Anti-Gasdermin D (N terminal) Antibody [PSH10-87] - BSA and Azide free

HA751379

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IP
Molecular Wt:	Predicted band size: 30 kDa
Clone number:	PSH10-87

Description: Gasdermin D (GSDMD, from combination of gastro and dermato, referencing the locations where its family of proteins were originally found to be primarily expressed is a protein that in humans is encoded by the GSDMD gene on chromosome 8. Several current studies have revealed that GSDMD serves as a specific substrate of inflammatory caspases (caspase-1, -4, -5 and -11) and as an effector molecule for the lytic and highly inflammatory form of programmed cell death known as pyroptosis. Hence, GSDMD is an essential mediator of host defence against microbial infection and danger signals. The pore-forming activity of the N-terminal cleavage product causes cell swelling and lysis to prevent intracellular pathogens from replicating, and is required for the release of cytoplasmic content such as the inflammatory cytokine interleukin-1β (IL-1β) into the extracellular space to recruit and activate immune cells to the site of infection. GSDMD has an additional potential role as an antimicrobial by binding to cardiolipin (CL) and form pores on bacterial membranes.

Immunogen: Synthetic peptide within human Gasdermin D aa 226-275.

Positive control: THP-1 treated with 100nM TPA overnight then add 100ng/mL LPS for 7 hours then add 1μg/mL BFA for 3 hours cell lysate.

Subcellular location: Cell membrane, Secreted, Mitochondrion membrane, Cytoplasm, cytosol.

Database links: SwissProt: P57764 Human

Recommended Dilutions:

WB	1:2,000
IP	1-2μg/sample

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

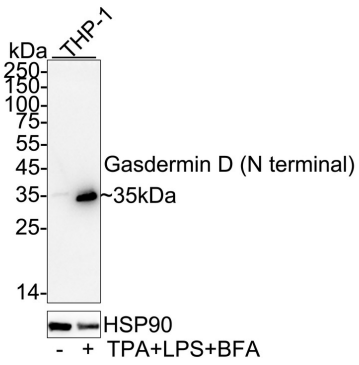

Fig1: Western blot analysis of Gasdermin D (N terminal) on different lysates with Rabbit anti-Gasdermin D (N terminal) antibody (HA751379) at 1/2,000 dilution.

Lane 1: THP-1 cell lysate
Lane 2: THP-1 treated with 100nM TPA overnight then add 100ng/mL LPS for 7 hours then add 1μg/mL BFA for 3 hours cell lysate

Lysates/proteins at 20 μg/Lane.

Predicted band size: 30 kDa
Observed band size: 35 kDa

Exposure time: 2 minutes; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA751379) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

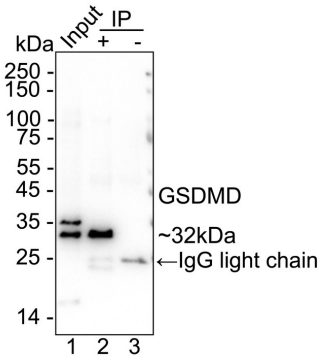

Fig2: Gasdermin D (N terminal) was immunoprecipitated from 0.2 mg THP-1 treated with 80nM TPA for 16 hours then treated with 5μg/mL poly(dA:dT) for 3 hours cell lysate with HA751379 at 2 μg/10 μl beads. Western blot was performed from the immunoprecipitate using HA751379 at 1/1,000 dilution. HRP Conjugated Anti-Rabbit IgG for IP Nano-secondary antibody at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: THP-1 treated with 80nM TPA for 16 hours then treated with 5μg/mL poly(dA:dT) for 3 hours cell lysate (input)
Lane 2: HA751379 IP in THP-1 treated with 80nM TPA for 16 hours then treated with 5μg/mL poly(dA:dT) for 3 hours cell lysate
Lane 3: Rabbit IgG instead of HA751379 in THP-1 treated with 80nM TPA for 16 hours then treated with 5μg/mL poly(dA:dT) for 3 hours cell lysate

Blocking/Dilution buffer: primary antibody dilution (K1803)
Exposure time: 10econds; ECL: K1801

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Wei C et al. Brain endothelial GSDMD activation mediates inflammatory BBB breakdown. Nature. 2024 May
2. Li Z et al. The Regulation and Modification of GSDMD Signaling in Diseases. Front Immunol. 2022 Jun