Data Sheet (Cat.No.TMPY-02431)

TargetMol

BCL-XL Protein, Human, Recombinant (His)

General Information

Synonyms:	bcl-xS;PPP1R52;Bcl-X;BCLXL;BCLX;BCLXS;BCL2-like 1;bcl-xL;BCL-XL/S;BCL2L
Protein Construction:	A DNA sequence encoding the human BCL2L1 (NP_612815.1) (Met1-Arg212) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Met 1
Species:	Human
Expression Host:	E. coli
Accession:	Q07817
Molecular Weight:	25.2 kDa (predicted); 30.5 kDa (reducing conditions)

QC Testing

Biological Activity:	1. Measured by its binding ability in a functional ELISA. 2. Immobilized human BID at 10 μg/mL (100 μl/well) can bind biotinylated human BCL2L1, The EC50 of biotinylated human BCL2L1 is 7.1 ng/mL. 3. Immobilized mouse BID at 10 μg/mL (100 μl/well) can bind biotinylated human BCL2L1, The EC50 of biotinylated human BCL2L1 is 7.01 ng/mL.
Purity:	> 85% as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 5 mM Tris, 1% Glycerol, pH 8. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

B-cell lymphoma-extra large (Bcl-xl) is a transmembrane molecule in the mitochondria. Bcl-xL (BCL2L1), belongs to the Bcl-2 family. Members of the bcl-2 family encode proteins that function either to promote or to inhibit

apoptosis. Antiapoptotic members such as Bcl-2 and Bcl-xL prevent PCD in response to a wide variety of stimuli to take part in cancer survival. Conversely, proapoptotic proteins, exemplified by Bax and Bak, can accelerate death and in some instances are sufficient to cause apoptosis independent of additional signals. The crystal and solution structures of a Bcl-2 family member, Bcl-xL is like this: The structures consist of two central, primarily hydrophobic α-helices, which are surrounded by amphipathic helices. A 60-residue loop connecting helices αl and α2 was found to be flexible and non-essential for anti-apoptotic activity. Bcl-xL is characterized as an important factor in autophagy, inhibiting Beclin 1-mediated autophagy by binding to Beclin 1. In addition, Beclin 1, Bcl-2 and Bcl-xL can cooperate with Atg5 or Ca2+to regulate both autophagy and apoptosis. Bcl-xL is also implicated in anoxia induced cell death. The pathway is initiated by the loss of function of the prosurvival Bcl-2 family members Mcl-1 and Bcl-2 / Bcl-XL, resulting in Bax- or Bak-dependent release of cytochrome c and subsequent caspase-9-dependent cell death. Thus, Bcl-xL, the well-characterized apoptosis guards, appears to be important in cell death.

Reference

Vander Heiden MG,et al. (1997) Bcl-xL Regulates the Membrane Potential and Volume Homeostasis of Mitochondria. Cell. 91 (5): 627-37.

Muchmore SW,et al. (1996) X-ray and NMR structure of human Bcl-xL, an inhibitor of programmed cell death. Nature. 381: 335-341.

SharoffEH,et al. (2007) Bcl-2 family members regulate anoxia-induced cell death. Antioxid Redox Signal. 9 (9) : 1405-9.

Zhou F,et al. (2011) Bcl-2 and Bcl-xL play important roles in the crosstalk between autophagy and apoptosis. FEBS J. 278 (3): 403-13.

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