

#3255 Store at -20C

TTK Antibody

Cell Signaling
TECHNOLOGY®Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: WB, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 95	Source: Rabbit	UniProt ID: #P33981	Entrez-Gene Id: 7272
-------------------------	------------------	----------------------------	-----------------	-------------------	------------------------	-------------------------

Product Usage
Information

Application

Western Blotting

Dilution

1:1000

Immunoprecipitation

1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

TTK Antibody detects endogenous levels of total TTK protein. TTK, also known as PYT (*Phosphotyrosine Picked Threonine Kinase*), is the human homolog of MSP1 (*Monopolar Spindle 1*) in budding yeast and murine ESK (*Embryonal Carcinoma STY Kinase*).Species predicted to
react based on 100%
sequence homology:

Monkey

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu137 of human TTK. Antibodies were purified by affinity chromatography.

Background

TTK (Mps1, PYT) is a cell cycle regulated dual specificity kinase present in rapidly proliferating tissues and cell lines (1-3). TTK localizes to kinetochores and centromeres and is an essential component of the mitotic spindle checkpoint as well as centrosome duplication (4-6). The mitotic checkpoint inhibits entry into anaphase until all chromosomes are attached to the spindle; inhibition of this process leads to genomic instability and tumorigenesis. Phosphorylation of the BLM helicase at Ser144 by TTK maintains chromosome stability during mitosis (7). Small molecule inhibitors of TTK can block the spindle checkpoint response, thereby making TTK a potential therapeutic target (8,9).

TTK also participates in the DNA damage response by directly phosphorylating and activating the cell cycle checkpoint kinase Chk2 at Thr68. Two targets phosphorylated by Chk2 are the cell cycle phosphatase cdc25 and the transcription factor p53. Inactivation of cdc25 phosphatase results in the accumulation of inactive cyclin B and cell cycle arrest following DNA damage. Phosphorylation of p53 by active Chk2 stabilizes the transcription factor and promotes cell cycle arrest and apoptosis in response to DNA damage (10).

Background References

1. Mills, G.B. et al. (1992) *J. Biol. Chem.* 267, 16000-16006.
2. Stucke, V.M. et al. (2002) *EMBO J.* 21, 1723-1732.
3. Lindberg, R.A. et al. (1993) *Oncogene* 8, 351-359.
4. Fisk, H.A. et al. (2003) *Proc. Natl. Acad. Sci. USA* 100, 14875-14880.
5. Dou, Z. et al. (2003) *Cell Res.* 13, 443-449.
6. Abrieu, A. et al. (2001) *Cell* 106, 83-93.
7. Leng, M. et al. (2006) *Proc. Natl. Acad. Sci. USA* 103, 11485-11490.
8. Schmidt, M. et al. (2005) *EMBO Rep.* 6, 866-872.
9. Dorer, R.K. et al. (2005) *Curr. Biol.* 15, 1070-1076.
10. Wei, J.H. et al. (2005) *J. Biol. Chem.* 280, 7748-7757.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key**WB:** Western Blotting **IP:** Immunoprecipitation**Cross-Reactivity Key****H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected**Trademarks and Patents**

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.**Limited Uses**

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.