Abl Protein Tyrosine Kinase (Abl)

1-800-632-7799
info@neb.com
www.neb.com

P6050S 0091208130 81

P6050S

2,000 units **100,000 U/ml** **Lot: 0091208**

RECOMBINANT **Store at –70°C** **Exp: 8/13**

Description: Abl Protein Tyrosine Kinase (Abl) is a truncated form of the v-Abl Protein Tyrosine Kinase, a partner in the Gag-Abl fusion protein of the Abelson murine leukemia virus. Abl contains 407 amino acids (residues 237–643 of the p120-gag-abl polyprotein), which include the kinase catalytic domain, SH2 domain on the N-terminus and the I237M mutation. This truncated form of v-Abl is identical to the normal c-Abl (1–3). Abl is autophosphorylated on tyrosine(s)(2).

Recognition Determinants: The recognition motif for phosphorylation by Abl is I/V/L**Y**XXP/F. Abl, like many cytosolic protein tyrosine kinases, preferentially phosphorylates sites recognized by its own SH2 domain, selects substrates with large hydrophobic amino acids at the +3 position and β-branched amino acids at the -1 position (4).

Source: Isolated from a strain of *E. coli* that carries the truncated Abl Protein Kinase encoded by the Abelson murine leukemia virus under the control of a T7 expression system (kindly provided by Dr. S. Goff).

Supplied in: 100 mM NaCl, 50 mM HEPES (pH 7.5 @ 25°C), 0.1 mM EDTA, 1 mM DTT, 0.01% Brij 35 and 50% glycerol.

Reagents Supplied with Enzyme:
10X NEBuffer for Protein Kinases (PK).

Reaction Conditions: 1X NEBuffer for PK (NEB #B6022), supplemented with 200 µM ATP (NEB #P0756) and gamma-labeled ATP to a final specific activity of 100–500 µCi/µmol. **Incubate at 30°C**.

1X NEBuffer for PK:
50 mM Tris-HCl
10 mM $MgCl_2$
0.1 mM EDTA
2 mM DTT
0.01% Brij 35
pH 7.5 @ 25°C

Note that optimal incubation times and enzyme concentrations must be determined empirically for each particular substrate.

Unit Definition: One unit is defined as the amount of Abl required to catalyze the transfer of 1 pmol of phosphate to the Abl Peptide Substrate, EAI**Y**AAPFAKKK (100 µM) in 1 minute at 30°C in a total reaction volume of 25 µl (4).

Specific Activity: 13,000,000 units/mg.

Molecular Weight: 45 kDa.

Quality Assurance: Abl contains no detectable protease or phosphatase activities.

Quality Control Assays

Protease Activity: After incubation of 500 units of Abl Protein Tyrosine Kinase (Abl) with a standard mixture of proteins for 2 hours at 30°C, no proteolytic activity could be detected by SDS-PAGE analysis.

Phosphatase Activity: After incubation of 500 units of Abl with 50 mM *p*-Nitrophenyl-phosphate for 2 hours at 30°C, no phosphatase activity could be detected by spectrophotometric analysis.

Heat Inactivation: 65°C for 20 minutes

Notes On Use: Avoid freeze/thaw cycles. Can be stored for 2 weeks or less at –20°C.

References:

1. Reddy, P.E. et al. (1983) *Proc. Natl. Acad. Sci. USA* 80, 3623–3627.
2. Foulkes, J.G. et al. (1985) *J. Biol. Chem.* 260, 8070–8077.
3. Oppi, C. et al. (1987) *Proc. Natl. Acad. Sci. USA* 84, 8200–8204.
4. Songyang, Z. et al. (1995) *Nature* 373, 536–539.

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