PRODUCT INFORMATION

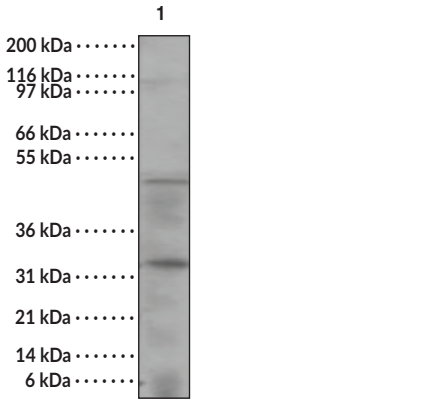
Caspase-14 Monoclonal Antibody (Clone 70A1426)

Item No. 13916

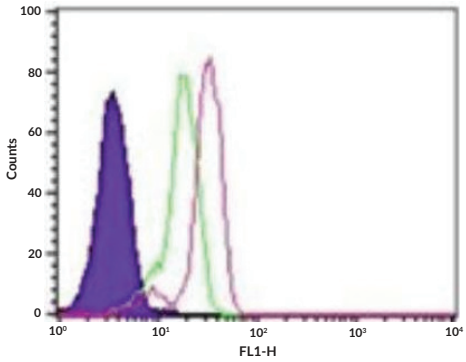
Overview and Properties

Contents: This vial contains 200 µl antibody solution with 0.09% sodium azide.
Synonyms: CASP-14, MICE, Mini-interleukin-1 Converting Enzyme
Immunogen: A synthetic peptide corresponding to amino acids 2-18 of mouse caspase-14
Cross Reactivity: (+) Caspase-14
Species Reactivity: (+) Human, mouse
Storage: -20°C (as supplied)
Stability: ≥6 months
Storage Buffer: Ascites with PBS
Clone: 70A1426
Host: Mouse
Isotype: IgG1κ
Applications: Flow cytometry (FC) (intracellular), Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution is 1:500/10^6 cells for FC (intracellular) and 0.1-4 µg/ml for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: Mouse spleen lysate (1:1,000)



Intracellular flow cytometric analysis of caspase-14 in 10^6 Jurkat cells probed with 1:500 dilution of caspase-14 antibody. Shaded histogram represents cells without antibody; green represents isotype control antibody; red represents caspase-14 antibody.

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Description

Caspase-14 is a cysteinyl aspartic protease.[1-3] It is expressed during embryonic development and in differentiating keratinocytes and localizes to the cytoplasm and nucleus.[2,3] Caspase-14 is produced as a zymogen containing a large and small subunit and is activated *via* proteolytic cleavage by kallikrein 7 (KLK7).[4] It is involved in keratinocyte differentiation, cornification, UVB protection, and profilaggrin degradation.[1] A SNP in *CASP14*, the gene encoding caspase-14, is associated with ichthyosis.[5] Cayman's Caspase-14 Monoclonal Antibody (Clone 70A1426) can be used for intracellular flow cytometry (FC), immunohistochemistry (IHC), and Western blot (WB) applications. The antibody recognizes caspase-14 from human and mouse samples.

References

1. Sahoo, G., Samal, D., Khandayataray, P., *et al.* A review on caspases: Key regulators of biological activities and apoptosis. *Mol. Neurobiol.* **60(10)**, 5805-5837 (2023).
2. Hu, S., Snipas, S.J., Vincenz, C., *et al.* Caspase-14 is a novel developmentally regulated protease. *J. Biol. Chem.* **273(45)**, 29648-29653 (1998).
3. Lippens, S., Kockx, M., Knaapen, M., *et al.* Epidermal differentiation does not involve the pro-apoptotic executioner caspases, but is associated with caspase-14 induction and processing. *Cell Death Differ.* **7(12)**, 1218-1224 (2000).
4. Yamamoto, M., Miyai, M., Matsumoto, Y., *et al.* Kallikrein-related peptidase-7 regulates caspase-14 maturation during keratinocyte terminal differentiation by generating an intermediate form. *J. Biol. Chem.* **287(39)**, 32825-32834 (2012).
5. Kirchmeier, P., Zimmer, A., Bouadjar, B., *et al.* Whole-exome-sequencing reveals small deletions in CASP14 in patients with autosomal recessive inherited ichthyosis. *Acta Derm. Venereol.* **97(1)**, 102-104 (2017).

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