

Product datasheet for **MC229382**

Abl1 (NM_001283046) Mouse Untagged Clone

Product data:

Product Type: Expression Plasmids
Product Name: Abl1 (NM_001283046) Mouse Untagged Clone
Tag: Tag Free
Symbol: Abl1
Synonyms: Abl; AI325092; c-Abl; E430008G22Rik
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
Fully Sequenced ORF: >MC229382 representing NM_001283046
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGATATCTTTTGACCTTCTCAGTGATGAGCTGCACTTGAACCTTCTCGTTTTGGATGTAGAAGCCCTGC
 AGAGGCCAGTGGCATCTGACTTTGAGCCCCAGGGTCTCAGCGAAGCAGCTCGATGGAACCTCAAGGAAAA
 CCTTCTTGCTGGGCCAGTGAAAATGACCCCACTTTTTGTGGCACTCTATGATTTTGTGGCCAGTGG
 GATAACACTCTCAGCATCACTAAAGGTGAAAAGCTCCGGGTCTTGGGTTATAATCACAATGGGGAATGGT
 GTGAAGCCCAACGAAAAATGGCCAAGGATGGGTCCCAAGCAACTACATCACCCCGTCAACAGCCTGGA
 GAAACATTCCTGGTATCATGGCCCTGTATCTCGGAATGCTGCTGAGTATCTGCTGAGCAGCGGAATCAAC
 GGCAGCTTCTTAGTGCGGGAGAGTGAGAGTAGCCCTGGCCAGAGATCCATCTCGCTGCGGTATGAAGGGA
 GGGTGTACCACTACAGGATCAACACTGCCTCTGATGGCAAGCTGTACGTGTCTCCGAGAGCCGCTTCAA
 CACTCTGGCTGAGTTAGTTCACCATCACTCCACGGTGGCTGATGGCCTCATCACCACACTCCACTACCCA
 GCTCCCAAGCGCAACAAGCCCACTATCTACGGTGTGTCCCCAACTACGACAAGTGGGAAATGGAGCGCA
 CCGACATCACCATGAAGCACAAGTTGGGTGGAGGCCAGTACGGGGAGGTGTACGAGGGCGTTTGGAAAGAA
 GTACAGCCTCACTGTGGCCGTGAAGACCTTGAAGGAGGACACCATGGAGGTGGAGGATTCCTGAAGGAA
 GCGGCGGTGATGAAGGAGATCAAACACCCTAACCTGGTGCAGCTGCTAGGGGTGTGTACCCGGAACCA
 CATTCTACATAATCACTGAGTTCATGACCTATGGGAACCTGCTGGACTACCTGAGGGAGTGAACCGGCA
 GGAGGTGAGCGCCGTGGTACTGCTCTACATGGCCACACAGATCTCATCAGCCATGGAGTACTTGGAGAAG
 AAGAACTTCATCCACAGAGACCTTGCTGCCGGAACCTGCCTGGTAGGGGAAAACCACTTGGTGAAGGTGG
 CTGATTTTGGCCTGAGCAGGTTGATGACAGGGGACACCTACACGGCCATGCTGGAGCCAAATCCCCAT
 CAAATGGACCGCACCTGAGAGCCTGGCCTACAACAAGTTCTCCATCAAGTCGGACGTGTGGCATTGGGA
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 AGCTGCTGAAAAAGACTACCGCATGGAGCGCCCTGAAGGCTGCCCGGAGAAGGTCTACGAGCTCATGCG
 AGCATGTTGGCAGTGAACCCCTCTGACCGCCCTCCTTTGCTGAAATCCACCAAGCCTTTGAAACCATG
 TTCCAGGAATCCAGTATCTCAGATGAGGTGGAGAAGGAGCTGGGGAAACGAGGCACGAGAGGAGGTGCTG



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GGAGTATGCTGCAGGCCCCAGAGCTGCCACCAAGACCAGAACCTGCAGGAGAGCAGCTGAGCAGAAAGA
TGGCCTGACACCCCTGAGCTGCTCCACACGAAGGGCCTGGGAGAAAGCGATGCACTGGACAGTGAGCCT
GCTGTATCGCCACTGCTTCTCGGAAAGAGCGCGGGCCCCAGACGGCAGCCTAAATGAAGATGAGCGCC
TTCTCCCCAGAGACAGAAAGACCAACCTGTTACAGCGCTTTGATCAAGAAGAAGAAGAAAATGGCGCCGAC
GCCCCCTAAGCGCAGCAGTTCTTCCGAGAGATGGATGGCCAGCCAGACCCGAGAGGGGCTAGTGAGGAT
GACAGCAGGGAACCTCTGCAATGGACCACCAGCTCTCACCTCAGACGCAGCAGAGCCTACCAAGTCCCCAA
AGGCCAGCAATGGGGCTGGCGTCCCTAATGGAGCCTTCCGGGAGCCGGCAACTCAGGCTTCCGTTCTCC
CCACATGTGGAAAAGTCCAGCACACTGACCGGGAGCCGCTGGCTGCTGCCGAAGAGGAGAGCGGCATG
AGCTCCAGTAAGCGCTTCTGCGTTCTTGTTCGGCCTCCTGCATGCCCATGGGGCAAGGGACACAGAGT
GGCGGTGCGTACGCTGCCTCGAGACTGCCGTCTGCTGGCAAGCAGTTTGAATCATCCACCTTTGGAGG
GCACAAAAGCGAAAAGCCAGCTCTGCCTCGGAAACGCACCAGTGAGAGCAGGTCTGAGCAGGTGGCCAAA
AGCACGGCGATGCCCCCTCCCGGCTGGTGAAGAAGAACGAGGAGGCTGCTGAAGAAGGCTTCAAAGACA
CAGAATCCAGCCCTGGCTCCAGCCCTCCAGCTTGACTCCCAAACCTCCCGCAGGCAGGTCACTGCCTC
TCCTTCTCTGGCTCTCTACAAGGAAGAGGCCACCAAGGGCAGTGCTCAGGCATGGGGACTCCGGCC
ACTGCAGAGCCAGCACCCCCAGCAACAAGTGGGCCTCAGCAAGGCCTCCTCTGAGGAGATGCGCGTAA
GGAGGCACAAGCAGACTCGGAGTCCCCAGGGAGAGACAAGGGGCGACTGGCTAAGCTCAAGCTGCCCC
GCCGCTCCTCCTGCCTGCACAGGAAAAGCAGGCAAGCCCGCACAGAGCCCCAGCCAAGAGGCCGGGGAG
GCAGGGGGGCCCAAAAGACAAAATGCACGAGTCTGGCTATGGATGCTGTGAACACTGACCCCAACAGG
CCGGCCCCACTGGAGAAGGACTGAGAAAGCCTGTGCCCCATCTGTGCCAAAGCCCCAGTCGACGGCTAA
GCCTCCAGGGACTCCCACCAGCCCGTCTCCACCCCTCCACAGCACCAGCTCCTTACCCTGGCTGGG
GACCAGCAGCCATCTTCTGCCGCTTATCCCCCTCATCAACCCGTGTGTCTTATAGGAAGACCCGCC
AGCCGCGAGAGCGCATTGCCAGTGGCACCATCACCAAGGGTGTGGTTCTGGACAGTACTGAGGCCCTGTG
CCTTGCCATCTCCCGAACTCAGAGCAGATGGCCAGCCACAGTGTACTGGAGGCTGGCAAGAACCTG
TACACTTTCTGTGTGAGCTATGTGGACTCTATCCAGCAGATGAGGAACAAGTTTGCTTCCGTGAGGCTA
TCAACAAGCTGGAGAGCAACCTCCGAGAGCTGCAGATCTGCCCTGCCACAGCCTCCAGTGGGCCAGCTGC
CACCCAAGACTTCAGCAAGCTGCTCAGCTCTGTGAAGGAGATCAGCGACATTGTCCGGAGGTAG

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ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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- Restriction Sites:** SgfI-MluI
- ACCN:** NM_001283046
- Insert Size:** 3354 bp
- OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
- OTI Annotation:** Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
- Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_001283046.1](#), [NP_001269975.1](#)

RefSeq Size: 7367 bp

RefSeq ORF: 3354 bp

Locus ID: 11350

UniProt ID: [P00520](#)

Cytogenetics: 2 B

Gene Summary:

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 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 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. In response to oxidative stress, phosphorylates serine/threonine kinase PRKD2 at 'Tyr-717' (By similarity). 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. Regulates T-cell differentiation in a TBX21-dependent manner (PubMed:21690296). Phosphorylates TBX21 on tyrosine residues leading to an enhancement of its transcriptional activator activity (PubMed:21690296).[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (4) contains an alternate 5' exon compared to variant 1, and uses an alternate downstream start codon compared to variant 1. The resulting protein (isoform d) has a shorter and distinct N-terminus compared to isoform a.