

## BCL6 Protein, Human (GST)

<b>Cat. No.:</b>	HY-P72102
<b>Synonyms:</b>	B cell CLL/lymphoma 6; B cell lymphoma 6 protein; B-cell lymphoma 5 protein; B-cell lymphoma 6 protein; BCL 5; Bcl 6; BCL-5; BCL-6; BCL5; BCL6; BCL6_HUMAN; BCL6A; Protein LAZ-3; ZBTB 27; ZBTB27; Zinc finger protein 51; zinc finger transcription factor BCL6S; ZNF 51; ZNF51
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	P41182 (M1-C706)
<b>Gene ID:</b>	604
<b>Molecular Weight:</b>	Approximately 105.5 kDa

### PROPERTIES

#### AA Sequence

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M A S P A D S C I Q   F T R H A S D V L L   N L N R L R S R D I   L T D V V I V V S R
E Q F R A H K T V L   M A C S G L F Y S I   F T D Q L K C N L S   V I N L D P E I N P
E G F C I L L D F M   Y T S R L N L R E G   N I M A V M A T A M   Y L Q M E H V V D T
C R K F I K A S E A   E M V S A I K P P R   E E F L N S R M L M   P Q D I M A Y R G R
E V V E N N L P L R   S A P G C E S R A F   A P S L Y S G L S T   P P A S Y S M Y S H
L P V S S L L F S D   E E F R D V R M P V   A N P F P K E R A L   P C D S A R P V P G
E Y S R P T L E V S   P N V C H S N I Y S   P K E T I P E E A R   S D M H Y S V A E G
L K P A A P S A R N   A P Y F P C D K A S   K E E E R P S S E D   E I A L H F E P P N
A P L N R K G L V S   P Q S P Q K S D C Q   P N S P T E S C S S   K N A C I L Q A S G
S P P A K S P T D P   K A C N W K K Y K F   I V L N S L N Q N A   K P E G P E Q A E L
G R L S P R A Y T A   P P A C Q P P M E P   E N L D L Q S P T K   L S A S G E D S T I
P Q A S R L N N I V   N R S M T G S P R S   S S E S H S P L Y M   H P P K C T S C G S
Q S P Q H A E M C L   H T A G P T F P E E   M G E T Q S E Y S D   S S C E N G A F F C
N E C D C R F S E E   A S L K R H T L Q T   H S D K P Y K C D R   C Q A S F R Y K G N
L A S H K T V H T G   E K P Y R C N I C G   A Q F N R P A N L K   T H T R I H S G E K
P Y K C E T C G A R   F V Q V A H L R A H   V L I H T G E K P Y   P C E I C G T R F R
H L Q T L K S H L R   I H T G E K P Y H C   E K C N L H F R H K   S Q L R L H L R Q K
H G A I T N T K V Q   Y R V S A T D L P P   E L P K A C

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**Appearance** Lyophilized powder.

**Formulation** Lyophilized from a 0.2 µm solution of 10 mM Tris-HCl, 1 mM EDTA, 6% Trehalose, pH 8.0.

**Endotoxin Level** <1 EU/µg, determined by LAL method.

**Reconstitution** It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH<sub>2</sub>O.

**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**

BCL6, a transcriptional repressor crucial for germinal center (GC) formation and antibody affinity maturation, employs diverse mechanisms of action specific to different lineages and biological functions. It forms complexes with various corepressors and histone deacetylases to repress the transcriptional expression of distinct subsets of target genes. By binding directly to the DNA sequence 5'-TTCCTAGAA-3' (BCL6-binding site) or indirectly inhibiting the transcriptional activity of other factors, BCL6 represses genes involved in differentiation, inflammation, apoptosis, and cell cycle control in GC B-cells. Additionally, it autoregulates its transcriptional expression and indirectly up-regulates certain genes crucial for GC reactions, such as AICDA, through the repression of microRNA expression like miR155. BCL6's pivotal role lies in facilitating rapid proliferation of GC B-cells in response to T-cell dependent antigens, tolerating physiological DNA breaks for immunoglobulin class switch recombination and somatic hypermutation without inducing a p53/TP53-dependent apoptotic response. Furthermore, in follicular helper CD4(+) T-cells (T(FH) cells), it promotes the expression of T(FH)-related genes while inhibiting the differentiation of T(H)1, T(H)2, and T(H)17 cells. BCL6 is also indispensable for the establishment and maintenance of immunological memory in both T- and B-cells, and it suppresses macrophage proliferation through competition with STAT5 for STAT-binding motifs on certain target genes. Responding to genotoxic stress, BCL6 controls cell cycle arrest in GC B-cells in both p53/TP53-dependent and -independent manners. Additionally, it regulates neurogenesis by altering the composition of NOTCH-dependent transcriptional complexes at selective NOTCH targets, leading to epigenetic silencing and neuronal differentiation. BCL6 interacts with various proteins, including corepressors, histone deacetylases, ZBTB7, BCL6B, SCF(FBXO11) complex, PIN1, ZBTB17, CTBP1, NOTCH1 NCID, and SIRT1, modulating its transcriptional activity and degradation in response to different cellular signals.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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