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## Caspase-1 Antibody

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

<b>Applications:</b> W	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 20 p20. 30 to 45 beta, delta, gamma. 50 alpha.	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P29466	<b>Entrez-Gene Id:</b> 834
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<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	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.	
<b>Specificity/Sensitivity</b>	Caspase-1 Antibody detects endogenous levels of pro-caspase-1 and the caspase-1 p20 subunit. The antibody is expected to detect alpha, beta, gamma and delta isoforms.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues within the p20 subunit of human caspase-1. Antibodies are purified by protein A and peptide affinity chromatography.	
<b>Background</b>	Caspase-1, or interleukin-1 $\beta$ converting enzyme (ICE/ICEa), is a class I cysteine protease, which also includes caspases -4, -5, -11, and -12. Caspase-1 cleaves inflammatory cytokines such as pro-IL-1 $\beta$ and interferon- $\gamma$ inducing factor (IL-18) into their mature forms (1,2). Like other caspases, caspase-1 is proteolytically activated from a proenzyme to produce a tetramer of its two active subunits, p20 and p10. Caspase-1 has a large amino-terminal pro-domain that contains a caspase recruitment domain (CARD). Overexpression of caspase-1 can induce apoptosis (3). Mice deficient in caspase-1, however, have no overt defects in apoptosis but do have defects in the maturation of pro-IL-1 $\beta$ and are resistant to endotoxic shock (4,5). At least six caspase-1 isoforms have been identified, including caspase-1 $\alpha$ , $\beta$ , $\gamma$ , $\delta$ , $\epsilon$ , and $\zeta$ (6). Most caspase-1 isoforms ( $\alpha$ , $\beta$ , $\gamma$ , and $\delta$ ) produce products between 30-48 kDa and induce apoptosis upon overexpression. Caspase-1 $\epsilon$ typically contains only the p10 subunit, does not induce apoptosis, and may act as a dominant negative. The widely expressed $\zeta$ isoform of caspase-1 induces apoptosis and lacks 39 amino-terminal residues found in the $\alpha$ isoform (6). Activation of caspase-1 occurs through an oligomerization molecular platform designated the "inflammasome" that includes caspase-5, Pycard/Asc, and NALP1 (7).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Thornberry, N.A. et al. (1992) <i>Nature</i> 356, 768-74.</li> <li>2. Martinon, F. and Tschopp, J. (2004) <i>Cell</i> 117, 561-74.</li> <li>3. Miura, M. et al. (1993) <i>Cell</i> 75, 653-60.</li> <li>4. Kuida, K. et al. (1995) <i>Science</i> 267, 2000-3.</li> <li>5. Li, P. et al. (1995) <i>Cell</i> 80, 401-11.</li> <li>6. Feng, Q. et al. (2004) <i>Genomics</i> 84, 587-91.</li> <li>7. Martinon, F. et al. (2002) <i>Mol Cell</i> 10, 417-26.</li> </ol>	
<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).	
<b>Western Blot Buffer</b>	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.	
<b>Applications Key</b>	<b>W:</b> Western Blotting	
<b>Cross-Reactivity Key</b>	<b>H:</b> Human	
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