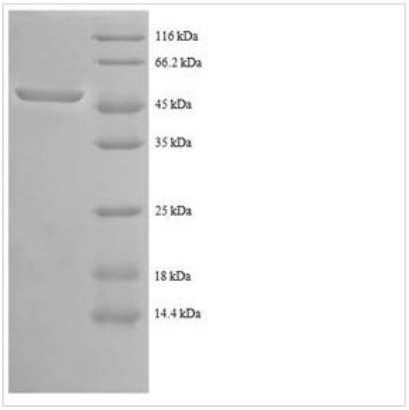
Recombinant Human Tyrosine-protein kinase ABL1 (ABL1), partial

Product Code	CSB-RP043554h
Relevance	Non-receptor tyrosine-protein kinase that plays a role in many key processes linked to cell growth and survival such as cytoskeleton rodeling in response to Extracellular domain stimuli, cell motility and adhesion, receptor endocytosis, autophagy, DNA damage response and apoptosis. Coordinates actin rodeling through tyrosine phosphorylation of proteins controlling cytoskeleton dynamics like WASF3 (involved in branch formation); ANXA1 (involved in mbrane anchoring); DBN1, DBNL, CTTN, RAPH1 and ENAH (involved in signaling); or MAPT and PXN (microtubule-binding proteins). Phosphorylation of WASF3 is critical for the stimulation of lamellipodia formation and cell migration. Involved in the regulation of cell adhesion and motility through phosphorylation of key regulators of these processes such as BCAR1, CRK, CRKL, DOK1, EFS or NEDD9. Phosphorylates multiple receptor tyrosine kinases and more particularly promotes endocytosis of EGFR, facilitates the formation of neuromuscular synapses through MUSK, inhibits PDGFRB-mediated chotaxis and modulates the endocytosis of activated B-cell receptor complexes. Other substrates which are involved in endocytosis regulation are the caveolin (CAV1) and RIN1. Moreover, ABL1 regulates the CBL family of ubiquitin ligases that drive receptor down-regulation and actin rodeling. Phosphorylation of CBL leads to increased EGFR stability. Involved in late-stage autophagy by regulating positively the trafficking and function of lysosomal components. ABL1 targets to mitochondria in response to oxidative stress and thereby mediates mitochondrial dysfunction and cell death. ABL1 is also translocated in the nucleus where it has DNA-binding activity and is involved in DNA-damage response and apoptosis. Many substrates are known mediators of DNA repair: DDB1, DDB2, ERCC3, ERCC6, RAD9A, RAD51, RAD52 or WRN. Activates the proapoptotic pathway when the DNA damage is too severe to be repaired. Phosphorylates TP73, a primary regulator for this type of damage-induced apoptosis. Phosphorylates the caspase CASP9 on 'Tyr-191' and regulates its processing in the apoptotic response to DNA damage. Phosphorylates PSMA7 that leads to an inhibition of proteasomal activity and cell cycle transition blocks
Abbreviation	Recombinant Human ABL1 protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P00519
Alias	Abelson murine leukemia viral oncogene homolog 1Abelson tyrosine-protein kinase 1;Proto-oncogene c-Ablp150
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)

Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	ICLKLVGCKSKKGLSSSSSCYLEEALQRPVASDFEPQGLSEAARWNSKENLLAGPSENDPNLFVALYDFVASGDNTLSITKGEKLRVLGYNHNGEWCEAQTKNGQGWVPSNYITPVNSLEKHSWYHGPVSRNAAEYLLSSGINGSFLVRESESSPGQRSISLRYEGRVYHYRINTASDGKLYVSSESRFNT
Research Area	Apoptosis
Source	E.coli
Target Names	ABL1
Expression Region	4-194aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	48.1kDa
Protein Length	Partial

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

To produce recombinant Human ABL1 protein, a well-established recombinant DNA technology is the key. A DNA template of ABL1 was constructed with N-terminal GST tag using the technique. Once the template was made, the recombinant Human ABL1 protein could be produced with it efficiently. CUSABIO has built a strict QC system to ensure quality. The expression region is 4-194aa of the Human ABL1. The purity of this recombinant is 90% determined by SDS-PAGE.

ABL1 is a protein coding gene that encodes Tyrosine-protein kinase ABL1. According to some studies, ABL1 may have the following features. BCR-ABL1 lymphocytic leukemia is characterized by deletion of Ikaros. Genetic and epigenetic silencing of microRNA-203 enhances oncogene expression of ABL1 and BCR-ABL1. The xenobiotic inhibitor ABL001 can achieve dual targeting of BCR-ABL1. BCR-ABL1 composite mutations in combination with key kinase domain locations confer clinical resistance to ponatine in Ph-chromosome-positive leukemia patients. Combining BCR-ABL1 kinase inhibition and protein degradation may represent a strategy to address BCR-ABL1-

	dependent resistance.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.