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ProductInformation

ANTI-BID
Developed in Rabbit, Affinity Isolated Antibody

Product Number **B 4305**

Product Description

Anti-Bid is developed in rabbits using a synthetic peptide corresponding to amino acids 65-81 of human Bid with N-terminal added lysine conjugated to KLH with glutaraldehyde. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Bid specifically recognizes human Bid by immunoblotting and immunoprecipitation (22-24 kDa). Staining of Bid by immunoblotting is inhibited with the immunizing peptide. In some preparations, an additional band can be detected by immunoprecipitation.

Bid (BH3 interacting domain death agonist) is a proapoptotic protein that belongs to the 'BH3-only' subfamily of the Bcl-2 family.[1-5] Members of this subfamily of death agonists such as Bid, Bad, Bik/Bbk, Hrk/DP5, Bim, Blk, Noxa and the *C.elegans* Egl-1 protein, share similarity only within the approximately 16 amino acid α helical BH3 domain. In contrast to the other members of the 'BH3-only' subfamily, Bid lacks a C-terminal hydrophobic membrane anchor and contains cleavage sites for caspase-8 and granzyme B.

Bid interacts with the antiapoptotic proteins Bcl-2 and Bcl-x_L or with the proapoptotic protein Bax to form the respective heterodimers. It does not form homodimers. The full-length inactive Bid protein is localized mainly in the cytoplasm of living cells. In apoptosis induced by CD95, TNF-α or TRAIL, Bid is cleaved by caspase-8 and to a lesser extent by caspase-3 to yield two major fragments.[5-7] The 15 kDa C-terminal fragment (t^c-Bid), which contains the exposed BH3 domain, translocates from the cytosol to the mitochondrial membranes and apparently triggers cytochrome-c release from the mitochondrial intermembrane space. In some apoptotic systems this release is thought to be dependent on Bid-induced conformational change of Bax.[8-11]

Cytosolic cytochrome-c complexes with Apaf-1 (Apoptosis protease activating factor), procaspase-9 and dATP to form the 'apoptosome' which facilitates caspase-9 activation and subsequent activation of downstream cell-dismembering caspases such as caspase-3, -6, and -7 to effect the biochemical execution of the cell.[12,13]

Reagent

Anti-Bid is provided as affinity isolated antibody in 0.01 M phosphate buffered saline, pH 7.4, containing 1% BSA and 15 mM sodium azide.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution.
Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For continuous use, store at 2 °C -8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

A minimum working dilution of 1:800 is determined by immunoblotting using a whole extract of human Jurkat acute T leukemia cells.

2.5-5 µg of antibody immunoprecipitates Bid from 250-500 µg human Jurkat acute T leukemia cell lysate.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working dilution by titration test.

References

1. Adams, J.M., and Cory, S. Science, **281**, 1322-1326 (1998).
2. Tsujimoto, Y., Genes Cells, **3**, 697-707 (1998).
3. Kelekar, A., and Thompson, C.B., Trends Cell Biol., **8**, 324-330 (1998).
4. Korsmeyer, S.J., Cancer Res., **59**, 1693s, 1700s (1999).
5. Li, H., et al., Cell, **94**, 491-501(1998).
6. Macfarlane, M., et al., J. Cell. Biol., **148**, 1239-1254 (2000).
7. Yamada, H., et al., Biochem. Biophys. Res. Commun., **265**, 130-133 (1999).
8. Desaghers, S., et al., J.Cell. Biol., **144**, 891-901(1999).
9. Luo, X., et al., Cell, **94,** 481-490 (1998).
10. Wang, K., et al., Genes Dev., **10**, 2859-2869 (1996).
11. Green, D.R., and Reed, J.C., Science, **281**, 1309-1312 (1998).
12. Li, P., et al., Cell, **91,** 479-489 (1997).
13. McDonnell, J.M., et al., Cell, **96,** 625-634 (1999).

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