

For Research Use Only

Recombinant Human NRAC protein (rFc Tag)



Catalog Number: Eg6025

Basic Information

Species:
Human

Purity:
>90 %, SDS-PAGE

Tag:
rFc Tag

Technical Specifications

Purity:

>90 %, SDS-PAGE

Endotoxin Level:

<0.1 EU/ μ g protein, LAL method

Source:

HEK293-derived Human NRAC protein Met1-His100 (Accession# Q8N912) with a rabbit IgG Fc tag at the C-terminus.

GeneID:

400258

Accession:

Q8N912

Predicted Molecular Mass:

37.8 kDa

SDS-PAGE:

38-45 kDa, reducing (R) conditions

Formulation:

Lyophilized from 0.22 μ m filtered solution in PBS, pH 7.4. Normally 5% trehalose and 5% mannitol are added as protectants before lyophilization.

Biological Activity

Not tested

Storage and Shipping

Storage:

It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

- Until expiry date, -20°C to -80°C as lyophilized proteins.
- 3 months, -20°C to -80°C under sterile conditions after reconstitution.

Shipping:

The product is shipped at ambient temperature. Upon receipt, store it immediately at the recommended temperature.

Reconstitution

Briefly centrifuge the tube before opening. Reconstitute at 0.1-0.5 mg/mL in sterile water.

Background

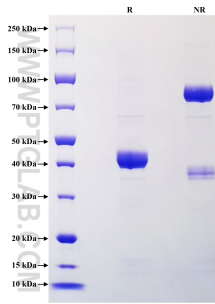
NRAC (Nutritionally Regulated Adipose and Cardiac enriched protein, with the human homologous gene designated as C14ORF180) is a recently identified adipocyte-specific double-pass transmembrane protein. Both its N- and C-termini are located intracellularly, containing only a short extracellular loop and no known enzymatic domains. Its expression is significantly induced during the differentiation of white and brown adipocytes and is regulated by nutritional status: fasting and obesity both downregulate its mRNA levels, suggesting its role as a "fat sensor" in energy homeostasis. Mechanistically, NRAC forms a trimeric complex via its first transmembrane domain with the fatty acid transporter core protein CD36 and the membrane microdomain protein caveolin-1. When extracellular fatty acid concentrations increase, NRAC undergoes ubiquitination and internalization, causing CD36 to dissociate from caveolin-1 and switch to clathrin-mediated endocytosis. This process enhances fatty acid uptake, leading to adipocyte hypertrophy and increased overall adipose mass.

References

1. Singh I, et al. (2025) EMBO J. 44(18):5037-5065.
2. Zhang R, et al. (2012) PLoS One. 7(9):e46254.
3. Yang W, et al. (2023) Neural Netw. 165:135-149.
4. Rocha LM, et al. (2013) J Anim Sci. 91(8):3965-3977.
5. Cole JB, et al. (2014) J Dairy Sci. 97(5):3156-3172.

Synonyms

Selected Validation Data



Purity of Recombinant Human NRAC was determined by SDS-PAGE. The protein was resolved in an SDS-PAGE in reducing (R) and non-reducing (NR) conditions and stained using Coomassie blue.

For technical support and original validation data for this product please contact

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