Anti-Caspase-3 antibody ab4051

Anti-Caspase-3 antibody

Rabbit polyclonal to Caspase-3

Rabbit

Caspase-3 is a member of the interleukin-1 β-converting enzyme family. Caspase-3 is thought to be associated with induction of apoptosis. Caspase-3 is synthesized as inactive 32 kDa proenzyme and is processed during apoptosis generating t-o subunits of 17 kDa and 12 kDa. Caspase-3 stains the epithelial cells of skin, renal proximal tubules and collecting ducts.

This antibody reacts with the inactive 32 kDa proenzyme. We have not tested ab4051 specifically for detection of the active protein. For our data, we can detect the pro form at 32 kDa but not the activated form at 17 kDa.

適用あり: WB, IHC-P, IHC-Fr

交差種: Mouse, Rat, Sheep, Rabbit, Hamster, Cow, Dog, Human, Pig, Monkey

Synthetic peptide corresponding to Human Caspase-3 aa 167-175. Corresponding to the cleavage site of human caspase 3.

Database link: P42574

Tonsil

Liquid

Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.

Preservative: 0.05% Sodium azide

Constituent: 1% BSA

IgG fraction

Purified immunoglobulin fraction of rabbit antiserum against Caspase-3 containing sodium azide as a preservative.

ポリ/モノポリクローナル
**Function**

Involved in the activation cascade of caspases responsible for apoptosis execution. At the onset of apoptosis it proteolytically cleaves poly(ADP-ribose) polymerase (PARP) at a '216-Asp-Gly-217' bond. Cleaves and activates sterol regulatory element binding proteins (SREBPs) between the basic helix-loop-helix leucine zipper domain and the membrane attachment domain. Cleaves and activates caspase-6, -7 and -9. Involved in the cleavage of huntingtin.

**Tissue Specificity**

Highly expressed in lung, spleen, heart, liver and kidney. Moderate levels in brain and skeletal muscle, and low in testis. Also found in many cell lines, highest expression in cells of the immune system.

**Sequence Similarity**

Belongs to the peptidase C14A family.

**Post-Translational Modifications**

Cleavage by granzyme B, caspase-6, caspase-8 and caspase-10 generates the two active subunits. Additional processing of the propeptides is likely due to the autocatalytic activity of the activated protease. Active heterodimers between the small subunit of caspase-7 protease and the large subunit of caspase-3 also occur and vice versa. S-nitrosylated on its catalytic site cysteine in unstimulated human cell lines and denitrosylated upon activation of the Fas apoptotic pathway, associated with an increase in intracellular caspase activity. Fas therefore activates caspase-3 not only by inducing the cleavage of the caspase zymogen to its active subunits, but also by stimulating the denitrosylation of its active site thiol.

**Cellular Localization**

Cytoplasm.

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**Application**

Our Abpromise guarantee covers the use of ab4051 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Special Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use a concentration of 0.002 mg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. Please note that for manual staining we recommend to optimize the primary antibody concentration and incubation time (overnight incubation), and amplification may be required.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td>⭐⭐⭐⭐⭐</td>
<td>Use at an assay dependent concentration. PubMed: 24465746</td>
</tr>
</tbody>
</table>

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**Target Information**

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**Cellular Localization**

Cytoplasm.
ab4051 staining Caspase-3 in formalin-fixed, paraffin-embedded Human tonsil tissue by Immunohistochemistry.

Anti-Caspase-3 antibody (ab4051) + Human Lung Cell Extract

**Predicted band size:** 32 kDa

ab4051 staining Caspase 3 in Pig liver tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 5% serum for 1 hour at 21°C; antigen retrieval was by heat mediation in a citrate buffer. Samples were incubated with primary antibody (1/100 in milk) for 20 hours at 4°C. A Biotin-conjugated Goat anti-rabbit IgG polyclonal (1/500) was used as the secondary antibody.
ab4051 staining Caspase 3 in Cow Ovary tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 10% serum for 15 minutes at 25°C; antigen retrieval was by heat mediation in a citrate buffer. Samples were incubated with primary antibody (1/75 in PBS + BSA) for 16 hours at 4°C. A Biotin-conjugated Goat anti-rabbit IgG polyclonal (1/100) was used as the secondary antibody.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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