

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human/mouse Caspase-8 and cleavage products. Detects multiple isoforms of Caspase-8.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Caspase-8 Ser217-Asp384 (Asp285His) (p18 subunit), Leu385-Asp479 (p10 subunit) Accession # Q14790
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Caspase-8 (Cysteine-aspartic acid protease 8/Casp8a; also named MCH5, FLICA and MACHa1) is a 28 kDa member of the peptidase C14A family of enzymes (1, 2, 3). It is widely expressed and is considered an initiating caspase for the apoptotic cascade (4). Caspase-8 acts on a wide variety of substrates, including procaspases-3, 4, 6, 7, 9 and 10, c-FLIP_L and procaspase-8 itself (1, 5, 6). Human procaspase-8a is a 54-56 kDa, 479 amino acid (aa) protein (4, 7, 8, 9). It contains two N-terminal death domains (aa 1-177), followed by a catalytic site that utilizes His317Gly318 plus Cys360. Normally, it is an inactive, cytosolic monomer (1, 10, 11). But following death-domain (DD) containing receptor oligomerization, Caspase-8 is recruited to the death-inducing signaling complex (DISC) that forms around the death domains of the oligomerized receptor (12). FADD/CAP-1 is recruited first, followed by procaspase-8/CAP-4 and, possibly, c-FLIP_L and procaspase-10 (12). The recruitment, or concentration, of procaspase-8 induces homodimerization. This act alone is sufficient for activation. However, the activity level is modest at best, and appears to be directed towards either itself, or c-FLIP_L, which is known to form a functional heterodimer with procaspase-8 (5, 11). When directed towards itself, autocleavage occurs first between Asp374Ser375, generating a 43 kDa (p43) N-terminal (aa 1-374) and an 11 kDa C-terminal (aa 375 - 479) fragment. The C-terminus is further cleaved between Asp384Leu385 to generate a mature p10 subunit (aa 385-479). The p43 subunit is next cleaved twice, once between Asp216Ser217, and again between Asp210Ser211 to generate a 26 kDa DD-containing prodomain (aa 1-210) with an additional 18 kDa mature p18 subunit (aa 217-374) (12). p18 and p10 noncovalently associate to form a 28 kDa heterodimer, which subsequently associates with another p18:p10 heterodimer to form an active, mature Caspase-8 molecule. This leaves the DISC to act on downstream apoptotic procaspases. In the event procaspase-8 comes to the DISC complexed with c-FLIP_L, c-FLIP_L will be cleaved by procaspase-8, generating a p43 fragment that is analogous to the Caspase-8 p43 subunit. This fragment, however, appears not to be an intermediate in a proteolytic cascade. Rather, it serves as a functional subunit, interacting with TRAF2 and activating NFκB. This may account for many of the nonapoptotic activities associated with Caspase-8 (5, 6, 13). Mature human and mouse Caspase-8a heterodimers are 73% aa identical (14).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.