SANTA CRUZ BIOTECHNOLOGY, INC.

citrin (D-7): sc-393303

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Citrin, also known as SLC25A13 (solute carrier family 25 member 13), ARALAR2 or CTLN2, is a 675 amino acid multi-pass membrane protein that localizes to the inner membrane of the mitochondrion. Expressed in liver, pancreas, kidney, brain, heart and placenta, citrin functions as a calcium-dependent glutamate and aspartate carrier that is thought to play a role in the urea cycle. Citrin, a member of the mitochondrial carrier family, contains three Solcar repeats and four EF-hand domains through which it binds calcium. Defects in the gene encoding citrin are the cause of citrullinemia type 2 (CTLN2) and neonatal intrahepatic cholestasis due to citrin deficiency (NICCD). CTLN2 is an autosomal recessive disease that results from errors in the urea cycle and is characterized by neuropsychiatric symptoms such as loss of memory, seizures and coma. NICCD, a non-lethal disorder, occurs during infancy and is characterized by low birth weight, reduced bile flow, growth retardation and hepatic fibrosis.

CHROMOSOMAL LOCATION

Genetic locus: SLC25A13 (human) mapping to 7q21.3; Slc25a13 (mouse) mapping to 6 A1.

SOURCE

citrin (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 30-51 near the N-terminus of citrin of human origin.

PRODUCT

Each vial contains 200 µg IgA kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393303 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

citrin (D-7) is recommended for detection of citrin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

citrin (D-7) is also recommended for detection of citrin in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for citrin siRNA (h): sc-89601, citrin siRNA (m): sc-105206, citrin shRNA Plasmid (h): sc-89601-SH, citrin shRNA Plasmid (m): sc-105206-SH, citrin shRNA (h) Lentiviral Particles: sc-89601-V and citrin shRNA (m) Lentiviral Particles: sc-105206-V.

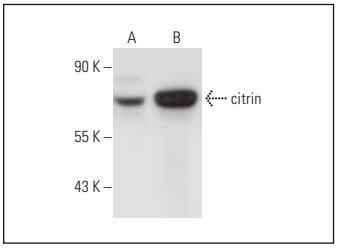
Molecular Weight of citrin: 74 kDa.

Positive Controls: human liver extract: sc-363766 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

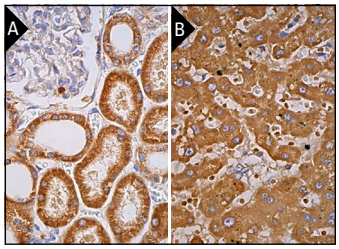
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



citrin (D-7): sc-393303. Western blot analysis of citrin expression in NTERA-2 cl.D1 whole cell lysate (**A**) and human liver tissue extract (**B**).



citrin (D-7): sc-393303. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes (**B**).

SELECT PRODUCT CITATIONS

1. Tajan, M., et al. 2018. A role for p53 in the adaptation to glutamine starvation through the expression of SLC1A3. Cell Metab. 28: 721-736.e6.
2. Adriaenssens, E., et al. 2023. Small heat shock proteins operate as molecular chaperones in the mitochondrial intermembrane space. Nat. Cell Biol. 25: 467-480.
3. Broeks, M.H., et al. 2023. The malate-aspartate shuttle is important for *de novo* serine biosynthesis. Cell Rep. 42: 113043.

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 for detailed protocols and support products.