



C-TAK1 Positive Control

Product Data Sheet

For Research Use Only, Not for use in diagnostic procedures

C-TAK1 Positive Control

(Human, full length, recombinant enzyme expressed in *E. coli*.)

Cat# CY-E1162-3

Lot No. 10B04

2 units (0.005 units / μ L)

Product Description: Human full length C-TAK1, containing a *N*-terminal GST tag, expressed in *E. coli*. Purified by GSH agarose chromatography. The C-TAK1 Positive control is designed to use for Checkpoint Kinase Assay/Inhibitor Screening Kit-1 [Cat# CY-1162]. The C-TAK1 Positive Control should be added to the well at 10 m units/well. For instance, diluted positive control 1:5, use 10 μ L for 1 assay. Unused C-TAK1 Positive control should be stored at -70°C.

Product Size: Full length C-TAK1: 2 units/400 μ L

Formulation: The C-TAK1 Positive Control is supplied frozen in a buffer containing 20mM HEPES-KOH (pH 7.5), 1 % BSA, 8mM 2-Mercaptoethanol, 50mM NaCl, 0.03 % Brij35 and 50% glycerol.

Source: Human full length C-TAK1, containing *N*-terminal GST tag, expressed in *E. coli*.

Molecular Weight: C-TAK1 demonstrates a double 116 kDa and 72 kDa bands by SDS-PAGE analysis.

Purity: C-TAK1 is greater than 75% pure as determined by SDS-PAGE analysis.

Substrates: C-TAK1 phosphorylates a number of substrates, including PKP2, p53, Cdc25A, Cdc25B and Cdc25C.

Inhibitors: Effective C-TAK1 inhibitor has not been discovered yet.

Unit Definitions: One unit is defined as the amount of kinase required to incorporate 1 nmol of phosphate into the GST-Cdc25C (167-267), per minute at 30°C.

Assay Conditions: Assay activity of C-TAK1 in a 50 μ L reaction containing 20 mM Hepes KOH (pH 7.5), 5 mM MgCl₂, 1 mM DTT, 100 μ M [γ -³²P] ATP (1 μ Ci), and 4 μ g of GST-Cdc25C fusion protein. Start the reaction by adding 10 μ L of the enzyme, diluted 50-fold in a buffer containing 20 mM Hepes KOH (pH 7.5), 1 mM DTT, 0.03 % Brij35. Incubate for 30 minutes at 30°C. Terminate the reaction by adding 600 μ L of cold 10 % TCA solution containing 0.2 % sodium pyrophosphate and stand on ice for 15 min. Filtrate acid insoluble material through GFC filters (Whatman Inc.), wash 4 times with 1 % TCA and rinse filters with ethanol. Dry filters and count in a liquid scintillation counter.

Storage and Stability: Stable for 12 months at -70°C from date of shipment. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Aliquot enzyme to avoid repeated freezing and thawing.



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Related Products:

- *Checkpoint Kinase Assay/Inhibitor Screening Kit-1: Cat# CY-1162
- *Chk1 Positive Control: Cat# CY-E1162-1
- *Chk2 Positive Control: Cat# CY-E1162-2

General References:

1. Peng, CY, *et al.*, *Cell Growth Differ.* **9**: 197-208, 1998.
2. Muller J, Ory S, Copeland T, Piwnica-Worms H, Morrison DK. *Mol Cell.* **8**(5):983-93, 2001
3. Kohn EA, Ruth ND, Brown MK, Livingstone M, Eastman A. *J Biol Chem.* **19**;277(29):26553-64, 2002
4. Muller J, Ritt DA, Copeland TD, Morrison DK. *EMBO J.* **22**(17):4431-42, 2003

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