SANTA CRUZ BIOTECHNOLOGY, INC.

PLC-XD1 (A-1): sc-393244

BACKGROUND

PLC-XD1 (PI-PLC X domain-containing protein 1) is a 323 amino acid enzyme that contains a phosphatidylinositol-specific phospholipase C X domain, which seems to be responsible for its catalytic activity. The gene encoding PLC-XD1 is located in the psuedoautosomal region 1 (PAR1) of X and Y chromosomes, therefore it is most likely inherited as an autosomal gene rather than in a sex-linked fashion. Recombination between psuedoautosomal regions is necessary for the progression of normal spermatogenesis, therefore disruptions of this process may lead to disorders such as male infertility or certain anueploidy conditions. There are two human homologs of psuedoautosomal regions, PAR1 and PAR2. PAR1 is located at the tips of the short arms while PAR2 is located at the tips of the long arms. PAR1 has been shown to contain several active genes, all of which escape X inactivation. It is thought that these regions are remnants of rearrangement and degradation of the ancestral Y chromosome.

REFERENCES

1. Graves, J.A., et al. 1998. The origin and evolution of the pseudoautosomal regions of human sex chromosomes. Hum. Mol. Genet. 7: 1991-1996.
2. Charchar, F.J., et al. 2003. Complex events in the evolution of the human pseudoautosomal region 2 (PAR2). Genome Res. 13: 281-286.
3. Skaletsky, H., et al. 2003. The male-specific region of the human Y chromosome is a mosaic of discrete sequence classes. Nature 423: 825-837.
4. Helena Mangs, A. and Morris, B.J. 2007. The human pseudoautosomal region (PAR): origin, function and future. Curr. Genomics 8: 129-136.

CHROMOSOMAL LOCATION

Genetic locus: PLCXD1 (human) mapping to Xp22.33/Yp11.32; Plcxd1 (mouse) mapping to 5 F.

SOURCE

PLC-XD1 (A-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 42-59 within an internal region of PLC-XD1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PLC-XD1 (A-1) is available conjugated to agarose (sc-393244 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393244 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393244 PE), fluorescein (sc-393244 FITC), Alexa Fluor® 488 (sc-393244 AF488), Alexa Fluor® 546 (sc-393244 AF546), Alexa Fluor® 594 (sc-393244 AF594) or Alexa Fluor® 647 (sc-393244 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393244 AF680) or Alexa Fluor® 790 (sc-393244 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393244 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PLC-XD1 (A-1) is recommended for detection of PLC-XD1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

PLC-XD1 (A-1) is also recommended for detection of PLC-XD1 in additional species, including equine and bovine.

Suitable for use as control antibody for PLC-XD1 siRNA (h): sc-91576, PLC-XD1 siRNA (m): sc-152299, PLC-XD1 shRNA Plasmid (h): sc-91576-SH, PLC-XD1 shRNA Plasmid (m): sc-152299-SH, PLC-XD1 shRNA (h) Lentiviral Particles: sc-91576-V and PLC-XD1 shRNA (m) Lentiviral Particles: sc-152299-V.

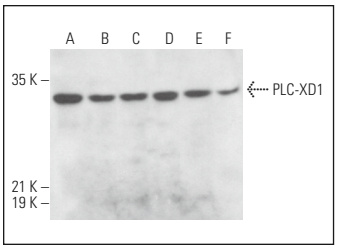
Molecular Weight of PLC-XD1: 37 kDa.

Positive Controls: AN3 CA cell lysate: sc-24662, K-562 whole cell lysate: sc-2203 or T-47D cell lysate: sc-2293.

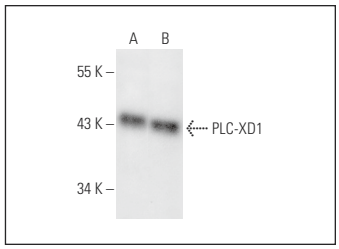
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PLC-XD1 (A-1): sc-393244. Western blot analysis of PLC-XD1 expression in AN3 CA (**A**), HEL 92.1.7 (**B**), JAR (**C**), Neuro-2A (**D**), KNRK (**E**) and PC-12 (**F**) whole cell lysates.



PLC-XD1 (A-1): sc-393244. Western blot analysis of PLC-XD1 expression in K-562 (**A**) and T-47D (**B**) whole cell lysates.

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.