bs-2593R **[Primary Antibody]**

Caspase 3 precursor Rabbit pAb

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DATASHEET

Host: Rabbit **Isotype:** IgG

Clonality: Polyclonal

GeneID: 836 **SWISS:** P42574

Target: Caspase 3 precursor

Immunogen: KLH conjugated synthetic peptide derived from human Caspase 3 precursor: 11-120/277.

Purification: affinity purified by Protein A

Concentration: 1mg/ml

Storage: 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
Shipped at 4°C. Store at -20°C for one year. Avoid repeated freeze/thaw cycles.

Background: The caspase family of cysteine proteases play a key role in apoptosis. Caspase 3 is the most extensively studied apoptotic protein among caspase family members. Caspase 3 is synthesized as inactive pro enzyme that is processed in cells undergoing apoptosis by self proteolysis and/or cleavage by other upstream proteases (e.g. Caspases 8, 9 and 10). The processed form of Caspase 3 consists of large (17kDa) and small (12kDa) subunits which associate to form an active enzyme. Caspase 3 is cleaved at Asp28 Ser29 and Asp175 Ser176. The active Caspase 3 proteolytically cleaves and activates other caspases (e.g. Caspases 6, 7 and 9), as well as relevant targets in the cells (e.g. PARP and DFF). Alternative splicing of this gene results in two transcript variants which encode the same protein. In immunohistochemical studies Caspase 3 expression has been shown to be widespread but not present in all cell types (e.g. commonly reported in epithelial cells of skin, renal proximal tubules and collecting ducts). Differences in the level of Caspase 3 have been reported in cells of short lived nature (eg germinal centre B cells) and those that are long lived (eg mantle zone B cells). Caspase 3 is the predominant caspase involved in the cleavage of amyloid beta 4A precursor protein, which is associated with neuronal death in Alzheimer's disease.

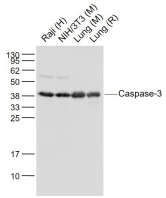
Applications: **WB** (1:500-2000)
ELISA (1:5000-10000)

Reactivity: Human, Mouse, Rat

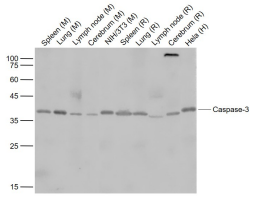
Predicted MW.: 32 kDa

Subcellular Location: Cytoplasm

VALIDATION IMAGES



Sample: Lane 1: Raji (Human) Cell Lysate at 30 ug Lane 2: NIH/3T3 (Mouse) Cell Lysate at 30 ug Lane 3: Lung (Mouse) Lysate at 40 ug Lane 4: Lung (Rat) Lysate at 40 ug Primary: Anti-Caspase-3 (bs-2593R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 35 kD Observed band size: 37 kD



Sample: Lane 1: Spleen (Mouse) Lysate at 40 ug Lane 2: Lung (Mouse) Lysate at 40 ug Lane 3: Lymph node (Mouse) Lysate at 40 ug Lane 4: Cerebrum (Mouse) Lysate at 40 ug Lane 5: NIH/3T3 (Mouse) Cell Lysate at 30 ug Lane 6: Spleen (Rat) Lysate at 40 ug Lane 7: Lung (Rat) Lysate at 40 ug Lane 8: Lymph node (Rat) Lysate at 40 ug Lane 9: Cerebrum (Rat) Lysate at 40 ug Lane 10: Hela (Human) Cell Lysate at 30 ug Primary: Anti-Caspase-3 (bs-2593R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 35 kD Observed band size: 37 kD

SELECTED CITATIONS

- **[IF=14.7]** Jiang Jun. et al. Synthetic vectors for activating the driving axis of ferroptosis. NAT COMMUN. 2024 Sep;15(1):1-15 IHC ;Mouse. 39256387
- **[IF=12.479]** Jun Jiang. et al. Nano-enabled photosynthesis in tumours to activate lipid peroxidation for overcoming cancer resistances. BIOMATERIALS. 2022 Jun;285:121561 IHC ;Mouse. 35537337
- **[IF=11.4]** Sixuan Chen. et al. Pharmacological upregulation of macrophage-derived itaconic acid by pubescenoside C attenuated myocardial ischemia–reperfusion injury. J ADV RES. 2024 Sep;: WB ;Rat. 39357647
- **[IF=6.691]** Barzegar-fallah, Anita. et al. Serotonin type-3 receptor antagonists selectively kill melanoma cells through classical apoptosis, microtubule depolymerisation, ERK activation, and NF-κB downregulation. 2021 Oct 15 WB ;Human,Mouse. 34654991
- **[IF=5.74]** Duan, Xiaoxu, et al. "Antioxidant tert-butylhydroquinone ameliorates arsenic-induced intracellular damages and apoptosis through induction of Nrf2-dependent antioxidant responses as well as stabilization of anti-apoptotic factor Bcl－2 in human keratinocytes." Free Radical Biology and Medicine(2016). WB ;="Human". 26878773