

# PLC-XD3 (K-14): sc-137672

## BACKGROUND

Phosphoinositide-specific phospholipase C (PLC) plays a crucial role in the initiation of receptor-mediated signal transduction through the generation of two second messengers, inositol 1,4,5-triphosphate and diacylglycerol, from phosphatidylinositol 4,5-bisphosphate. PLC isozymes are divided into subclasses based on structure and activation mechanisms. PLC-XD3 (phosphatidylinositol-specific phospholipase C, X domain containing 3), also known as PI-PLC X domain-containing protein 3, is a 321 amino acid protein that contains one PI-PLC X-box domain, which is conserved from prokaryotes to mammals and is present in many PLC isozymes. Both X-box and Y-box domains are also important for catalytic activity in PLC proteins. PLC-XD3 is targeted by D5S430, which is a potential prognostic molecular survival marker for tumors without preoperative treatment. The gene that encodes PLC-XD3 maps to human chromosome 5p13.1.

## REFERENCES

1. Fukamachi, S. and Meyer, A. 2007. Evolution of receptors for growth hormone and somatolactin in fish and land vertebrates: lessons from the lungfish and sturgeon orthologues. *J. Mol. Evol.* 65: 359-372.
2. Kothapalli, K.S., et al. 2007. Differential cerebral cortex transcriptomes of baboon neonates consuming moderate and high docosahexaenoic acid formulas. *PLoS ONE* 2: e370.
3. Schinke, T., et al. 2008. The protein tyrosine phosphatase Rptp $\zeta$  is expressed in differentiated osteoblasts and affects bone formation in mice. *Bone* 42: 524-534.
4. Fulp, C.T., et al. 2008. Identification of Arx transcriptional targets in the developing basal forebrain. *Hum. Mol. Genet.* 17: 3740-3760.
5. Moran, L.B. and Graeber, M.B. 2008. Towards a pathway definition of Parkinson's disease: a complex disorder with links to cancer, diabetes and inflammation. *Neurogenetics* 9: 1-13.
6. Romain, B., et al. 2010. Allelotyping identification of genomic alterations in rectal chromosomally unstable tumors without preoperative treatment. *BMC Cancer* 10: 561.

## CHROMOSOMAL LOCATION

Genetic locus: PLCXD3 (human) mapping to 5p13.1; Plcx3 (mouse) mapping to 15 A1.

## SOURCE

PLC-XD3 (K-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PLC-XD3 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-137672 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PLC-XD3 (K-14) is recommended for detection of PLC-XD3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with PLC-XD1 or PLC-XD2.

PLC-XD3 (K-14) is also recommended for detection of PLC-XD3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC-XD3 siRNA (h): sc-91727, PLC-XD3 siRNA (m): sc-152301, PLC-XD3 shRNA Plasmid (h): sc-91727-SH, PLC-XD3 shRNA Plasmid (m): sc-152301-SH, PLC-XD3 shRNA (h) Lentiviral Particles: sc-91727-V and PLC-XD3 shRNA (m) Lentiviral Particles: sc-152301-V.

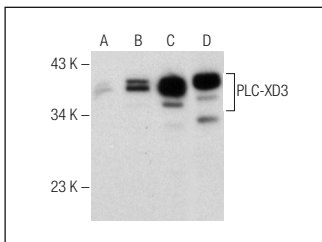
Molecular Weight of PLC-XD3: 36 kDa.

Positive Controls: PLC-XD3 (h) 293T Lysate: sc-176377, H4 whole cell lysate: sc-2408 or MCF7 whole cell lysates sc-2206.

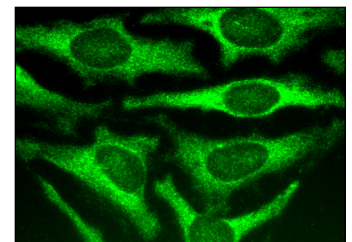
## RECOMMENDED SECONDARY REAGENTS

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



PLC-XD3 (K-14): sc-137672. Western blot analysis of PLC-XD3 expression in non-transfected 293T: sc-117752 (A), human PLC-XD3 transfected 293T: sc-176377 (B), H4 (C) and MCF7 (D) whole cell lysates.



PLC-XD3 (K-14): sc-137672. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## STORAGE

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

## RESEARCH USE

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