

CARP (H-120): sc-30181

BACKGROUND

A proposed genetic marker of cardiac hypertrophy, CARP (cardiac ankyrin repeat protein) is a nuclear protein with an established role in regulation of cardiac gene expression. A distinct increase in CARP expression occurs in rats with abdominal aorta constriction, spontaneous hypertension and Dahl salt-sensitivity. In cardiomyocytes, CARP inhibits transcription of both cardiac Troponin C and atrial natriuretic factor. Specifically, expression of the CARP gene, which lies downstream of the cardiac homeobox gene Nkx-2.5, inhibits Nkx-2.5 transactivation of atrial natriuretic factor promoter. An increase in CARP expression is observed in the ventricular tissue of patients with end-stage heart failure. The major Ca^{2+} binding protein of cardiac sarcoplasmic reticulum (SR), calsequestrin (CSQ), upregulates the CARP gene and may contribute to the development of cardiac hypertrophy and fibrosis. TGF β induces CARP expression in vascular smooth muscle cells (VSMCs), wherein CARP may mediate the inhibitory effects of TGF β on VSMC proliferation.

CHROMOSOMAL LOCATION

Genetic locus: ANKRD1 (human) mapping to 10q23.31; Ankrd1 (mouse) mapping to 19 C2.

SOURCE

CARP (H-120) is a rabbit polyclonal antibody raised against amino acids 1-120 mapping at the N-terminus of CARP of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CARP (H-120) is recommended for detection of CARP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

CARP (H-120) is also recommended for detection of CARP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CARP siRNA (h): sc-37731, CARP siRNA (m): sc-37732, CARP shRNA Plasmid (h): sc-37731-SH, CARP shRNA Plasmid (m): sc-37732-SH, CARP shRNA (h) Lentiviral Particles: sc-37731-V and CARP shRNA (m) Lentiviral Particles: sc-37732-V.

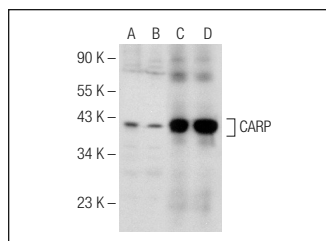
Molecular Weight of CARP: 40 kDa.

Positive Controls: Sol8 nuclear extract: sc-2157, CARP (m): 293T Lysate: sc-119002 or Caki-1 cell lysate: sc-2224.

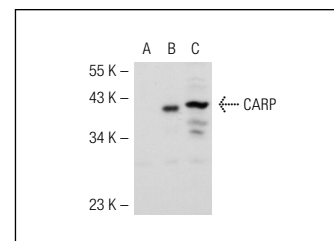
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



CARP (H-120): sc-30181. Western blot analysis of CARP expression in Sol8 nuclear extract (A), P 23 whole cell lysate (B) and mouse heart (C) and rat heart (D) tissue extracts.



CARP (H-120): sc-30181. Western blot analysis of CARP expression in non-transfected 293T: sc-117752 (A), mouse CARP transfected 293T: sc-119002 (B) and Caki-1 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Yadava, R.S., et al. 2008. RNA toxicity in myotonic muscular dystrophy induces Nkx-2.5 expression. *Nat. Genet.* 40: 61-68.
- Wei, Y.J., et al. 2009. Upregulated expression of cardiac ankyrin repeat protein in human failing hearts due to arrhythmogenic right ventricular cardiomyopathy. *Eur. J. Heart Fail.* 11: 559-566.
- Badi, I., et al. 2009. Intracellular ANKRD1 protein levels are regulated by 26S proteasome-mediated degradation. *FEBS Lett.* 583: 2486-2492.

RESEARCH USE

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

PROTOCOLS

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

MONOS
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Try **CARP (G-2): sc-365056** or **CARP (E-3): sc-398139**, our highly recommended monoclonal alternatives to CARP (H-120).