Apoptosis inhibitor 4/Birc5 Protein, Mouse (P.pastoris, His)

Cat. No.:	HY-P71717
Synonyms:	Birc5; Api4; Iap4Baculoviral IAP repeat-containing protein 5; Apoptosis inhibitor 4; Apoptosis inhibitor survivin; TIAP
Species:	Mouse
Source:	P. pastoris
Accession:	O70201 (1M-140A)
Gene ID:	11799
Molecular Weight:	Approximately 18.3 kDa

PROPERTIES

AA Sequence	M G A P A L P Q I W Q L Y L K N Y R I A T F K N W P F L E D C A C T P E R M A E A G F I H C P T E N E P D L A Q C F F C F K E L E G W E P D D N P I E E H R K H S P G C A F L T V K K Q M E E L T V S E F L K L D R Q R A K N K I A K E T N N K Q K E F E E T A K T T R Q S I E Q L A A
Appearance	Lyophilized powder.
Formulation	Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	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.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	Apoptosis inhibitor 4/Birc5, a versatile protein, assumes dual roles in promoting cell proliferation and thwarting apoptosis. As a crucial component of the chromosome passage protein complex (CPC), Birc5 plays an essential role in orchestrating chromosome alignment and segregation throughout mitosis and cytokinesis. It directs CPC movement, ensuring its localization shifts from the inner centromere in prometaphase to the midbody during cytokinesis, contributing to the organization of the central spindle by associating with polymerized microtubules. Birc5 is instrumental in recruiting CPC to centromeres during early mitosis, binding to histone H3 phosphorylated at 'Thr-3' (H3pT3). Functioning in concert with RAN, Birc5 aids in mitotic spindle formation, acting as a scaffold for the delivery of the RAN effector molecule TPX2 to microtubules. Additionally, it counteracts default induction of apoptosis in G2/M phase and, when acetylated, represses STAT3 transactivation of target gene promoters. Birc5 serves as an inhibitor of CASP3 and CASP7, crucial for the

maintenance of mitochondrial integrity and function. Existing as a monomer in the CPC-bound state, Birc5 protects cells against apoptosis more efficiently than in its homodimeric form. It engages in a complex network of interactions with various proteins, such as histone H3, RAN, tubulin, XIAP/BIRC4, and DIABLO/SMAC, highlighting its multifaceted regulatory functions in cellular processes.

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