SANTA CRUZ BIOTECHNOLOGY, INC.

IQCG (E-17): sc-99469

BACKGROUND

IQCG (IQ motif containing G) is a 443 amino acid protein containing one IQ domain. Widely distributed in nature, the IQ domain forms an amphiphilic seven-turn α-helix capable of binding calmodulin in a Ca^{2+}-independent manner. The level of intracellular calcium is tightly regulated in all eukaryotic cells. A modest increase in this level can result in a myriad of physiological responses, most of which are mediated by calmodulin (CaM), the universal calcium sensor. In acute T-lymphoid/myeloid leukemia IQCG forms a complex with Nup98, an O-linked glycoprotein and a component of the nuclear pore complex. Nup98-IQCG complex bind co-activators and/or co-repressors, which suggest a role in transcriptional regulation. Nup98-IQCG complex inhibits 32Dcl3 cell apoptosis induced by Arabinofuranosylcytosine (Ara-C) and partially blocks granulocyte differentiation induced by G-CSF. IQCG exists as two isoforms due to alternatively splicing events.

REFERENCES

1. Radu, A., et al. 1995. The peptide repeat domain of nucleoporin Nup98 functions as a docking site in transport across the nuclear pore complex. Cell 81: 215-222.
2. Borrow, J., et al. 1996. The t(7;11)(p15;p15) translocation in acute myeloid leukaemia fuses the genes for nucleoporin Nup98 and class I homeoprotein HOXA9. Nat. Genet. 12: 159-167.
3. Bouché, N., et al. 2002. A novel family of calmodulin-binding transcription activators in multicellular organisms. J. Biol. Chem. 277: 21851-21861.
4. Terrak, M., et al. 2003. Two distinct myosin light chain structures are induced by specific variations within the bound IQ motifs-functional implications. EMBO J. 22: 362-371.
5. Nakatani, K., et al. 2004. Cell cycle-dependent transcriptional regulation of calmodulin-binding transcription activator 1 in neuroblastoma cells. Int. J. Oncol. 24: 1407-1412.
6. Black, D.J., et al. 2007. The kinetics of Ca^{2+}-dependent switching in a calmodulin-IQ domain complex. Biochemistry 46: 13415-13424.
7. Pan, Q., et al. 2008. A new fusion gene NUP98-IQCG identified in an acute T-lymphoid/myeloid leukemia with a t(3;11)(q29q13;p15)del(3)(q29) translocation. Oncogene 27: 3414-3423.

CHROMOSOMAL LOCATION

Genetic locus: IQCG (human) mapping to 3q29.

SOURCE

IQCG (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IQCG 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-99469 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IQCG (E-17) is recommended for detection of IQCG of 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 IQCG siRNA (h): sc-78063, IQCG shRNA Plasmid (h): sc-78063-SH and IQCG shRNA (h) Lentiviral Particles: sc-78063-V.

Molecular Weight of IQCG: 52 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.

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.

PROTOCOLS

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