SANTA CRUZ BIOTECHNOLOGY, INC.

ChREBP (G-12): sc-515922

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ChREBP (for carbohydrate responsive binding protein, also designated Mlx interactor, WBSCR14 and MondoB) is a transcription factor that binds to the carbohydrate-responsive element of the L-type pyruvate kinase gene (L-PK). ChREBP is expressed specifically in liver and is activated by high glucose and inhibited by cAMP or a high fat diet. ChREBP is likely critical for the optimal long-term storage of excess carbohydrates as fats, and may contribute to the imbalance between nutrient utilization and storage, which is characteristic of obesity. ChREBP represses E-box-dependent transcription forms and forms heterodimers with Mlx to bind the DNA sequence CACGTG. ChREBP is encoded by the WBSCR14 gene, which is located within the Williams-Beuren syndrome (WBS) deletion at chromosome 7q11.23. WBS is a neuro-developmental disorder affecting several systems. Loss of the encoded transcription factor may contribute to the developmental symptoms found in WBS.

CHROMOSOMAL LOCATION

Genetic locus: MLXIPL (human) mapping to 7q11.23.

SOURCE

ChREBP (G-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 817-838 near the C-terminus of ChREBP of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ChREBP (G-12) is available conjugated to agarose (sc-515922 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515922 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515922 PE), fluorescein (sc-515922 FITC), Alexa Fluor® 488 (sc-515922 AF488), Alexa Fluor® 546 (sc-515922 AF546), Alexa Fluor® 594 (sc-515922 AF594) or Alexa Fluor® 647 (sc-515922 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515922 AF680) or Alexa Fluor® 790 (sc-515922 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ChREBP (G-12) is recommended for detection of ChREBP of 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 ChREBP siRNA (h): sc-38617, ChREBP shRNA Plasmid (h): sc-38617-SH and ChREBP shRNA (h) Lentiviral Particles: sc-38617-V.

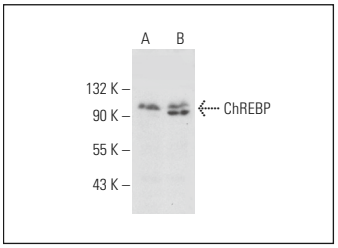
Molecular Weight of splice variants ChREBP: 62/78/91/93 kDa.

Positive Controls: Hep G2 nuclear extract: sc-364819 or K-562 nuclear extract: sc-2130.

STORAGE

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

DATA



ChREBP (G-12): sc-515922. Western blot analysis of ChREBP expression in Hep G2 (**A**) and K-562 (**B**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Rebello, C.J., et al. 2019. Naringenin promotes thermogenic gene expression in human white adipose tissue. Obesity 27: 103-111.
2. Feng, Y., et al. 2021. High glucose mediates the ChREBP/p300 transcriptional complex to activate proapoptotic genes Puma and BAX and contributes to intervertebral disc degeneration. Bone 153: 116164.
3. Seidu, T., et al. 2021. DHT causes liver steatosis via transcriptional regulation of SCAP in normal weight female mice. J. Endocrinol. 250: 49-65.
4. Li, G., et al. 2021. Adipose-specific knockout of protein kinase D1 suppresses *de novo* lipogenesis in mice via SREBP1c-dependent signaling. Exp. Cell Res. 401: 112548.
5. Erb, S.J., et al. 2022. Responsiveness of PNPLA3 and lipid-related transcription factors is dependent upon fatty acid profile in primary bovine hepatocytes. Sci. Rep. 12: 888.
6. Stevanovic-Silva, J., et al. 2022. Exercise performed during pregnancy positively modulates liver metabolism and promotes mitochondrial biogenesis of female offspring in a rat model of diet-induced gestational diabetes. Biochim. Biophys. Acta Mol. Basis Dis. 1868: 166526.
7. Stevanovic-Silva, J., et al. 2023. Gestational exercise antagonises the impact of maternal high-fat high-sucrose diet on liver mitochondrial alterations and quality control signalling in male offspring. Int. J. Environ. Res. Public Health 20: 1388.
8. Chang, X., et al. 2023. MLXIPL promotes the migration, invasion, and glycolysis of hepatocellular carcinoma cells by phosphorylation of mTOR. BMC Cancer 23: 176.

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.