

## BIRC5 Protein, Human (His-SUMO)

<b>Cat. No.:</b>	HY-P702495
<b>Synonyms:</b>	rHuBIRC5; Baculoviral IAP Repeat-Containing Protein 5; Apoptosis Inhibitor 4; BIRC5; Survivin; BIRC5
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	O15392 (M1-D142)
<b>Gene ID:</b>	332
<b>Molecular Weight:</b>	32.5 kDa

### PROPERTIES

<b>Appearance</b>	Lyophilized powder
<b>Formulation</b>	Lyophilized from a 0.22 $\mu\text{m}$ filtered solution of PBS, 6% Trehalose, pH 7.4.
<b>Endotoxin Level</b>	<1 EU/ $\mu\text{g}$ , determined by LAL method.
<b>Reconstitution</b>	It is not recommended to reconstitute to a concentration less than 100 $\mu\text{g}/\text{mL}$ 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

<b>Background</b>	<p>BIRC5, a versatile protein, plays dual roles in promoting cell proliferation and preventing apoptosis, highlighting its multifaceted functions. As a crucial component of the chromosome passage protein complex (CPC), BIRC5 is integral to chromosome alignment and segregation during mitosis and cytokinesis. It orchestrates CPC movement, directing its localization from the inner centromere in prometaphase to the midbody during cytokinesis, and contributes to central spindle organization by associating with polymerized microtubules. BIRC5 is intricately involved in recruiting CPC to centromeres during early mitosis, binding to histone H3 phosphorylated at 'Thr-3' (H3pT3). Functioning in collaboration with RAN, it aids in mitotic spindle formation, serving as a scaffold for delivering the RAN effector molecule TPX2 to microtubules. Beyond its mitotic functions, BIRC5 counters default apoptosis induction in G2/M phase, and its acetylated form represses STAT3 transactivation of target gene promoters. Additionally, it serves as an inhibitor of CASP3 and CASP7, essential for maintaining mitochondrial integrity and function. Existing as a monomer in the CPC-bound state, BIRC5 efficiently protects cells against apoptosis, while its dimeric form enhances tubulin stability. BIRC5 engages in a complex network of interactions with various proteins, such as histone H3, RAN, tubulin, XIAP/BIRC4, and DIABLO/SMAC, underscoring its pivotal regulatory functions in cellular processes.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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