

ACK (A-11): sc-28336

BACKGROUND

The Ras-related Rho subfamily of GTP-binding proteins (p21s), which includes Rho, Rac and Cdc42Hs, is implicated in different aspects of cytoskeletal organization. These proteins resemble Ras p21 in that their active GTP-bound form is inactivated by intrinsic hydrolysis of the GTP to GDP, which can be stimulated by GTPase-activating proteins (GAPs). ACK, a tyrosine kinase that specifically binds Cdc42Hs in its GTP-bound form, has been described. This binding is mediated by a unique sequence of 47 amino acids C-terminal to an SH3 domain and inhibits both the intrinsic and GAP-stimulated GTPase activity of Cdc42Hs. These findings suggest that ACK may represent a new class of proteins that sustains the GTP-bound active form of the Rho subfamily of GTP binding proteins and which is directly linked to a tyrosine phosphorylation pathway.

CHROMOSOMAL LOCATION

Genetic locus: TNK2 (human) mapping to 3q29; Tnk2 (mouse) mapping to 16 B3.

SOURCE

ACK (A-11) is a mouse monoclonal antibody raised against amino acids 920-1036 mapping at the C-terminus of ACK 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.

ACK (A-11) is available conjugated to agarose (sc-28336 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28336 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28336 PE), fluorescein (sc-28336 FITC), Alexa Fluor® 488 (sc-28336 AF488), Alexa Fluor® 546 (sc-28336 AF546), Alexa Fluor® 594 (sc-28336 AF594) or Alexa Fluor® 647 (sc-28336 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28336 AF680) or Alexa Fluor® 790 (sc-28336 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ACK (A-11) is recommended for detection of ACK 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 ACK siRNA (h): sc-29632, ACK siRNA (m): sc-29633, ACK shRNA Plasmid (h): sc-29632-SH, ACK shRNA Plasmid (m): sc-29633-SH, ACK shRNA (h) Lentiviral Particles: sc-29632-V and ACK shRNA (m) Lentiviral Particles: sc-29633-V.

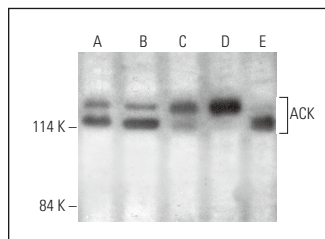
Molecular Weight of ACK: 60/115/119 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HT-1080 whole cell lysate: sc-364183 or K-562 whole cell lysate: sc-2203.

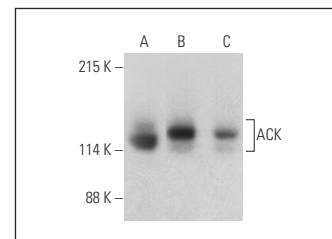
STORAGE

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

DATA



ACK (A-11) HRP: sc-28336 HRP. Direct western blot analysis of ACK expression in MM-142 (A), EOC 20 (B), HT-1080 (C), HeLa (D) and K-562 (E) whole cell lysates.



ACK (A-11): sc-28336. Western blot analysis of ACK expression in K-562 (A), HT-1080 (B) and H4 (C) whole cell lysates. Detection reagent used: m-IgG_{2b} BP-HRP: sc-542741.

SELECT PRODUCT CITATIONS

- Shen, F., et al. 2007. Activated Cdc42-associated kinase 1 is a component of EGF receptor signaling complex and regulates EGF receptor degradation. *Mol. Biol. Cell* 18: 732-742.
- Linderoth, E., et al. 2013. Activated Cdc42-associated kinase 1 (ACK1) is required for tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) receptor recruitment to lipid rafts and induction of cell death. *J. Biol. Chem.* 288: 32922-32931.
- Jones, S., et al. 2014. The non-receptor tyrosine kinase ACK1 regulates the fate of activated EGFR by inducing trafficking to the p62/NBR1 preautophagosome. *J. Cell Sci.* 127: 994-1006.
- Maxson, J.E., et al. 2016. Identification and characterization of tyrosine kinase nonreceptor 2 mutations in leukemia through integration of kinase inhibitor screening and genomic analysis. *Cancer Res.* 76: 127-138.
- Mahendrarajah, N., et al. 2017. Hsp90 is necessary for the ACK1-dependent phosphorylation of Stat1 and Stat3. *Cell. Signal.* 39: 9-17.
- Sorkina, T., et al. 2018. Small molecule induced oligomerization, clustering and clathrin-independent endocytosis of the dopamine transporter. *Elife* 7: e32293.
- Jiang, H., et al. 2019. Entry by multiple picornaviruses is dependent on a pathway that includes TNK2, WASL, and NCK1. *Elife* 8: e50276.
- Kiweler, N., et al. 2020. Histone deacetylase inhibitors dysregulate DNA repair proteins and antagonize metastasis-associated processes. *J. Cancer Res. Clin. Oncol.* 146: 343-356.
- Brandao, R., et al. 2021. ACK1 is dispensable for development, skin tumor formation, and breast cancer cell proliferation. *FEBS Open Bio* 11: 1579-1592.

RESEARCH USE

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