PRODUCT INFORMATION

Bcl-xL (human, recombinant)

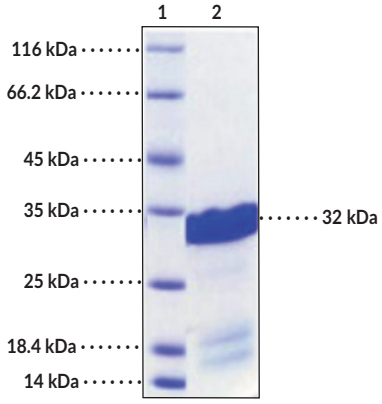
Item No. 32024

Overview and Properties

Synonym:	Bcl-2-like Protein 1
Source:	Active recombinant human C-terminal His-tagged Bcl-xL expressed in *E. coli*
Amino Acids:	1-212
Molecular Weight:	25.2 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥85% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile 20 mM Tris, pH 8.0
Endotoxin Testing:	< 1.0 EU/µg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: Bcl-xL (human, recombinant)

Figure 1: SDS-PAGE Analysis of Bcl-xL

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Description

Bcl-xL is an anti-apoptotic member of the Bcl-2 family of proteins and is the long isoform of the apoptosis regulator Bcl-x formed by alternative splicing.[1] Bcl-xL is composed of a C-terminal helix that acts as a membrane anchor and four highly conserved Bcl-2 homology (BH) domains.[2] The BH1, BH2, and BH3 domains form a hydrophobic cleft that facilitates Bcl-xL heterodimerization with the pro-apoptotic proteins Bax and Bak, resulting in their inhibition, whereas the BH4 domain regulates intracellular calcium levels.[2,3] Bcl-xL is highly expressed during embryogenesis and neuron and lymphocyte development and is primarily localized to the mitochondrial outer membrane.[4] It inhibits the intrinsic apoptotic pathway by inhibiting Bax- or Bak-induced pore formation in the outer mitochondrial membrane, maintaining the mitochondrial membrane potential, and preventing the release of cytochrome *c* into the cytosol and the induction of apoptosis.[5] Increased Bcl-xL levels promote cell migration, invasion, and capillary-like structure formation in MXL90 melanoma and AXL42 glioblastoma cancer cells, which endogenously express high levels of Bcl-xL.[6] Mutation of serine 62 (S62A) in Bcl-xL mimics its phosphorylation and abolishes apoptosis induced by the microtubule inhibitor vinblastine (Item No. 11762) in KB-3 cells.[7] Cayman's Bcl-xL (human, recombinant) protein can be used for binding assay applications. This protein consists of 212 amino acids and has a calculated molecular weight of 25.2 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 32 kDa.

References

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3. Gabellini, C., Trisciuoglio, D., and Del Bufalo, D. Non-canonical roles of Bcl-2 and Bcl-xL proteins: Relevance of BH4 domaine. *Carcinogenesis* **38(6)**, 579-587 (2017).
4. Opferman, J.T. and Kothari, A. Anti-apoptotic BCL-2 family members in development. *Cell Death and Differ.* **25**, 37-45 (2018).
5. Chen, Y., Aaon, M.A., Hsu, Y.-T., *et al.* Bcl-XL regulates mitochondrial energetis by stabilizing the inner membrane potential. *J. Cell Biol.* **195(2)**, 263-276 (2011).
6. Trisciuoglio, D., Tupone, M.G., Desideri, M., *et al.* BCL-XL overexpression promotes tumor progression-associated properties. *Cell Death Dis.* **8(12)**, 3216 (2017).
7. Upreti, M., Galitovskaya, E.N., Chu, R., *et al.* Identification of the major phosphorylation site in Bcl-xL induced by microtubule inhibitors and analysis of its functional significance. *J. Biol. Chem.* **283(51)**, 35517-35525 (2008).

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