

Human SMAC / Diablo Protein (His Tag)

Catalog Number: 10339-H08E



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

DFNA64; SMAC; 0610041G12Rik; 1700006L01Rik; AU040403; Smac

Protein Construction:

A DNA sequence encoding the mitochondrial-located form of human Diablo (NP_063940.1) (Ala 56-Asp 239) was expressed with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:

Measured by its binding ability in a functional ELISA. Immobilized recombinant human SMAC-His (Cat:10339-H08E) at 10 µg/ml (100 µl/well) can bind recombinant human XIAP-AVI (Cat:10606-H17E) with a linear range of 0.125-1.0 µg/ml.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human Diablo/SMAC consists of 191 amino acids and migrates as polypeptide of 22 kDa as estimated by SDS-PAGE under reduced and non-reduced conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

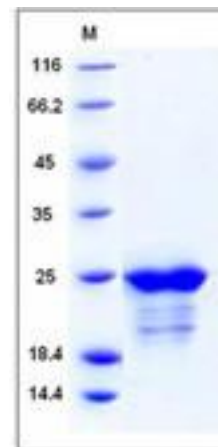
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Apoptosis is an essential processes required for normal development and homeostasis of all metazoan organisms. Second Mitochondria-Derived Activator of Caspases (Smac) or Direct IAP Binding Protein with low isoelectric point, pI (Diablo) is a proapoptogenic mitochondrial protein that is released to the cytosol in response to diverse apoptotic stimuli, including commonly used chemotherapeutic drugs. The current knowledge about structure and function of Smac/Diablo during programmed cell death, both in mitochondrial and receptor pathways are presented. It has been shown that Diablo mainly interacts with IAPs in the cytochrome c/Apaf-1/caspase-9 pathway, and promotes apoptosis. Diablo is released from the mitochondria into the cytosol occurring downstream of cytochrome c release in response to apoptotic stimuli such as irradiation, DNA damage or cytotoxic drugs. In the cytosol, Smac/Diablo interacts and antagonizes inhibitors of apoptosis proteins (IAPs), thus allowing the activation of caspases and apoptosis. This activity has prompted the synthesis of peptidomimetics that could potentially be used in cancer therapy. The role of Smac/DIABLO in colorectal carcinogenesis is ill defined. Data continues to accumulate to suggest that decreased levels of Smac/DIABLO may be important in chemoradiation-resistance to apoptosis in advanced colon cancer.

References

- 1.Korga A, *et al.* (2006) Role of mitochondrial protein Smac/Diablo in regulation of apoptotic pathways Pol Merkur Lekarski. 20(119): 573-6.
- 2.Anguiano-Hernandez YM, *et al.* (2007) Smac/DIABLO and colon cancer. Anticancer Agents Med Chem. 7(4): 467-73.
- 3.Martinez-Ruiz G, *et al.* (2008) Role of Smac/DIABLO in cancer progression. J Exp Clin Cancer Res. 27: 48.

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