



# SZABO SCANDIC

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Diagnostik & molekulare Diagnostik



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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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## PLC $\delta$ 4 (h2): 293T Lysate: sc-173517

### 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 (IP<sub>3</sub>) and diacylglycerol (DAG) from phosphatidylinositol 4,5-bisphosphate. There are several mammalian PLC proteins, including PLC  $\beta$ 1, PLC  $\beta$ 2, PLC  $\beta$ 3, PLC  $\beta$ 4, PLC $\gamma$ 1, PLC $\gamma$ 2, PLC  $\delta$ 1, PLC  $\delta$ 3, PLC  $\delta$ 4 and PLC $\epsilon$ . PLC  $\delta$ 1, a calcium signal amplifier, is activated by an atypical GTP-binding protein and functions as an effector for GTP-binding protein transglutaminase II-mediated oxytocin receptor and  $\alpha$ 1B-adrenoreceptor signaling. PLC  $\delta$ 1 is highly expressed in brain, heart, lung and testis and is abnormally accumulated in autopsied brains with Alzheimer's disease (AD), suggesting that it may play a role in the pathology of AD. Both PLC  $\delta$ 3 and PLC  $\delta$ 4 contain several functional domains through which they bind calcium as a cofactor and catalyze the creation of DAG and IP<sub>3</sub>, playing an essential role in signal transduction. PLC  $\delta$ 4 is highly expressed in skeletal muscle and kidney tissue, as well as in corneal epithelial cells, suggesting a role in the regulation of kidney and ocular function.

### REFERENCES

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2. Liu N., Fukami, K., Yu, H. and Takenawa, T. 1996. A new phospholipase C  $\delta$  4 is induced at S-phase of the cell cycle and appears in the nucleus. *J. Biol. Chem.* 1: 355-360.
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4. Matecki, A., Stopa, M., Was, A. and Pawelczyk, T. 1997. Effect of sphingomyelin and its metabolites on the activity of human recombinant PLC  $\delta$ 1. *Int. J. Biochem. Cell Biol.* 29: 815-828.
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6. Leung, D.W., Tompkins, C., Brewer, J., Ball, A., Coon, M., Morris, V., Waggoner, D., Singer, J.W. 2004. Phospholipase C  $\delta$ 4 overexpression upregulates ErbB1/2 expression, Erk signaling pathway, and proliferation in MCF-7 cells. *Mol. Cancer* 3: 15.

### CHROMOSOMAL LOCATION

Genetic locus: PLCD4 (human) mapping to 2q35.

### PRODUCT

PLC  $\delta$ 4 (h2): 293T Lysate represents a lysate of human PLC  $\delta$ 4 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

### STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

### APPLICATIONS

PLC  $\delta$ 4 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive PLC  $\delta$ 4 antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

### 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) for detailed protocols and support products.