

# PLC-XD2 (E-17): sc-99601

## BACKGROUND

Phosphoinositide-specific phospholipase C (PLC) plays a crucial role in the initiation of receptor mediated signal transduction through the generation of the 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-XD2 (PI-PLC X domain-containing protein 2) is a 305 amino acid protein that contains a domain that is present in many PLC isozymes, the PI-PLC X (X-box) domain. Both the X-box domain and the Y-box domain are important for catalytic activity in PLC proteins. X-box domains are conserved from prokaryotes to mammals. The gene encoding PLC-XD2 maps to human chromosome 3, which is made up of about 214 million bases encoding over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. There are two isoforms of PLC-XD2 that are produced as a result of alternative splicing events.

## REFERENCES

1. Rhee, S.G., et al. 1992. Multiple forms of phospholipase C isozymes and their activation mechanisms. *Adv. Second Messenger Phosphoprotein Res.* 26: 35-61.
2. Rhee, S.G., et al. 1992. Regulation of inositol phospholipid-specific phospholipase C isozymes. *J. Biol. Chem.* 267: 12393-12396.
3. Sternweis, P.C., et al. 1992. Regulation of phospholipase C by G proteins. *Trends Biochem. Sci.* 17: 502-506.
4. Müller, S., et al. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. *Proc. Natl. Acad. Sci. USA* 97: 206-211.
5. Pan, Y.Y., et al. 2005. Characterization of phosphatidylinositol-specific phospholipase C (PI-PLC) from *Lilium davidi* pollen. *Plant Cell Physiol.* 46: 1657-1665.
6. Muzny, D.M., et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. *Nature* 440: 1194-1198.
7. Ruiz-Herrera, A., et al. 2008. Evolutionary plasticity and cancer break-points in human chromosome 3. *Bioessays* 30: 1126-1137.
8. Guo, L., et al. 2009. PI-PLC signal pathway: a possible pathogenesis link post-myocardial infarction to depression. *Med. Hypotheses* 73: 156-157.

## CHROMOSOMAL LOCATION

Genetic locus: PLCXD2 (human) mapping to 3q13.2.

## SOURCE

PLC-XD2 (E-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PLC-XD2 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-99601 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PLC-XD2 (E-17) is recommended for detection of PLC-XD2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with PLC-XD1 and 3.

PLC-XD2 (E-17) is also recommended for detection of PLC-XD2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for PLC-XD2 siRNA (h): sc-78111, PLC-XD2 shRNA Plasmid (h): sc-78111-SH and PLC-XD2 shRNA (h) Lentiviral Particles: sc-78111-V.

Molecular Weight of PLC-XD2: 35 kDa.

## 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) 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.

## 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.

## PROTOCOLS

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