

# SCOT (G-14): sc-160776

## BACKGROUND

SCOT, also known as OXCT1 (3-oxoacid CoA transferase 1) or OXCT, is a 520 amino acid protein that localizes to the mitochondrial matrix and belongs to the 3-oxoacid CoA-transferase family. Expressed abundantly in heart and also present in brain, muscle and kidney, SCOT exists as a homodimer that catalyzes the conversion of succinyl-CoA and a 3-oxo acid to succinate and a 3-oxoacyl-CoA, a reaction that is essential for ketone body catabolism. Defects in the gene encoding SCOT are associated with ketoacidosis, a build up of ketones in the blood that can lead to diabetic coma and, if untreated, death. The gene encoding SCOT maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

## REFERENCES

1. Pérez-Cerdá, C., et al. 1992. A new case of succinyl-CoA: acetoacetate transferase deficiency. *J. Inherit. Metab. Dis.* 15: 371-373.
2. Mitchell, G.A., et al. 1995. Medical aspects of ketone body metabolism. *Clin. Invest. Med.* 18: 193-216.
3. Kassovska-Bratinova, S., et al. 1996. Succinyl CoA: 3-oxoacid CoA transferase (SCOT): human cDNA cloning, human chromosomal mapping to 5p13, and mutation detection in a SCOT-deficient patient. *Am. J. Hum. Genet.* 59: 519-528.
4. Niezen-Koning, K.E., et al. 1997. Succinyl-CoA:acetoacetate transferase deficiency: identification of a new patient with a neonatal onset and review of the literature. *Eur. J. Pediatr.* 156: 870-873.
5. Song, X.Q., et al. 1998. Succinyl-CoA:3-ketoacid CoA transferase (SCOT) deficiency: two pathogenic mutations, V133E and C456F, in Japanese siblings. *Hum. Mutat.* 12: 83-88.

## CHROMOSOMAL LOCATION

Genetic locus: OXCT1 (human) mapping to 5p13.1; Oxct1 (mouse) mapping to 15 A1.

## SOURCE

SCOT (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SCOT 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-160776 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

SCOT (G-14) is recommended for detection of SCOT of mouse, rat and human 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 SCOT-t.

SCOT (G-14) is also recommended for detection of SCOT in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SCOT siRNA (h): sc-91720, SCOT siRNA (m): sc-153266, SCOT shRNA Plasmid (h): sc-91720-SH, SCOT shRNA Plasmid (m): sc-153266-SH, SCOT shRNA (h) Lentiviral Particles: sc-91720-V and SCOT shRNA (m) Lentiviral Particles: sc-153266-V.

Molecular Weight (predicted) of SCOT: 56 kDa.

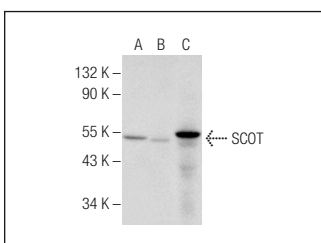
Molecular Weight (observed) of SCOT: 50 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or mouse heart extract: sc-2254.

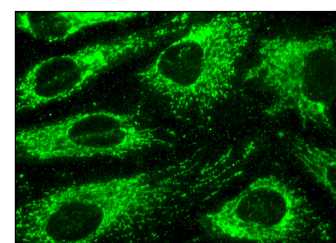
## RECOMMENDED SECONDARY REAGENTS

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



SCOT (G-14): sc-160776. Western blot analysis of SCOT expression in HeLa (A) and Jurkat (B) whole cell lysates and human heart tissue extract (C).



SCOT (G-14): sc-160776. Immunofluorescence staining of methanol-fixed HeLa cells showing mitochondrial localization.

## 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.