

Recombinant Human GSDME Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50396

Size: 10ug, 100ug

Protein Name: Gasdermin-E (Inversely correlated with estrogen receptor expression 1) (ICERE-1) (Non-syndromic hearing impairment protein 5) [Cleaved into: Gasdermin-E, N-terminal (GSDME-NT); Gasdermin-E, C-terminal (GSDME-CT)]

Synonym: GSDME, DFNA5, ICERE1

UniProt ID: O60443

UniProt Link: www.uniprot.org/uniprotkb/O60443/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 496 AA

Molecular Weight: 55 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MFAKATRNFLREVDADGDLIAVSNLNDSDKLQLLSLVTKKKRFWCWQRPKYQFLSLTLGDVLIEDQF
PSPVVVESDFVKYEGKFANHVSGTLETALGKVKNLGGSSRVESQSSFGTLRKQEVDLQQLIRDSAE
RTINLRNPVLQQVLEGRNEVLCVLTQKITTMQKCVISEHMQVEEKCGGIVGIQTKTVQVSATEDGNVT
KDSNVVLEIPAATTIAYGVIELYVKLDGQFEFCLLRGKQGGFENKKRIDS VYLDPLVFREFAFIDMPDA
AHGISSQDGPLSVLKQATLLERNFHPFAELPEPQQTALSDIFQAVLFDDDELLMVLEPVCDDLVSGLS
PTVAVLGELKPRQQQDLVAFLLQLVGCSLQGGCPGPEAGSKQLFMTAYFLVSALAEMPDSAAALLG
TCCKLQIIPTLCHLLRALSDDGVSDDLEPTLTPLKDTERFGIVQRLFASADISLERLKSSVKAVILKDSK
VFPLLLCITLNLGLCALGREHS

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Gasdermin-E (Inversely correlated with estrogen receptor expression 1) (ICERE-1) (Non-syndromic hearing impairment protein 5) [Cleaved into: Gasdermin-E, N-terminal (GSDME-NT); Gasdermin-E, C-terminal (GSDME-CT)] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: [Gasdermin-E]: Precursor of a pore-forming protein that converts non-inflammatory apoptosis to pyroptosis (PubMed:27281216, PubMed:28459430, PubMed:33852854, PubMed:35594856, PubMed:36607699). This form constitutes the precursor of the pore-forming protein: upon cleavage, the released N-terminal moiety (Gasdermin-E, N-terminal) binds to membranes and forms pores, triggering pyroptosis (PubMed:28459430).; [Gasdermin-E, N-terminal]: Pore-forming protein produced by cleavage by CASP3 or granzyme B (GZMB), which converts non-inflammatory apoptosis to pyroptosis or promotes granzyme-mediated pyroptosis, respectively (PubMed:27281216, PubMed:28459430, PubMed:32188940, PubMed:33852854, PubMed:35594856). After cleavage, moves to the plasma membrane, homooligomerizes within the membrane and forms pores of 10-15 nanometers (nm) of inner diameter, allowing the release of mature interleukins (IL1B and IL16) and triggering pyroptosis (PubMed:28459430, PubMed:32188940, PubMed:33852854, PubMed:35594856). Binds to inner leaflet lipids, bisphosphorylated phosphatidylinositols, such as phosphatidylinositol (4,5)-bisphosphate (PubMed:28459430). Cleavage by CASP3 switches CASP3-mediated apoptosis induced by TNF or danger signals, such as chemotherapy drugs, to pyroptosis (PubMed:27281216, PubMed:28459430, PubMed:32188940). Mediates secondary necrosis downstream of the mitochondrial apoptotic pathway and CASP3 activation as well as in response to viral agents (PubMed:28045099). Exhibits bactericidal activity (PubMed:27281216). Cleavage by GZMB promotes tumor suppressor activity by triggering robust anti-tumor immunity (PubMed:21522185, PubMed:32188940). Suppresses tumors by mediating granzyme-mediated pyroptosis in target cells of natural killer (NK) cells: cleavage by granzyme B (GZMB), delivered to target cells from NK-cells, triggers pyroptosis of tumor cells and tumor suppression (PubMed:31953257, PubMed:32188940). May play a role in the p53/TP53-regulated cellular response to DNA damage (PubMed:16897187).; [Gasdermin-E, N-terminal]: (Microbial infection) Pore-forming protein, which promotes maternal placental pyroptosis in response to Zika virus infection, contributing to adverse fetal outcomes.

Subcellular Localization: [Gasdermin-E, N-terminal]: Cell membrane ; Multi-pass membrane protein .; [Gasdermin-E]: Cytoplasm, cytosol .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.