Human RAC2 Protein (His Tag)

Catalog Number: **12100-H07E**

General Information

Gene Name Synonym:

EN-7; Gx; HSPC022; p21-Rac2

Protein Construction:

A DNA sequence encoding the human RAC2 (P15153) (Met 1-Cys 189) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 94 % as determined by SDS-PAGE

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met

Molecular Mass:

The recombinant human RAC2 comprises 200 amino acids and has a predicted molecular mass of 22.6 kDa. It migrates as an approximately 25 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, 20% glycerol, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

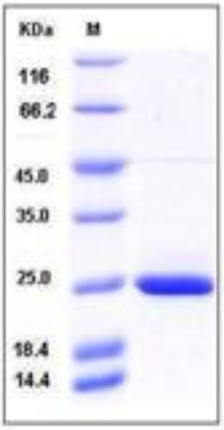
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Ras-related C3 botulinum toxin substrate 2 (Rac2) is a small G-protein belonging to the Ras subfamily of the GTPase family. Rac2 acts as an "on / off" switch for signal transduction cascades and motilities. When GDP is attached to the small G-protein, the enzyme is inactivated. Release of the GDP and replace of the GTP cativate the GTPasee. Rac2 remains active until the GTP is hydrolyzed to GDP. Rac2 is a hematopoietic-specific Rho family GTPase implicated as an important constituent of the NADPH oxidase complex and shares 92% amino acid identity with the ubiquitously expressed Rac1. The small G-protein Rac2 regulates the rearrangements of actin and membrane necessary for Fcy receptor-mediated phagocytosis by macrophages. Activated Rac2 binds to the p21-binding domain of PAK1 and this binding provided a basis for microscopic methods to localize activation of these G proteins inside cells.

References

1.Adam D, *et al*. (2003) Cdc42, Rac1, and Rac2 Display Distinct Patterns of Activation during Phagocytosis.Mol Biol Cell. 15 (8): 3509-19. 2.Walmsley MJ, *et al*. (2003) Critical Roles for Rac1 and Rac2 GTPases in B Cell Development and Signaling. Science. 302 (5644): 459-62. 3.Holland M, *et al*. (2011) RAC2, AEP, and ICAM1 expression are associated with CNS disease in a mouse model of pre-B childhood acute lymphoblastic leukemia. Blood. 118 (3): 638-49.