

# CAMTA1 (E-20): sc-74353

## BACKGROUND

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. CaM directly modulates the activity of protein kinases and phosphatases, ion channels and nitric oxide synthetases. CaM is generally involved in such diverse processes as cell proliferation, endocytosis, cellular adhesion, protein turnover and smooth muscle contraction. CAMTA1 (calmodulin binding transcription activator 1), also known as KIAA0833, is a 1,673 amino acid protein that localizes to both the nucleus and the cytoplasm and contains one IPT/TIG domain, one CG-1 DNA-binding domain, 3 ANK repeats and 3 IQ domains. Expressed in brain tissue, as well as in heart and kidney, CAMTA1 interacts with CaM and is thought to function as a transcriptional activator, effecting the transcription level of target genes and possibly regulating CaM activity. Additionally, CAMTA1 may play a role in tumor suppression and, when defective, is involved in oligodendroglioma and astrocytoma.

## REFERENCES

1. Nakajima, D., Okazaki, N., Yamakawa, H., Kikuno, R., Ohara, O. and Nagase, T. 2002. Construction of expression-ready cDNA clones for KIAA genes: manual curation of 330 KIAA cDNA clones. *DNA Res.* 9: 99-106.
2. Bouche, N., Scharlat, A., Snedden, W., Bouchez, D. and Fromm, H. 2002. A novel family of calmodulin-binding transcription activators in multicellular organisms. *J. Biol. Chem.* 277: 21851-21861.
3. Nakatani, K., Nishioka, J., Itakura, T., Nakanishi, Y., Horinouchi, J., Abe, Y., Wada, H. and Nobori, T. 2004. Cell cycle-dependent transcriptional regulation of calmodulin-binding transcription activator 1 in neuroblastoma cells. *Int. J. Oncol.* 24: 1407-1412.

## CHROMOSOMAL LOCATION

Genetic locus: CAMTA1 (human) mapping to 1p36.31; Camta1 (mouse) mapping to 4 E2.

## SOURCE

CAMTA1 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CAMTA1 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-74353 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-74353 X, 200 µg/0.1 ml.

## STORAGE

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

## APPLICATIONS

CAMTA1 (E-20) is recommended for detection of CAMTA1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CAMTA1 (E-20) is also recommended for detection of CAMTA1 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for CAMTA1 siRNA (h): sc-72783, CAMTA1 siRNA (m): sc-72784, CAMTA1 shRNA Plasmid (h): sc-72783-SH, CAMTA1 shRNA Plasmid (m): sc-72784-SH, CAMTA1 shRNA (h) Lentiviral Particles: sc-72783-V and CAMTA1 shRNA (m) Lentiviral Particles: sc-72784-V.

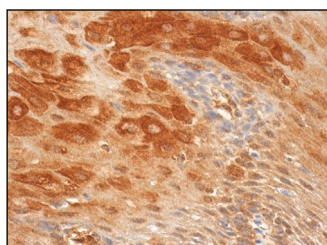
CAMTA1 (E-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of CAMTA1: 184 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



CAMTA1 (E-20): sc-74353. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic and nuclear staining of squamous epithelial 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) or our catalog for detailed protocols and support products.