinant (His & Myc) (orb1977249)

Description

Precursor of a pore-forming protein that plays a key role in host defense against pathogen infection and danger signals. This form constitutes the precursor of the pore-forming protein: upon cleavage, the released N-terminal moiety (Gasdermin-D, N-terminal) binds to membranes and forms pores, triggering pyroptosis.; Promotes pyroptosis in response to microbial infection and danger signals. Produced by the cleavage of gasdermin-D by inflammatory caspases CASP1 or CASP4/CASP11 in response to canonical, as well as non-canonical (such as cytosolic LPS) inflammasome activators. After cleavage, moves to the plasma membrane where it strongly binds to inner leaflet lipids, including monophosphorylated phosphatidylinositols, such as phosphatidylinositol 4-phosphate, bisphosphorylated phosphatidylinositols, such as phosphatidylinositol (4,5)-bisphosphate, as well as phosphatidylinositol (3,4,5)-bisphosphate, and more weakly to phosphatidic acid and phosphatidylserine. Homooligomerizes within the membrane and forms pores of 10-15 nanometers (nm) of inner diameter, allowing the release of mature IL1B and triggering pyroptosis. Exhibits bactericidal activity. Gasdermin-D, N-terminal released from pyroptotic cells into the extracellular milieu rapidly binds to and kills both Gram-negative and Gram-positive bacteria, without harming neighboring mammalian cells, as it does not disrupt the plasma membrane from the outside due to lipid-binding specificity. Under cell culture conditions, also active against intracellular bacteria, such as *Listeria monocytogenes*. Also active in response to MAP3K7/TAK1 inactivation by *Yersinia* toxin YopJ, which triggers cleavage by CASP8 and subsequent activation. Strongly binds to bacterial and mitochondrial lipids, including cardiolipin. Does not bind to unphosphorylated phosphatidylinositol, phosphatidylethanolamine nor phosphatidylcholine.

Storage

-20°C

Tag

N-10xHis, C-Myc

Note

For research use only

Biorbyt Ltd.

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Application notes

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 µg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Protein Sequence

GIDEEELIEAADFQGLYAEVKACSSSELESLEMELRQQILVNIGKILQDQPSMEALEASLGQGL
CSGGQVEPLDGPAGCILECLVLD SGELVPELAAPIFYLLGALAVLSETQQQLAKALET TVLS
KQLELVKHVLEQSTPWQE QSSVSLPTVLLGDCWDEKNPTWVLL EECGLRLQVES PQVHW
EPTSLIPTSALYASL FLLSSLGQKPC

Purity

94.00%

MW

30.4 kDa (predicted)

Uniprot ID**Q9D8T2****Expiration Date**

6 months from date of receipt.

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