

# Doc2g (M-15): sc-167663

## BACKGROUND

Initially identified in protein kinase C (PKC), C2 domains contain roughly 130 amino acid residues which enhance phospholipid binding in either a calcium-dependent or calcium-independent manner. C2 domains are found in a multitude of eukaryotic signalling proteins and are utilized for a variety of functions, including vesicular trafficking, protein phosphorylation, generation of lipid-second messengers, GTPase activation and signal transduction. Doc2g (double C2,  $\gamma$ ) is a 387 amino acid protein that contains two C2 domains and is thought to play a role in vesicular trafficking. Ubiquitously expressed but found at highest levels in heart, Doc2g acts as an effector for Munc13-1 and is encoded by a gene that maps to mouse chromosome 19 A. Doc2g does not bind phospholipids or calcium *in vitro*.

## REFERENCES

1. Newton, A.C. 1995. Protein kinase C. Seeing two domains. *Curr. Biol.* 5: 973-976.
2. Ponting, C.P. and Parker, P.J. 1996. Extending the C2 domain family: C2s in PKCs  $\delta$ ,  $\epsilon$ ,  $\eta$ ,  $\theta$ , phospholipases, GAPs, and perforin. *Protein Sci.* 5: 162-166.
3. Nalefski, E.A. and Falke, J.J. 1996. The C2 domain calcium-binding motif: structural and functional diversity. *Protein Sci.* 5: 2375-2390.
4. Rizo, J. and Südhof, T.C. 1998. C2-domains, structure and function of a universal  $Ca^{2+}$ -binding domain. *J. Biol. Chem.* 273: 15879-15882.
5. Fukuda, M. and Mikoshiba, K. 2000. Doc2 $\gamma$ , a third isoform of double C2 protein, lacking calcium-dependent phospholipid binding activity. *Biochem. Biophys. Res. Commun.* 276: 626-632.
6. Duncan, R.R., Shipston, M.J. and Chow, R.H. 2000. Double C2 protein. A review. *Biochimie* 82: 421-426.
7. Cho, W. and Stahelin, R.V. 2006. Membrane binding and subcellular targeting of C2 domains. *Biochim. Biophys. Acta* 1761: 838-849.
8. Friedrich, R., Yeheskel, A. and Ashery, U. 2010. DOC2B, C2 domains, and calcium: A tale of intricate interactions. *Mol. Neurobiol.* 41: 42-51.

## CHROMOSOMAL LOCATION

Genetic locus: Doc2g (mouse) mapping to 19 A.

## SOURCE

Doc2g (M-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Doc2g of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-167663 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Doc2g (M-15) is recommended for detection of Doc2g of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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); non cross-reactive with DOC2A and DOC2B.

Suitable for use as control antibody for Doc2g siRNA (m): sc-143133, Doc2g shRNA Plasmid (m): sc-143133-SH and Doc2g shRNA (m) Lentiviral Particles: sc-143133-V.

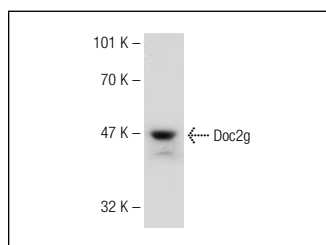
Molecular Weight of Doc2g: 43 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Doc2g (M-15): sc-167663. Western blot analysis of Doc2g expression in WEHI-231 whole cell lysate.

## STORAGE

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

## PROTOCOLS

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