Product Information

- Name: SMAC/Diablo Protein, Human (His)
- Accession Number: Q9NR28-1 (A56-D239)
- Molecular Weight: Approximately 22-22 kDa, based on SDS-PAGE under reducing conditions.
- Appearance: Sterile powder (lyophilized).
- Source/Expression System: Recombinant human-derived protein, expressed in E. coli.
- Tag: C-terminal His-tag.
- Purity: ≥ 90%, as determined by reducing SDS-PAGE.
- Endotoxin Level: <1 EU/μg, determined by LAL method.

Biological Activity

- Target and Mechanism: SMAC/Diablo is a core participant in apoptosis. It activates caspases in the cytochrome c/Apaf-1/caspase-9 pathway, antagonizes inhibitor of apoptosis proteins (IAPs), inhibits the binding of BIRC6/bruce to caspases, and destabilizes XIAP/BIRC4.
- Binding Activity: Measured by its binding ability in a functional ELISA. Immobilized Human SMAC at 10 μg/mL (100 μL/well) can bind Biotinylated XIAP. The ED_{50} for this effect is 0.328 μg/mL.

Handling and Storage

- Composition: Lyophilized from a 0.22 μm filtered solution of 50 mM Tris-HCl, 300 mM NaCl, pH 7.4.
- Note: For SPR assays, please replace the buffer. Primary amine components (e.g., Tris, imidazole) can affect protein-coupled chips.
- Reconstitution: It is recommended to reconstitute to a concentration of ≥ 100 μg/mL in ddH_2O.
- Do not reconstitute to a concentration less than 100 μg/mL.
- Centrifuge the vial briefly before opening to collect all lyophilized powder at the bottom.
- After reconstitution, it is stable at 4°C for 1 week or at -20°C for longer periods (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. Avoid repeated freeze-thaw cycles.

Storage:

- Lyophilized powder: Stored at -20°C for up to 2 years from the date of receipt.
- After reconstitution: Store at -80°C for up to 6 months, or at -20°C for up to 1 month (in aliquots).

Precautions

- This product is for research use only and must not be used for clinical diagnosis or treatment.

- Carrier proteins (e.g., 0.1% BSA, 5% HSA, 10% FBS, or 5% Trehalose) are recommended for long-term storage after reconstitution to prevent protein loss due to adsorption to tube walls. Choose a carrier that does not interfere with your specific experiment.
- Always handle according to standard laboratory safety regulations.