

# PRKY/X (H-120): sc-67384

## BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. PRKY (protein kinase, Y-linked) and PRKX (protein kinase, X-linked) are members of the Ser/Thr protein kinase family, both of which belong to the subfamily of cAMP-dependent kinases. Encoded by a gene that is located near the pseudoautosomal region on chromosome Y, PRKY contains one protein kinase domain through which it catalyzes the ATP-dependent phosphorylation of target proteins. Functioning in a similar manner to PRXY, PRKX contains one protein kinase domain and is essential for macrophage differentiation and renal epithelial cell migration. Defects in the genes encoding PRKY and PRXX are associated with sex reversal disorder, namely XX in males and XY in females.

## REFERENCES

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2. Schiebel, K., et al. 1997. Abnormal XY interchange between a novel isolated protein kinase gene, PRKY and its homologue, PRKX, accounts for one third of all (Y+)XX males and (Y-)XY females. *Hum. Mol. Genet.* 6: 1985-1989.
3. McElreavey, K. and Fellous, M. 1999. Sex determination and the Y chromosome. *Am. J. Med. Genet.* 89: 176-185.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300083. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Su, M.T., et al. 2006. Presence of TSPY transcript and absence of transcripts of other Y chromosomal genes in a case of microscopic gonadoblastoma. *Gynecol. Oncol.* 103: 357-360.
6. Jobling, M.A., et al. 2007. Structural variation on the short arm of the human Y chromosome: recurrent multigene deletions encompassing Amelogenin Y. *Hum. Mol. Genet.* 16: 307-316.
7. Murphy, K.M., et al. 2007. Constitutional duplication of a region of chromosome Yp encoding AMELY, PRKY and TBL1Y: implications for sex chromosome analysis and bone marrow engraftment analysis. *J. Mol. Diagn.* 9: 408-413.
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## CHROMOSOMAL LOCATION

Genetic locus: PRKY (human) mapping to Yp11.2, PRKX (human) mapping to Xp22.3.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## SOURCE

PRKY/X (H-120) is a rabbit polyclonal antibody raised against amino acids 1-120 mapping at the N-terminus of PRKY of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PRKY/X (H-120) is recommended for detection of PRKY and PRKX of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of PRKY: 32 kDa.

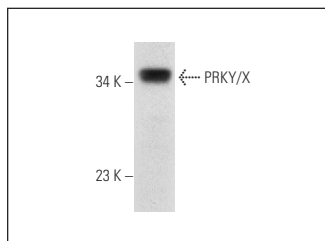
Molecular Weight of PRKX: 41 kDa.

Positive Controls: human liver extract: sc-363766 or A-375 cell lysate: sc-3811.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



PRKY/X (H-120): sc-67384. Western blot analysis of PRKY/X expression in human liver tissue extract.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.