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Store at -20C
#4450

Caspase-4 Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 45	Source/Isotype: Rabbit	UniProt ID: #P49662	Entrez-Gene Id: 837
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Caspase-4 Antibody detects endogenous levels of total caspase-4 protein. Processing intermediate forms of caspase-4 are observed at 40 kDa and 32 kDa as previously reported (7). The antibody does not cross-react with other caspases.

Species predicted to react based on 100% sequence homology

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ile125 within the p20 subunit of human caspase-4 protein. Antibodies were purified by protein A and peptide affinity chromatography.

Background

Caspase-4 (TX/ICH-2/ICE_{ref}II) is a member of the caspase family of proteases that play a key role in the execution of apoptosis and activation of inflammatory cytokines (1-3). Expression of caspase-4 has been observed in most tissues except brain, with highest levels in placenta, lung, spleen, and peripheral blood lymphocytes (PBL). Caspase-4 was originally found to contribute to Fas-mediated apoptosis (4). Several caspases (including caspase-4, caspase-5, and mouse caspase-11 and -12) are most closely related to caspase-1 and are capable of inducing apoptosis when overexpressed but are better characterized in the proteolytic activation of inflammatory cytokines (5). Caspase-4 associates with TRAF6 and is involved in the LPS inducible production of inflammatory cytokines IL-8 and MIP1 in THP-1 cells (6). While caspase-4 and mouse caspase-12 localize to the endoplasmic reticulum (ER) and may be activated by drugs that induce ER stress (7), at least one study suggests that caspase-4 and caspase-12 are not essential for ER stress-induced apoptosis (8).

Background References

1. Faucheu, C. et al. (1995) *EMBO J* 14, 1914-22.
2. Kamens, J. et al. (1995) *J Biol Chem* 270, 15250-6.
3. Munday, N.A. et al. (1995) *J Biol Chem* 270, 15870-6.
4. Kamada, S. et al. (1997) *Oncogene* 15, 285-90.
5. Martinon, F. and Tschopp, J. (2007) *Cell Death Differ* 14, 10-22.
6. Lakshmanan, U. and Porter, A.G. (2007) *J Immunol* 179, 8480-90.
7. Hitomi, J. et al. (2004) *J Cell Biol* 165, 347-56.
8. Obeng, E.A. and Boise, L.H. (2005) *J Biol Chem* 280, 29578-87.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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