SANTA CRUZ BIOTECHNOLOGY, INC.

UCK1 (G-15): sc-107319

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Uridine-cytidine kinases (UCK) have important roles for the phosphorylation of nucleoside analogs that may be important in chemotherapy of cancer. The UCK family consists of two members, UCK1 and UCK2, which are both expressed in many tumor cells. UCK1 (uridine-cytidine kinase 1), also known as URK1, uridine monophosphokinase 1 or cytidine monophosphokinase 1, is a 277 amino acid protein that is expressed in skeletal muscle, heart, liver and kidney. UCK1 uses ATP or GTP to catalyze the phosphorylation of uridine and cytidine to uridine monophosphate and cytidine monophosphate, respectively. Human UCK1 shares 92% amino acid identity with its mouse counterpart, suggesting a conserved role between species. UCK1 exists as two alternatively spliced isoforms which are encoded by a gene that maps to human chromosome 9.

REFERENCES

1. Kaneko, S., et al. 1998. Cloning, sequence analysis and expression of the basidiomycete *Lentinus edodes* gene UCK1, encoding UMP-CMP kinase, the homologue of *Saccharomyces cerevisae* URA6 gene. Gene 211: 259-266.
2. Van Rompay, A.R., et al. 2001. Phosphorylation of uridine and cytidine nucleoside analogs by two human uridine-cytidine kinases. Mol. Pharmacol. 59: 1181-1186.
3. Shimamoto, Y., et al. 2002. Sensitivity of human cancer cells to the new anticancer ribo-nucleoside TAS-106 is correlated with expression of uridine-cytidine kinase 2. Jpn. J. Cancer Res. 93: 825-833.
4. Suzuki, N.N., et al. 2003. Crystallization and preliminary X-ray analysis of human uridine-cytidine kinase 2. Acta Crystallogr. D Biol. Crystallogr. 59 Pt 8: 1477-1478.
5. Miyazaki, Y., et al. 2004. Target genes of the developmental regulator PRIB of the mushroom *Lentinula edodes*. Biosci. Biotechnol. Biochem. 68: 1898-1905.

CHROMOSOMAL LOCATION

Genetic locus: Uck1 (mouse) mapping to 2 B.

SOURCE

UCK1 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of UCK1 of mouse 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-107319 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.

APPLICATIONS

UCK1 (G-15) is recommended for detection of UCK1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 family members UCKL1 or UCK2.

Suitable for use as control antibody for UCK1 siRNA (m): sc-154885, UCK1 shRNA Plasmid (m): sc-154885-SH and UCK1 shRNA (m) Lentiviral Particles: sc-154885-V.

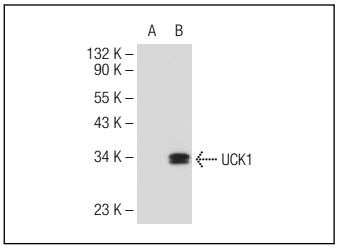
Molecular Weight of UCK1: 31 kDa.

Positive Controls: UCK1 (m): 293T Lysate: sc-127740.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



UCK1 (G-15): sc-107319. Western blot analysis of UCK1 expression in non-transfected: sc-117752 (**A**) and mouse UCK1 transfected: sc-127740 (**B**) 293T whole cell lysates.

RESEARCH USE

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