SANTA CRUZ BIOTECHNOLOGY, INC.

EF-CAB7 (S-15): sc-138256

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The Power to Question

BACKGROUND

The intracellular calcium-binding superfamily of proteins consists of EF-hand calcium binding domains and are often involved in the regulation of many different cellular processes. An EF-hand calcium binding domain is made up of approximately 40 amino acids and can bind to 2 intracellular calcium ions. Two types of EF-hand calcium binding motifs exist: regulatory and structural. Proteins containing the regulatory EF-hand domain induce conformational change, allowing interaction with target proteins and catalyzing enzymatic reactions, whereas structural EF-hand domain containing proteins do not undergo conformational change and may play a role in buffering intracellular calcium levels. EF-CAB7 (EF-hand calcium binding domain 7) is a 629 amino acid protein that contains 3 EH-hand domains. EF-CAB7 contains two alternatively spliced isoforms and is encoded by a gene located on human chromosome 1p31.3.

REFERENCES

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2. Perret, C., et al. 1988. Evolution of the EF-hand calcium-binding protein family: evidence for exon shuffling and intron insertion. J. Mol. Evol. 27: 351-364.
3. Taylor, D.A., et al. 1991. Structure of a recombinant calmodulin from *Drosophila melanogaster* refined at 2.2-A resolution. J. Biol. Chem. 266: 21375-21380.
4. Drake, S.K., et al. 1996. Tuning the equilibrium ion affinity and selectivity of the EF-hand calcium binding motif: substitutions at the gateway position. Biochemistry 35: 6697-6705.
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6. Atkinson, R.A., et al. 2001. Ca^{2+}-independent binding of an EF-hand domain to a novel motif in the α-actinin-titin complex. Nat. Struct. Biol. 8: 853-857.
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8. Grabarek, Z. 2006. Structural basis for diversity of the EF-hand calcium-binding proteins. J. Mol. Biol. 359: 509-525.
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CHROMOSOMAL LOCATION

Genetic locus: EFCAB7 (human) mapping to 1p31.3; Efcab7 (mouse) mapping to 4 C6.

SOURCE

EF-CAB7 (S-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of EF-CAB7 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138256 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

EF-CAB7 (S-15) is recommended for detection of EF-CAB7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other EF-CAB family members.

EF-CAB7 (S-15) is also recommended for detection of EF-CAB7 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for EF-CAB7 siRNA (h): sc-88682, EF-CAB7 siRNA (m): sc-143306, EF-CAB7 shRNA Plasmid (h): sc-88682-SH, EF-CAB7 shRNA Plasmid (m): sc-143306-SH, EF-CAB7 shRNA (h) Lentiviral Particles: sc-88682-V and EF-CAB7 shRNA (m) Lentiviral Particles: sc-143306-V.

Molecular Weight of EF-CAB7 isoform 1: 72 kDa.

Molecular Weight of EF-CAB7 isoform 2: 69 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.