ABL1 (Mouse), Active

Recombinant protein expressed in Sf9 cells

Cat# CY-SPA03

Lot No. K248-2
5 µg 0.1 µg/µl

Background:

ABL1 protooncogene encodes a cytoplasmic and nuclear protein tyrosine kinase that has been implicated in processes of cell differentiation, cell division, cell adhesion, and stress response. Activity of ABL protein is negatively regulated by its SH3 domain and deletion of the SH3 domain turns ABL1 into an oncogene (1). Translocation and head-to-tail fusion of the BCR and ABL1 genes is present in many cases of chronic myelogeneous leukemia (2). The DNA-binding activity of the ubiquitously expressed ABL1 tyrosine kinase is regulated by CDK1-mediated phosphorylation, suggesting a cell cycle function for ABL1.

Product Description:

Recombinant mouse ABL1 (27-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag. The gene accession number is NM_009594.

Gene Aliases:

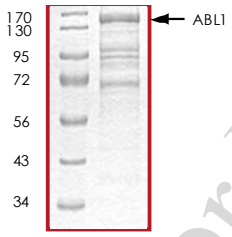
ABL; JTK7; p150; c-ABL; v-abl

Formulation:

Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 25% glycerol.

Purity & Molecular Weight:

The purity was determined to be >70% by densitometry. Approx. MW 135kDa.



Storage:

Store product at –70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

1 year at –70 °C from date of shipment.

Specific Activity:

The specific activity was determined to be 844 nmol /min/mg as per Activity Assay Protocol.

Activity Assay Protocol:

Assay activity of the kinase in a 25 µL reaction consisting of 5 µL of 5 X Kinase Assay Buffer, 5 µL of 1 mg/ml the Substrate Solution, 10 µL of diluted kinase and 5 µL of 250 µM ATP solution containing [gamma ^{32}P] ATP (0.167 µCi/µL). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20 µL of the reaction mixture onto phosphocellulose P81 paper. Air-dry the P81 paper and sequentially wash 4 times for approximately 10 minutes each in 1% phosphoric acid with constant gentle stirring. Count the P81 paper in a liquid scintillation counter.

Substrate Solution:

Abltide synthetic peptide substrate (EAIYAAPFAKKK) diluted in distilled H_2O to a final concentration of 1mg/ml.

5 X Kinase Assay Buffer:

25mM MOPS, pH 7. 2, 12.5mM β-glycerol-phosphate, 25mM MgC12, 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

References:

1.Barila, D. et al : An intramolecular SH3-domain interaction regulates c-Abl activity. Nature Genet. 18: 280-282, 1998.

2.Goldman, J M. et al : Targeting the BCR-ABL tyrosine kinase in chronic myeloid leukemia. New Eng. J. Med. 344: 1084-1086, 2001.

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