



# Pleckstrin (D-13): sc-20271

## BACKGROUND

Activation of protein kinase C (PKC) in platelets results in immediate phosphorylation of pleckstrin (previously called 40K or P47), the major PKC substrate in platelets. Pleckstrin contains a Ca<sup>2+</sup>-binding 'EF-hand' structure and PKC phosphorylation sites at Ser-113 and Ser-117. The N and C termini of pleckstrin contain two pleckstrin homology domains (PH), which mediate protein-protein and protein-lipid interactions. Pleckstrin is highly expressed in human neutrophils as a 40–47 kDa protein. Pleckstrin is rapidly phosphorylated following treatment of neutrophils in response to inflammatory stimuli, probably by nonconventional PKC isoforms delta or zeta, which are expressed in human neutrophils. Phosphorylation by non-conventional PKC isoforms induces a conformational change in pleckstrin that promotes its interaction with membranes and/or with the cytoskeleton, serving to target proteins or lipids recognized by PH domains to sites where they can contribute to the microbicidal response.

## REFERENCES

1. Tyers, M., et al. 1988. Molecular cloning and expression of the major protein kinase C substrate of platelets. *Nature* 333: 470-473.
2. Tyers, M., et al. 1989. Molecular analysis of pleckstrin: the major protein kinase C substrate of platelets. *J. Cell Biochem.* 40: 133-145.
3. Yoon, H.S., et al. 1994. Solution structure of a pleckstrin-homology domain. *Nature* 369: 672-675.
4. Abrams, C.S., et al. 1995. Protein kinase C regulates pleckstrin by phosphorylation of sites adjacent to the N-terminal pleckstrin homology domain. *J. Biol. Chem.* 270: 23317-23321.
5. Craig, K.L., et al. 1996. Phosphorylation of human pleckstrin on Ser-113 and Ser-117 by protein kinase C. *Biochem. J.* 314: 937-942.
6. Brumell, J.H., et al. 1997. Phosphorylation and subcellular redistribution of pleckstrin in human neutrophils. *J. Immunol.* 158: 4862-4871.
7. Cmarik, J.L., et al. 2000. cDNA cloning and mapping of mouse pleckstrin (Plek), a gene upregulated in transformation-resistant cells. *Genomics* 66: 204-212.

## SOURCE

Pleckstrin (D-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Pleckstrin of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20271 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

Pleckstrin (D-13) is recommended for detection of Pleckstrin of mouse and 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).

Suitable for use as control antibody for Pleckstrin siRNA (h): sc-106419, Pleckstrin siRNA (m): sc-152303, Pleckstrin shRNA Plasmid (h): sc-106419-SH, Pleckstrin shRNA Plasmid (m): sc-152303-SH, Pleckstrin shRNA (h) Lentiviral Particles: sc-106419-V and Pleckstrin shRNA (m) Lentiviral Particles: sc-152303-V.

Molecular Weight of Pleckstrin: 40 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.