

PLC γ 1 (548-760): sc-4053

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. There are many mammalian PLC isozymes, including PLC β 1, PLC β 2, PLC β 3, PLC β 4, PLC γ 1, PLC γ 2, PLC δ 1, PLC δ 2 and PLC ϵ . PLC γ 1 is widely distributed in bronchiolar epithelium, type I and II pneumocytes and fibroblasts of the interstitial tissue. Actin-regulatory protein Villin is tyrosine phosphorylated and associates with PLC γ 1 in the brush border of intestinal epithelial cells. Villin regulates PLC γ 1 activity by modifying its own ability to bind phosphatidylinositol 4,5-bisphosphate. PLC γ 1 binds Integrin α 1/ β 1 and modulates Integrin α 1/ β -specific adhesion. PLC γ 1 and Ca²⁺ play a direct role in VEGF-regulated endothelial growth, however this signaling pathway is not linked to FGF-mediated effects in primary endothelial cells. PLC γ 1 is rapidly activated in response to growth factor stimulation and plays an important role in regulating cell proliferation and differentiation. It may also have a protective function during cellular response to oxidative stress.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: PLCG1 (human) mapping to 20q13.1; Plcg1 (mouse) mapping to 2 H2.

SOURCE

PLC γ 1 (548-760) is expressed in *E. coli* as a 45 kDa tagged fusion protein corresponding to amino acids 548-760 of PLC γ 1 of human origin.

PRODUCT

PLC γ 1 (548-760) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 50 μ g purified protein in PBS containing 5mM DTT and 50% glycerol.

Also available in agarose conjugate form: PLC γ 1 (548-760) AC: sc-4053 AC; supplied as 100 μ g protein conjugated to 0.1 ml agarose in PBS containing 0.1% azide, 0.1% BSA and 10% glycerol.

APPLICATIONS

PLC γ 1 (548-760) is recommended for the enrichment of PLC γ 1 associated proteins when used in combination with Glutathione-Agarose (sc-2009).

Agarose conjugate form, sc-4053 AC, is recommended for direct precipitation of target proteins.

SELECT PRODUCT CITATIONS

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STORAGE

Store PLC γ 1 (548-760): sc-4053 at -20° C and store PLC γ 1 (548-760) AC: sc-4053 AC at 4° C; stable for one year from the date of shipment.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.