SANTA CRUZ BIOTECHNOLOGY, INC.

VKORC1L1 (K-12): sc-48709

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Vitamin K is a cofactor that is essential for the posttranslational γ-carboxylation of many blood coagulation factors. Vitamin K epoxide reductase (VKOR) is a small transmembrane protein complex located in the endoplasmic reticulum that catalyzes both the reduction of vitamin K epoxide to vitamin K, as well as the conversion of vitamin K to vitamin K hydroquinone. VKOR complex 1 (VKORC1) is a subunit of VKOR that increases the production of reduced vitamin K cofactor. VKORC1 is the rate limiting step in the system and therefore plays a significant role as a regulatory protein. VKORC1L1 (vitamin K epoxide reductase complex subunit 1-like 1) is a paralog to VKORC1. There is 50% identity between VKORC1L1 and VKORC1. VKORC1L1 is more highly conserved between species (human, mouse and rat share 97% identity) but is not as widely expressed as VKORC1.

REFERENCES

1. Oldenburg, J., et al. 2001. Congenital deficiency of vitamin K dependent coagulation factors in two families presents as a genetic defect of the vitamin K epoxide reductase complex. Thromb. Haemost. 84: 937-941.
2. Robertson, H.M., et al. 2004. Genes encoding vitamin-K epoxide reductase are present in Drosophila and trypanosomatid protists. Genetics 168: 1077-1080.
3. Rost, S., et al. 2004. Mutations in VKORC1 cause warfarin resistance and multiple coagulation factor deficiency type 2. Nature 427: 537-541.
4. Bodin, L., et al. 2005. A vitamin K epoxide reductase complex subunit-1 (VKORC1) mutation in a patient with vitamin K antagonist resistance. J. Thromb. Haemost. 3: 1533-1535.
5. Rieder, M.J., et al. 2005. Effect of VKORC1 haplotypes on transcriptional regulation and warfarin dose. N. Engl. J. Med. 352: 2285-2293.
6. Sun, Y.M., et al. 2005. Vitamin K epoxide reductase significantly improves carboxylation in a cell line overexpressing factor X. Blood 106: 3811-3815.
7. Wadelius, M., et al. 2005. Common VKORC1 and GGCX polymorphisms associated with warfarin dose. Pharmacogenomics J. 5: 262-270.

CHROMOSOMAL LOCATION

Genetic locus: VKORC1L1 (human) mapping to 7q11.21; Vkorc1l1 (mouse) mapping to 5 G1.3.

SOURCE

VKORC1L1 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of VKORC1L1 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-48709 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VKORC1L1 (K-12) is recommended for detection of VKORC1L1 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).

VKORC1L1 (K-12) is also recommended for detection of VKORC1L1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for VKORC1L1 siRNA (h): sc-61792, VKORC1L1 siRNA (m): sc-61793, VKORC1L1 siRNA (r): sc-270359, VKORC1L1 shRNA Plasmid (h): sc-61792-SH, VKORC1L1 shRNA Plasmid (m): sc-61793-SH, VKORC1L1 shRNA Plasmid (r): sc-270359-SH, VKORC1L1 shRNA (h) Lentiviral Particles: sc-61792-V, VKORC1L1 shRNA (m) Lentiviral Particles: sc-61793-V and VKORC1L1 shRNA (r) Lentiviral Particles: sc-270359-V.

Molecular Weight of VKORC1L1: 18 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.