

#4352 Store at -20°C

Hck Antibody

100 µl
 (10 western blots)

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rev. 07/19/10

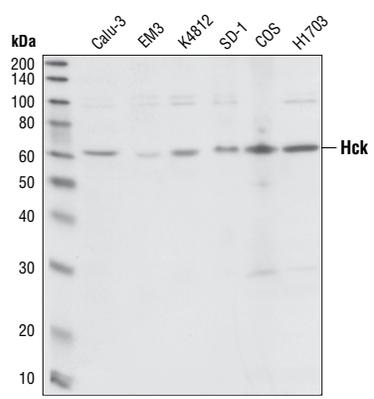
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, Mk	61 kDa	Rabbit**

Background: Hck (hemopoietic cell kinase) is a protein tyrosine kinase of the Src family prominently expressed in the lymphoid and myeloid lineages of hemopoiesis (1). It participates in transducing a variety of extracellular signals, which ultimately affect cellular processes including proliferation, differentiation and migration. The well-defined modular structure of Hck comprises a relatively divergent, NH2-terminal "unique" domain, which is subject to post-translational lipid modifications thereby targeting Hck to the plasma membrane. Src homology 3 (SH3) and 2 (SH2) domains, and a tyrosine kinase catalytic domain follow the "unique" domain. The catalytic activity of Hck is regulated, both positively and negatively, by tyrosine phosphorylation of highly conserved tyrosine (Y) residues. Phosphorylation of a single conserved Tyr499 residue in the COOH terminus of Hck by the protein kinase Csk renders Hck inactive as a result of an intramolecular interaction between the phosphorylated tyrosine (pY) residue and its own SH2 domain. Disruption of this interaction, either as a result of dephosphorylation, or substitution of the COOH-terminal regulatory Y residue with phenylalanine (F; e.g., HckY499F), or COOH-terminal truncation mutations as observed in the virally transduced v-Src oncoprotein, results in constitutive activation of Hck. In contrast to phosphorylation of the COOH-terminal regulatory tyrosine residue, auto-phosphorylation of a tyrosine residue (Tyr388) within the kinase domain of Hck acts to positively regulate its catalytic activity. Thus, activation of Hck requires both disruption of the COOH-terminal regulatory tyrosine-SH2 domain interaction and autophosphorylation of the regulatory tyrosine residue within the kinase domain (2, 3). The dysfunction or dysregulation of Hck may contribute to the pathogenesis of some human leukemias (4).

Specificity/Sensitivity: Hck Antibody detects endogenous levels of total Hck protein. This antibody does not cross-react with family members Src, Lyn and Fyn.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to amino-terminal residues of human Hck. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of cell extracts from various cell lines using Hck Antibody.

Background References:

- (1) Quintrell, N. et al. (1987) *Mol. Cell. Biol.* 7, 2267–2275.
- (2) Ziegler, C.A. et al. (1989) *Mol. Cell. Biol.* 9, 2724–2727.
- (3) Kefalas, P. et al. (1995) *Int. J. Biochem. Cell. Biol.* 27, 551–563.
- (4) Hu, Y. et al. (2004) *Nat. Genet.* 36, 453–461.

Entrez-Gene ID #3055
Swiss-Prot Acc. #P08631

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.

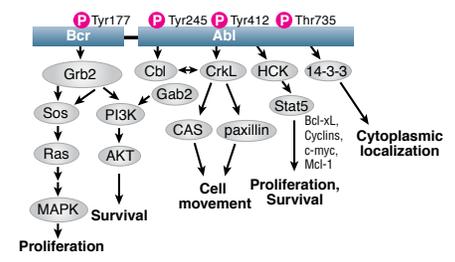
*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
 Western Blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.



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