

# BCA3 (N-12): sc-133302

## BACKGROUND

The second messenger cyclic AMP (cAMP) mediates diverse cellular responses to external signals such as proliferation, ion transport, regulation of metabolism and gene transcription by activation of cAMP-dependent protein kinase (PKA). A-kinase-anchoring proteins (AKAPs) direct the localization of PKA to specific sites in the cell, thereby bringing the important signaling protein in close proximity to its substrates. BCA3 (breast cancer-associated gene 3 protein), also known as PKA-interacting protein, is a 210 amino acid nuclear protein that binds to the amino terminus of the PKA catalytic subunit (PKA cat), thereby contributing to positioning of the catalytic subunit in the nucleus. With high levels of expression in heart and lower expression levels in testis, skeletal muscle, brain and ovary, BCA3 is also found to be upregulated in certain breast cancer cell lines, which results in the recruitment of more PKA to the nucleus. There are three isoforms of BCA3 which are a result of alternative splicing events.

## REFERENCES

1. Lester, L.B. and Scott, J.D. 1997. Anchoring and scaffold proteins for kinases and phosphatases. *Recent Prog. Horm. Res.* 52: 409-429.
2. Burger, A., et al. 1998. Breast cancer genome anatomy: correlation of morphological changes in breast carcinomas with expression of the novel gene product Di12. *Oncogene* 16: 327-333.
3. Amid, C., et al. 2001. Comparative genomic sequencing reveals a strikingly similar architecture of a conserved syntenic region on human chromosome 11p15.3 (including gene ST5) and mouse chromosome 7. *Cytogenet. Cell Genet.* 93: 284-290.
4. Carr, D.W., et al. 2001. Identification of sperm-specific proteins that interact with A-kinase anchoring proteins in a manner similar to the type II regulatory subunit of PKA. *J. Biol. Chem.* 276: 17332-17338.

## CHROMOSOMAL LOCATION

Genetic locus: C11orf17 (human) mapping to 11p15.4; D930014E17Rik (mouse) mapping to 7 E3.

## SOURCE

BCA3 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of BCA3 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-133302 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.

## RESEARCH USE

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

## APPLICATIONS

BCA3 (N-12) is recommended for detection of BCA3 isoforms 1-3 of mouse, rat 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); non cross-reactive with other BCA family members.

Suitable for use as control antibody for BCA3 siRNA (h): sc-96977, BCA3 siRNA (m): sc-141664, BCA3 shRNA Plasmid (h): sc-96977-SH, BCA3 shRNA Plasmid (m): sc-141664-SH, BCA3 shRNA (h) Lentiviral Particles: sc-96977-V and BCA3 shRNA (m) Lentiviral Particles: sc-141664-V.

Molecular Weight of BCA3: 23 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.

## PROTOCOLS

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