SANTA CRUZ BIOTECHNOLOGY, INC.

eIF2C3 (F-12): sc-32661

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The Power to Question

BACKGROUND

Eukaryotic translation initiation factor 2C (eIF2C) proteins (argonaute family) influence RNA interference (RNAi) as components of the RNA-inducible silencing complex (RISC) or microRNA (miRNA)-containing ribonucleoprotein particle (miRNP). Small RNAs, including small interfering RNAs (siRNAs) and miRNAs, can silence target genes through mechanisms that utilize RISC or miRNP particles. eIF2C1 (argonaute 1, AGO1, eIF2C, GERP95, Q99) and Dicer1 play a coordinated role in siRNA-mediated gene silencing. eIF2C2 (slicer, argonaute 2, AGO2, Q10) is a RISC component that can concentrate in cytoplasmic processing bodies (P-bodies) and catalyze mRNA cleavage. Mammalian P-bodies contain mRNAs and have an association with miRNA-induced translational silencing and siRNA-induced mRNA degradation. Additional eIF2C proteins include eIF2C3 (argonaute 3, AGO3), eIF2C4 (argonaute 4, AGO4) and meIF2c5 (mouse argonaute 5).

REFERENCES

1. Martinez, J., et al. 2002. Single-stranded antisense siRNAs guide target RNA cleavage in RNAi. Cell 110: 563-574.
2. Carmell, M.A., et al. 2002. The argonaute family: tentacles that reach into RNAi, developmental control, stem cell maintenance and tumorigenesis. Genes Dev. 16: 2733-2742.
3. Yan, K.S., et al. 2003. Structure and conserved RNA binding of the PAZ domain. Nature 426: 468-474.
4. Meister, G., et al. 2004. Human argonaute2 mediates RNA cleavage targeted by miRNAs and siRNAs. Mol. Cell 15: 185-197.
5. Sontheimer, E.J., et al. 2004. Molecular biology. Argonaute journeys into the heart of RISC. Science 305: 1409-1410.
6. Liu, J., et al. 2004. Argonaute2 is the catalytic engine of mammalian RNAi. Science 305: 1437-1441.
7. Sen, G.L., et al. 2005. Argonaute 2/RISC resides in sites of mammalian mRNA decay known as cytoplasmic bodies. Nat. Cell Biol. 7: 633-636.
8. Liu, J., et al. 2005. MicroRNA-dependent localization of targeted mRNAs to mammalian P-bodies. Nat. Cell Biol. 7: 719-723.

CHROMOSOMAL LOCATION

Genetic locus: EIF2C3 (human) mapping to 1p34.3, EIF2C2 (human) mapping to 8q24.3; Eif2c3 (mouse) mapping to 4 D2.2, Eif2c2 (mouse) mapping to 15 D3.

SOURCE

eIF2C3 (F-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of eIF2C3 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-32661 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

eIF2C3 (F-12) is recommended for detection of eIF2C3 and, to a lesser extent eIF 2C2 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).

eIF2C3 (F-12) is also recommended for detection of eIF2C3 and, to a lesser extent eIF 2C2 in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of eIF2C3: 97 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.