

# PathScan® Total Chk1 Sandwich ELISA Antibody Pair



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✓ 1 Kit  
(4 X 96 assays)

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**For Research Use Only. Not For Use In Diagnostic Procedures.**

Entrez-Gene ID #1111  
Swiss-Prot Acc. #014757

## Species Cross-Reactivity: H

**Description:** CST's PathScan® Total Chk1 Sandwich ELISA Antibody Pair is being offered as an economical alternative to our PathScan® Total Chk1 Sandwich ELISA Kit #7872. Capture and detection antibodies (100X stocks) and an HRP-conjugated secondary antibody (1000X stock) are supplied. Sufficient reagents are supplied for 4 x 96 well ELISAs. The Chk1 mouse capture antibody is coated onto a 96 well microplate overnight in PBS. After blocking, cell lysates are added, followed by Chk1 detection antibody and anti-rabbit IgG HRP conjugated antibody. HRP substrate, TMB, is added for color development. The magnitude of the absorbance at 450 nm is proportional to the quantity of Total Chk1.

## Reagents not supplied:

Phosphate Buffered Saline (PBS-20X) #9808

Phosphate Buffered Saline with Tween-20 (PBST-20X) #9809

Cell Lysis Buffer (10X) #9803

TMB Substrate #7004

STOP Solution #7002

Blocking Buffer: 1X PBS/0.05% Tween-20, 1% BSA

96 Well Microplates\*\*

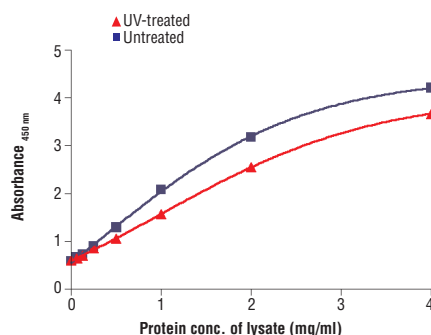
Microplate Reader

\*\* Antibody Pairs have been validated on Corning® 96 Well Clear Polystyrene High Bind Stripwell™ Microplates (#2592) and Corning® 96 Well EIA/RIA Easy Wash™ Clear Flat Bottom Polystyrene High Bind Microplates (#3369).

**Notes:** Antibody pairs have been optimized using recommended buffers, reagents, plates and the included protocol. Solutions should be made fresh daily.

**Background:** Chk1 kinase acts downstream of ATM/ATR kinase to play an important role in DNA damage checkpoint control, embryonic development and tumor suppression (1). Activation of Chk1 involves phosphorylation of Ser317 and Ser345 and occurs in response to blocked DNA replication and certain forms of genotoxic stress (2). Chk1 is also phosphorylated at Ser280 and Ser296 following DNA damage. Activated Chk1 can inactivate cdc25C via phosphorylation at Ser216, blocking the activation of cdc2 and transition into mitosis (3). Chk1 can also phosphorylate p53 at Ser20 *in vitro* (4).

Products Included	Volume	Cap Color	Storage
Chk1 Mouse Capture Antibody (100X)	0.4 ml	Pink	4°C
Chk1 Rabbit Detection Antibody (100X)	0.4 ml	Blue	4°C
Anti-Rabbit IgG HRP-Linked Antibody (1000X)	0.04 ml	Red	-20°C



The relationship between lysate protein concentration from untreated and UV-treated HeLa cells and the absorbance at 450 nm using PathScan® Total Chk1 Sandwich ELISA Antibody Pair #7873 is shown. HeLa cells were treated with UV at 100 mJ, incubated for 60 minutes at 37°C and then lysed.

**Storage:** Chk1 capture antibody and Chk1 detection antibody are stored at 4°C.

Anti-Rabbit IgG-HRP Linked Antibody is stored at -20°C.

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

## Background References:

- (1) Martinho, R.G. et al. (1998) *EMBO J.* 17, 7239–7249.
- (2) Zhao, H. et al. (2001) *Mol. Cell. Biol.* 21, 4129–4139.
- (3) Zeng, Y. et al. (1998) *Nature* 395, 507–510.
- (4) Shieh, S. et al. (2000) *Genes Dev.* 14, 289–300.

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebra fish B—bovine

Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected

Species enclosed in parentheses are predicted to react based on 100% sequence homology.