SANTA CRUZ BIOTECHNOLOGY, INC.

Carbonyl reductase 1 (B-11): sc-390554

BACKGROUND

Carbonyl reductase 1 and Carbonyl reductase 3 belong to the family of short-chain dehydrogenase/reductase proteins that play a role in metabolism throughout the body. Both proteins are monomeric carbonyl reductases that function to catalyze the NADPH-dependent reduction of various carbonyls (generally products of lipid peroxidation) to their corresponding alcohols. Carbonyl reductase 1 and Carbonyl reductase 3 share high sequence simi larity at the amino acid level and are responsible for the metabolism of not only endogenous compounds, but of various pharmacological products, as well. Genetic polymorphisms in both proteins result in individual variability at the level of drug metabolism. Defects in the genes encoding Carbonyl reductase proteins have implications in cancer, diabetes and errors in metabolism.

REFERENCES

1. Watanabe, K., et al. 1999. Mapping of a novel human carbonyl reductase, CBR3, and ribosomal pseudogenes to human chromosome 21q22.2. Genomics 52: 95-100.
2. Terada, T., et al. 2001. Cloning and bacterial expression of monomeric short-chain dehydrogenase/reductase (carbonyl reductase) from CHO-K1 cells. Eur. J. Biochem. 267: 6849-6857.
3. Olson, L.E., et al. 2003. Protection from doxorubicin-induced cardiac toxicity in mice with a null allele of carbonyl reductase 1. Cancer Res. 63: 6602-6606.

CHROMOSOMAL LOCATION

Genetic locus: CBR1 (human) mapping to 21q22.12; Cbr1 (mouse) mapping to 16 C4.

SOURCE

Carbonyl reductase 1 (B-11) is a mouse monoclonal antibody raised against amino acids 135-177 mapping within an internal region of Carbonyl reductase 1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Carbonyl reductase 1 (B-11) is available conjugated to agarose (sc-390554 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390554 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390554 PE), fluorescein (sc-390554 FITC), Alexa Fluor® 488 (sc-390554 AF488), Alexa Fluor® 546 (sc-390554 AF546), Alexa Fluor® 594 (sc-390554 AF594) or Alexa Fluor® 647 (sc-390554 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390554 AF680) or Alexa Fluor® 790 (sc-390554 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

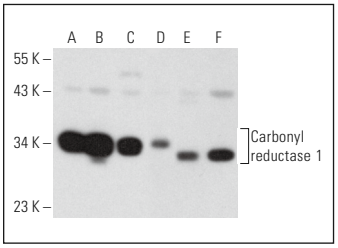
Carbonyl reductase 1 (B-11) is recommended for detection of Carbonyl reductase 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Carbonyl reductase 1 siRNA (h): sc-72791, Carbonyl reductase 1 siRNA (m): sc-72792, Carbonyl reductase 1 siRNA (r): sc-270506, Carbonyl reductase 1 shRNA Plasmid (h): sc-72791-SH, Carbonyl reductase 1 shRNA Plasmid (m): sc-72792-SH, Carbonyl reductase 1 shRNA Plasmid (r): sc-270506-SH, Carbonyl reductase 1 shRNA (h) Lentiviral Particles: sc-72791-V, Carbonyl reductase 1 shRNA (m) Lentiviral Particles: sc-72792-V and Carbonyl reductase 1 shRNA (r) Lentiviral Particles: sc-270506-V.

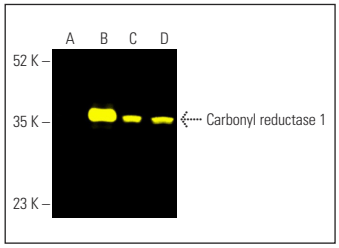
Molecular Weight of Carbonyl reductase 1: 30 kDa.

Positive Controls: Carbonyl reductase 1 (m): 293T Lysate: sc-118997, A549 cell lysate: sc-2413 or Hep G2 cell lysate: sc-2227.

DATA



Carbonyl reductase 1 (B-11): sc-390554. Western blot analysis of Carbonyl reductase 1 expression in HeLa (**A**), A549 (**B**), Hep G2 (**C**), F9 (**D**), RPE-J (**E**) and H19-7/IGF-IR (**F**) whole cell lysates.



Carbonyl reductase 1 (B-11): sc-390554. Fluorescent western blot analysis of Carbonyl reductase 1 expression in non-transfected 293T: sc-117752 (**A**), mouse Carbonyl reductase 1 transfected 293T: sc-118997 (**B**), HeLa (**C**) and A549 (**D**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 488: sc-533661.

SELECT PRODUCT CITATIONS

1. Kobayashi, A., et al. 2016. Gene therapy for ovarian cancer using carbonyl reductase 1 DNA with a polyamidoamine dendrimer in mouse models. Cancer Gene Ther. 23: 24-28.

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.