

## XIAP Protein, Human (Avi)

<b>Cat. No.:</b>	HY-P73485
<b>Synonyms:</b>	E3 ubiquitin-protein ligase XIAP; ILP; IAP-3; XIAP; API3; BIRC4
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	P98170 (L121-T356)
<b>Gene ID:</b>	331
<b>Molecular Weight:</b>	Approximately 29.1 kDa

### PROPERTIES

<b>Biological Activity</b>	Measured by its binding ability in a functional ELISA. Immobilized recombinant human SMAC-His at 10 µg/mL (100 µl/well) can bind recombinant human XIAP-AVI with a linear range of 0.125-1.0 µg/mL.
<b>Appearance</b>	Lyophilized powder
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of 25 mM Tris, 10 mM DTT, 1% Glycerol, 0.2 M Glutamine Potassium, pH 8.0. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
<b>Storage &amp; Stability</b>	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
<b>Shipping</b>	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

#### Background

The XIAP protein serves as a multifunctional regulator with diverse roles spanning apoptosis, inflammatory signaling, immunity, copper homeostasis, mitogenic kinase signaling, cell proliferation, invasion, and metastasis. As a direct caspase inhibitor, XIAP impedes substrate entry into the active site pockets of CASP3 and CASP7, while also maintaining CASP9 in a monomeric, inactive state. Functioning as an E3 ubiquitin-protein ligase, XIAP orchestrates ubiquitination of several target proteins, including RIPK1, RIPK2, MAP3K2/MEKK2, DIABLO/SMAC, AIFM1, CCS, PTEN, and BIRC5/survivin, thereby regulating NF-kappa-B signaling and other crucial pathways. In the realm of innate immunity, XIAP mediates 'Lys-63'-linked polyubiquitination of RIPK2 downstream of NOD1 and NOD2, activating NF-kappa-B and MAP kinases signaling. Additionally, XIAP influences the BMP signaling pathway, SMAD and MAP3K7/TAK1 dependent pathways, and the Wnt signaling cascade. It plays a role in copper homeostasis by ubiquitinating COMMD1 and also functions as an E3 ubiquitin-protein ligase in the NEDD8 conjugation pathway. Moreover, XIAP protects cells from spontaneous ripoptosome formation, suppresses ripoptosome formation by ubiquitinating RIPK1 and CASP8, and positively regulates Wnt signaling by ubiquitinating TLE proteins. These diverse functions underscore the intricate and pivotal role of XIAP in governing cellular processes across multiple signaling pathways.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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