SANTA CRUZ BIOTECHNOLOGY, INC.

AdipoR1 (D-9): sc-518030

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Adiponectin is a circulating hormone secreted by adipocytes that improves the metabolism of glucose and lipids, and is expressed at low levels in those with obesity and diabetes. Adiponectin receptors AdipoR1 and AdipoR2, also designated progestin and adipoQ receptor family members I and II, respectively, regulate fatty acid oxidation and the uptake of glucose by adiponectin. Each receptor activates a unique set of signaling molecules including AMPK, p38 MAPK and PPARα. AdipoR1 has a high-affinity for globular adiponectin and low-affinity for full-length adiponectin, while AdipoR2 has an intermediate affinity for both forms. AdipoR1 and AdipoR2 are mainly expressed in liver and muscle. Adiponectin, AdipoR1 and AdipoR2 are all associated with body composition, Insulin sensitivity, and metabolic parameters. Physical training increases circulating adiponectin and mRNA expression of AdipoR1 and AdipoR2 in muscle, which may mediate the improvement of Insulin resistance and the metabolic syndrome in response to exercise.

REFERENCES

1. Kadowaki, T., et al. 2005. Adiponectin and adiponectin receptors. Endocr. Rev. 26: 439-451.
2. Bluher, M., et al. 2005. Regulation of adiponectin receptor R1 and R2 gene expression in adipocytes of C57BL/6 mice. Biochem. Biophys. Res. Commun. 329: 1127-1132.
3. Nilsson, L., et al. 2005. Prolactin and growth hormone regulate adiponectin secretion and receptor expression in adipose tissue. Biochem. Biophys. Res. Commun. 331: 1120-1126.

CHROMOSOMAL LOCATION

Genetic locus: ADIPOR1 (human) mapping to 1q32.1; Adipor1 (mouse) mapping to 1 E4.

SOURCE

AdipoR1 (D-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 16-41 at the N-terminus of AdipoR1 of human origin.

PRODUCT

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

AdipoR1 (D-9) is available conjugated to agarose (sc-518030 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518030 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518030 PE), fluorescein (sc-518030 FITC), Alexa Fluor® 488 (sc-518030 AF488), Alexa Fluor® 546 (sc-518030 AF546), Alexa Fluor® 594 (sc-518030 AF594) or Alexa Fluor® 647 (sc-518030 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518030 AF680) or Alexa Fluor® 790 (sc-518030 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

AdipoR1 (D-9) is recommended for detection of AdipoR1 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).

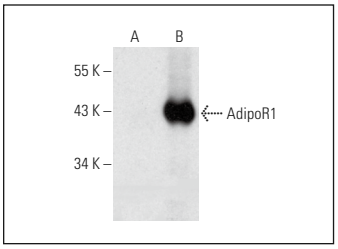
Suitable for use as control antibody for AdipoR1 siRNA (h): sc-60123, AdipoR1 siRNA (m): sc-60124, AdipoR1 siRNA (r): sc-156024, AdipoR1 shRNA Plasmid (h): sc-60123-SH, AdipoR1 shRNA Plasmid (m): sc-60124-SH, AdipoR1 shRNA Plasmid (r): sc-156024-SH, AdipoR1 shRNA (h) Lentiviral Particles: sc-60123-V, AdipoR1 shRNA (m) Lentiviral Particles: sc-60124-V and AdipoR1 shRNA (r) Lentiviral Particles: sc-156024-V.

Molecular Weight (predicted) of AdipoR1: 42 kDa.

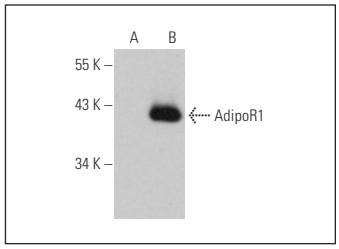
Molecular Weight (observed) of AdipoR1: 49 kDa.

Positive Controls: human AdipoR1 transfected HEK293T whole cell lysate or mouse AdipoR1 transfected 293T whole cell lysate.

DATA



AdipoR1 (D-9): sc-518030. Western blot analysis of AdipoR1 expression in non-transfected (**A**) and human AdipoR1 transfected (**B**) HEK293T whole cell lysates.



AdipoR1 (D-9): sc-518030. Western blot analysis of AdipoR1 expression in non-transfected (**A**) and mouse AdipoR1 transfected (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, H., et al. 2018. MiR-6835-3p regulates the function of pancreatic islet cells by modulating the expression of AdipoR1. Int. J. Mol. Med. 42: 1317-1326.
2. Pereira, B.M.V., et al. 2020. Lack of adiponectin in mice accelerates high-fat diet-induced progression of chronic kidney disease. Life Sci. 257: 118061.
3. Kuramoto, K., et al. 2021. The autophagy protein Becn1 improves Insulin sensitivity by promoting adiponectin secretion via exocyst binding. Cell Rep. 35: 109184.
4. Kobayashi, H., et al. 2022. Intelectin1 ameliorates macrophage activation via inhibiting the nuclear factor κB pathway. Endocr. J. 69: 539-546.
5. Yan, W., et al. 2022. AdipoRon inhibits neuroinflammation induced by deep hypothermic circulatory arrest involving the AMPK/NFκB pathway in rats. Pharmaceutics 14: 2467.

RESEARCH USE

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