

# Rev-erb $\alpha$ (E-12): sc-393215

## BACKGROUND

Orphan nuclear receptors NR1D1 and NR1D2 are more commonly designated Rev-erb $\alpha$  and Rev-erb $\beta$ , respectively. Rev-erb $\alpha$  acts as a receptor for triiodothyronine and is composed of three domains: a modulating N-terminal domain, a C-terminal steroid binding domain and a DNA-binding domain. Rev-erb $\beta$  binds to the sequences 5'-AATGTAGGTCA-3' and 5'-ATACTAGGTCA-3' and acts as a competitive repressor of ROR $\alpha$  function. It interacts with NCOA5 co-activator which leads to an increase in transcription. Both Rev-erb $\alpha$  and Rev-erb $\beta$  are nuclear proteins belonging to the nuclear hormone receptor family of proteins.

## CHROMOSOMAL LOCATION

Genetic locus: NR1D1 (human) mapping to 17q21.1; Nr1d1 (mouse) mapping to 11 D.

## SOURCE

Rev-erb $\alpha$  (E-12) is a mouse monoclonal antibody raised against amino acids 21-69 mapping near the N-terminus of Rev-erb $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-393215 X, 200  $\mu$ g/0.1 ml.

Rev-erb $\alpha$  (E-12) is available conjugated to agarose (sc-393215 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393215 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393215 PE), fluorescein (sc-393215 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393215 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393215 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393215 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393215 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393215 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393215 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Rev-erb $\alpha$  (E-12) is recommended for detection of Rev-erb $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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 Rev-erb $\alpha$  siRNA (h): sc-61458, Rev-erb $\alpha$  siRNA (m): sc-61459, Rev-erb $\alpha$  shRNA Plasmid (h): sc-61458-SH, Rev-erb $\alpha$  shRNA Plasmid (m): sc-61459-SH, Rev-erb $\alpha$  shRNA (h) Lentiviral Particles: sc-61458-V and Rev-erb $\alpha$  shRNA (m) Lentiviral Particles: sc-61459-V.

Rev-erb $\alpha$  (E-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

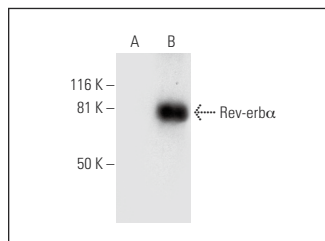
Molecular Weight of Rev-erb $\alpha$ : 68 kDa.

Positive Controls: Rev-erb $\alpha$  (m): 293T Lysate: sc-125901.

## STORAGE

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

## DATA



Rev-erb $\alpha$  (E-12): sc-393215. Western blot analysis of Rev-erb $\alpha$  expression in non-transfected: sc-117752 (A) and mouse Rev-erb $\alpha$  transfected: sc-125901 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Kim, K., et al. 2020. Rev-erb $\alpha$  negatively regulates osteoclast and osteoblast differentiation through p38 MAPK signaling pathway. *Mol. Cells* 43: 34-47.
- Sun, L., et al. 2021. Circadian clock genes REV-ERBs inhibits granulosa cells apoptosis by regulating mitochondrial biogenesis and autophagy in polycystic ovary syndrome. *Front. Cell Dev. Biol.* 9: 658112.
- Shi, S., et al. 2022. Totipotency of miR-184 in porcine granulosa cells. *Mol. Cell. Endocrinol.* 558: 111765.
- Pinto, A.P., et al. 2022. IL-6 deletion decreased REV-ERB $\alpha$  protein and influenced autophagy and mitochondrial markers in the skeletal muscle after acute exercise. *Front. Immunol.* 13: 953272.
- Cui, L., et al. 2022. Circadian gene Rev-erb $\alpha$  influenced by sleep conduces to pregnancy by promoting endometrial decidualization via IL-6-PR-C/EBP $\beta$  axis. *J. Biomed. Sci.* 29: 101.
- da Rocha, A.L., et al. 2022. Exercise alters the circadian rhythm of REV-ERB- $\alpha$  and downregulates autophagy-related genes in peripheral and central tissues. *Sci. Rep.* 12: 20006.
- Pinto, A.P., et al. 2023. Combined physical exercise reverses the reduced expression of Bmal1 in the liver of aged mice. *Life Sci.* 312: 121175.
- Qian, Z., et al. 2023. Blocking circadian clock factor Rev-erb $\alpha$  inhibits growth plate chondrogenesis via up-regulating MAPK-ERK1/2 pathway. *Cell Cycle* 22: 73-84.
- Ma, D., et al. 2024. Excessive fat expenditure in MCT-induced heart failure rats is associated with BMAL1/REV-ERB $\alpha$  circadian rhythmic loop disruption. *Sci. Rep.* 14: 8128.

## RESEARCH USE

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