

Recombinant Human ABL1 Protein (4-194 aa), GST-tagged

Cat. No. ABL1-1204H Lot. No. (See product label)

SPECIFICATION

Product Overview Recombinant Human ABL1 Protein (4-194 aa) is produced by E. coli expression system. This protein is fused with a GST tag at the N-terminal. Research Area: Apoptosis. Protein Description: Partial.

Species Human

Source E.coli

ProteinLength 4-194 aa

Description Non-receptor tyrosine-protein kinase that plays a role in many key processes linked to cell growth and survival such as cytoskeleton remodeling in response to Extracellular domain stimuli, cell motility and adhesion, receptor endocytosis, autophagy, DNA damage response and apoptosis. Coordinates actin remodeling through tyrosine phosphorylation of proteins controlling cytoskeleton dynamics like WASF3 (involved in branch formation); ANXA1 (involved in membrane 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 chemotaxis and modulates the endocytosis of activated B-cell receptor complexes. Other substrates

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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 remodeling. 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.

Form Tris-based buffer,50% glycerol

Molecular Mass 48.1 kDa

AA Sequence
 ICLKLVGCKSKKGLSSSSSCYLEEALQRPVASFEPQGLSEAARWNSKENLLAGPS
 ENDPNLFVALYDFVASGDNTLSITKGEKLRVVLGYNHNGEWCEAQTKNGQGQWVPSN
 YITPVNSLEKHSWYHGPVSRNAAEYLLSSGINGSFLVRESESSPGQRSISLRYEGRV
 YHYRINTASDGKLYVSSSERFNT

Purity > 90% as determined by SDS-PAGE.

Notes Repeated freezing and thawing is not recommended. Store working aliquots at 4 centigrade for up to one week.

Storage The shelf life is related to many factors, storage state, buffer ingredients, storage

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temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20 centigrade/-80 centigrade. The shelf life of lyophilized form is 12 months at -20 centigrade/-80 centigrade.

Concentration

A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.

GENE INFORMATION

Gene Name [ABL1 c-abl oncogene 1, non-receptor tyrosine kinase \[Homo sapiens \]](#)

Official Symbol [ABL1](#)

Synonyms [ABL1](#); [c ABL](#); [JTK7](#); [p150](#); [ABL](#); [c-ABL](#); [v-abl](#); [bcr/abl](#);

Gene ID [25](#)

mRNA Refseq [NM_005157](#)

Protein Refseq [NP_005148](#)

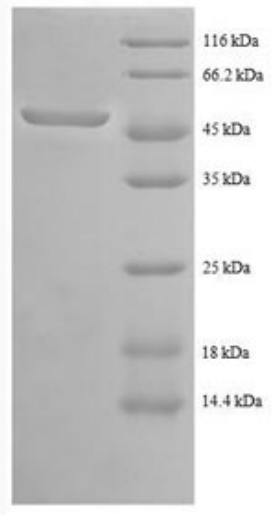
MIM [189980](#)

UniProt ID [P00519](#)

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

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