

β-ketoacyl synthase (S-15): sc-99479

BACKGROUND

β-ketoacyl synthase exists in mammals, fungi, plants and prokaryotes, but may exhibit different functions among various species. Mammalian β-ketoacyl synthase, which is also known as OXSM (3-oxoacyl-[acyl-carrier-protein] synthase, mitochondrial) or KS is a 459 amino acid protein expressed abundantly in heart, skeletal muscle, liver and kidney. β-ketoacyl synthase is localized to mitochondria where it aids in lipid metabolism and fatty acid biosynthesis. β-ketoacyl synthase may biosynthesize lipoic acid by generating its octanoyl-acyl carrier protein which is the precursor of Lipoic acid. For fatty acid biosynthesis, β-ketoacyl synthase is required for the construction of fatty acyl chains by connecting short carbon units together by Claisen condensation reactions. These fatty acid chains are important for phospholipid membranes. β-ketoacyl synthase can form a dimer and has a cysteine active site on its C-2 carbon. β-ketoacyl synthase is inactivated by cerulenin, an antibiotic which interacts with the active site on β-ketoacyl synthase and binds to the hydrophobic area that forms at the β-ketoacyl synthase dimer interface, thereby preventing dimerization.

REFERENCES

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RESEARCH USE

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

CHROMOSOMAL LOCATION

Genetic locus: OXSM (human) mapping to 3p24.2; Oxsm (mouse) mapping to 14 A2.

SOURCE

β-ketoacyl synthase (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of β-ketoacyl synthase 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-99479 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

β-ketoacyl synthase (S-15) is recommended for detection of β-ketoacyl synthase 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).

β-ketoacyl synthase (S-15) is also recommended for detection of β-ketoacyl synthase in additional species, including equine, canine and bovine.

Suitable for use as control antibody for β-ketoacyl synthase siRNA (h): sc-77981, β-ketoacyl synthase siRNA (m): sc-146434, β-ketoacyl synthase shRNA Plasmid (h): sc-77981-SH, β-ketoacyl synthase shRNA Plasmid (m): sc-146434-SH, β-ketoacyl synthase shRNA (h) Lentiviral Particles: sc-77981-V and β-ketoacyl synthase shRNA (m) Lentiviral Particles: sc-146434-V.

Molecular Weight of β-ketoacyl synthase: 46 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.