

AdipoR1 (H-40): sc-99183

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 PPAR α . 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. 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.
2. 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.
3. Kadowaki, T. et al. 2005. Adiponectin and adiponectin receptors. *Endocr. Rev.* 26:439-451.
4. Kaltenbach, S., et al. 2005. Adiponectin receptor gene expression in human skeletal muscle cells is not regulated by fibrates and thiazolidinediones. *Int. J. Obes. Relat. Metab. Disord.* 29: 760-765.
5. Chen, M.B., et al. 2005. Impaired activation of AMP-kinase and fatty acid oxidation by globular adiponectin in cultured human skeletal muscle of obese type 2 diabetics. *J. Clin. Endocrinol. Metab.* 90: 3665-3672.
6. Haluzik, M.M., et al. 2006. Improvement of Insulin sensitivity after PPAR α agonist treatment is accompanied by paradoxical increase of circulating resistin levels. *Endocrinology* 147: 4517-4524.

CHROMOSOMAL LOCATION

Genetic locus: ADIPOR1 (human) mapping to 1q32.1; AdipoR1 (mouse) mapping to 1 E4.

SOURCE

AdipoR1 (H-40) is a rabbit polyclonal antibody raised against amino acids 275-314 mapping near the C-terminus of AdipoR1 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.

RESEARCH USE

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

APPLICATIONS

AdipoR1 (H-40) is recommended for detection of AdipoR1 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AdipoR1 (H-40) is also recommended for detection of AdipoR1 in additional species, including equine, canine, bovine, porcine and avian.

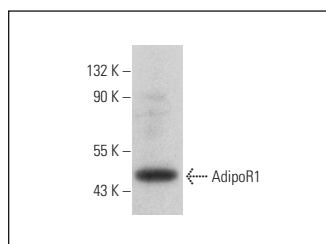
Suitable for use as control antibody for AdipoR1 siRNA (h): sc-60123, AdipoR1 siRNA (m): sc-60124, AdipoR1 siRNA (r): sc-156024, AdipoR1 shRNA Plasmid (h): sc-60123-SH, AdipoR1 shRNA Plasmid (m): sc-60124-SH, AdipoR1 shRNA Plasmid (r): sc-156024-SH, AdipoR1 shRNA (h) Lentiviral Particles: sc-60123-V,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

Molecular Weight (predicted) of AdipoR1: 42 kDa.

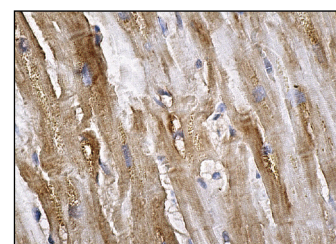
Molecular Weight (observed) of AdipoR1: 49 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810, Hep G2 cell lysate: sc-2227 or MCF7 whole cell lysate: sc-2206.

DATA



AdipoR1 (H-40): sc-99183. Western blot analysis of AdipoR1 expression in rat skeletal muscle tissue extract.



AdipoR1 (H-40): sc-99183. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Chiu, Y.C., et al. 2009. Involvement of AdipoR receptor in adiponectin-induced motility and α 2 β 1 integrin upregulation in human chondrosarcoma cells. *Carcinogenesis* 30: 1651-1659.

STORAGE

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

PROTOCOLS

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