Technical Data Sheet

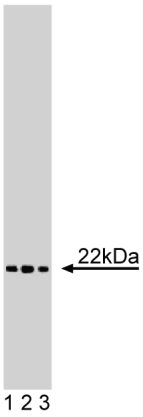
Purified Mouse Anti-Smac/DIABLO

Product Information

Material Number:	**612246**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	56/Smac/DIABLO
Immunogen:	Human Smac/DIABLO aa. 125-239
Isotype:	Mouse IgG2b
Reactivity:	QC Testing: Human Tested in Development: Rat & Dog
Target MW:	22 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Apoptosis is a genetically programmed, selective process of cell death that occurs during normal cell differentiation and development of multicellular organisms. Inhibitors of apoptosis proteins (IAPs), hILP/XIAP, c-IAP1, c-IAP2, and survivin, suppress apoptosis by preventing procaspase activation and inhibiting mature caspase activity. Smac/DIABLO (second mitochondria-derived activator of caspases) eliminates the inhibitory effect of many IAPs, and has been shown to interact with hILP, c-IAP1, c-IAP2, and survivin. The interaction with hILP occurs through Smac/DIABLO binding to the second and third BIR domains of hILP. Smac/DIABLO protein contains an N-terminal mitochondria targeting sequence (MTS) and a procaspase-3 activation domain. The N-terminal MTS is cleaved after import into the mitochondria, and the activity of the mature Smac/DIABLO is dependent on homodimerization and release from the mitochondria. Overexpression of Smac/DIABLO in HeLa cells increases the sensitivity to UV-mediated apoptosis. Thus, Smac/DIABLO acts as an apoptotic activator through its binding to IAPs and activation of caspases.



Western blot analysis of Smac/DIABLO on a HeLa cell lysate (Human cervical epitheloid carcinoma; ATCC CCL-2). *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the mouse anti-Smac/DIABLO antibody.*

Preparation and Storage

Store undiluted at -20°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Not Recommended

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/support/resources/cell_biology/index.jsp

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611449	HeLa Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

Chai J, Du C, Wu JW, Kyin S, Wang X, Shi Y. Structural and biochemical basis of apoptotic activation by Smac/DIABLO. *Nature.* 2000; 406(6798):855-862. (Biology)

Du C, Fang M, Li Y, Li L, Wang X. Smac, a mitochondrial protein that promotes cytochrome c-dependent caspase activation by eliminating IAP inhibition. *Cell.* 2000; 102(1):33-42. (Biology)

Ikuta K, Weissman IL. Evidence that hematopoietic stem cells express mouse c-kit but do not depend on steel factor for their generation. *Proc Natl Acad Sci U S A.* 1992; 89(4):1502-1506. (Biology)

Kim YJ, Broxmeyer HE. Therapeutic potential of 4-1BB (CD137) as a regulator for effector CD8(+) T cells. *J Hematother Stem Cell Res.* 2001; 10(4):441-449. (Biology)