

# PRODUCT INFORMATION



## Bcl-xL (human, recombinant)

Item No. 32024

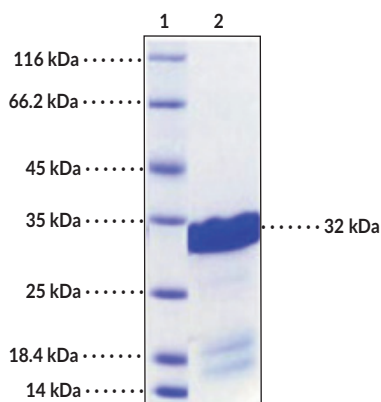
### Overview and Properties

**Synonym:** Bcl-2 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 50 mM Tris, with 10% glycerol, pH 8.0, 5% trehalose, 5% mannitol, and 0.01% Tween 80

**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

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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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.<sup>1</sup> Bcl-xL is composed of a C-terminal helix that acts as a membrane anchor and four highly conserved Bcl-2 homology (BH) domains.<sup>2</sup> 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.<sup>2,3</sup> Bcl-xL is highly expressed during embryogenesis and neuron and lymphocyte development and is primarily localized to the mitochondrial outer membrane.<sup>4</sup> 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.<sup>5</sup> 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.<sup>6</sup> 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.<sup>7</sup> 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

1. Stevens, M. and Oltean, S. Modulation of the apoptosis gene Bcl-x function through alternative splicing. *Front. Genet.* **10**, 804 (2019).
2. Tsujimoto, Y. and Shimizu, S. Bcl-2 family: Life-or-death switch. *FEBS Letters* **466**(1), 6-10 (2000).
3. Gabellini, C., Trisciuglio, D., and Del Bufalo, D. Non-canonical roles of Bcl-2 and Bcl-xL proteins: Relevance of BH4 domain. *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 energetics by stabilizing the inner membrane potential. *J. Cell Biol.* **195**(2), 263-276 (2011).
6. Trisciuglio, 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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