LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human GAB1 Protein
Catalog Number: hRP-2095
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human GRB2-associated-binding protein 1 (GAB1) gene is a member of the IRS1-like multisubstrate docking protein family. It is an important mediator of branching tubulogenesis and plays a central role in cellular growth response, transformation and apoptosis. As an adapter protein, Gab1 plays a role in intracellular signaling cascades triggered by activated receptor-type kinases. It also plays a role in FGFR1 signaling. Probably involved in signaling by the epidermal growth factor receptor (EGFR) and the insulin receptor (INSR), Gab1 can be phosphorylated in response to FGFR1 activation. Gab1 can also be phosphorylated on tyrosine residue(s) by the epidermal growth factor receptor (EGFR) and the insulin receptor (INSR). Tyrosine phosphorylation of GAB1 mediates interaction with several proteins that contain SH2 domains. Phosphorylated on tyrosine residues by HCK upon IL6 signaling. Recent data indicated that Gab1 is an essential component of the CCL19/CCR7 chemokine axis that regulates mouse DC migration during asthmatic responses.

Full-length human GAB1 cDNA (693aa, Isoform-B) was constructed with codon optimization gene synthesis and expressed with a T7-His-TEV cleavage site Tag (31aa) fusion at N-terminal. This protein was expressed in E. coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol:	GAB1
Accession Number:	NP_002030
Species:	Human
Size:	25 µg / Vial
Composition:	0.25 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.

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Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Yun Zhang, et al., *Scaffolding protein Gab1 regulates myeloid dendritic cell migration in allergic asthma. Cell Research* 26, 1226-1241 (November 2016) | doi:10.1038/cr.2016.124

Bai R, et al., *MicroRNA-409-3p suppresses colorectal cancer invasion and metastasis partly by targeting GAB1 expression*. Int. J. Cancer 137 (10), 2310-2322 (2015)

Deng H, et al., *Enhanced enteroviral infectivity via viral protease-mediated cleavage of Grb2-associated binder 1*. FASEB J. 29 (11), 4523-4531 (2015)

Sang H, et al., *Gab1 regulates proliferation and migration through the PI3K/Akt signaling pathway in intrahepatic cholangiocarcinoma.* Tumour Biol. 36 (11), 8367-8377 (2015)

Applications

1. May be used for in vitro Gab1 mediated cell signaling pathway regulation study for various cells in FGFR1 and IL6 pathway by intracellular delivery of this protein with protein-delivery reagent such as ProFectin Reagent Kit.
2. May be used for protein-protein interaction measurement in vitro for mapping GAB1 binder.
3. As substrate protein for kinase enzymatic assay.
4. Potential biomarker protein, which may be used for diagnostic application of various cancer or asthma.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFSGGEVVCSGWLRKSPPEKKLKRYAWKRRWFVLRSG
RLTGDPDVLEYYKNDHAKKPIRIIDLNLCQQVDAGLTFNKKEFENSYIFDINTIDRIFYLVADS
EEEMNKWVRCICDICGFNPTEEDPVKPPGSSLQAPADLPLAINTAPPSTQADSSSATLPPPYQL

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INVPPHLETLGIQEDPQDYLLLINCQSKKPEPTRTHADSAKSTSSETDCNDNVPSHKNPASSQS
KHGMNGFFQQQMIYDSPPSRAPSASVDSSLYNLPRSYSHDVLPKVSPSSTEADGELYVFNTPSG
TSSVETQMRHVSISYDIPPTPGNTYQIPRTFPEGTLGQTSKLDTIPDIPPPRPPKPHPAHDRSP
VETCSIPRTASDTDSSYCIPTAGMSPSRSNTISTVDLNKLRKDASSQDCYDIPRAFPSDRSSSL
EGFHNHFKVKNVLTVGSVSSEELDENYVPMNPNSPPRQHSSSFTEPIQEANYVPMTPGTFDFSS
FGMQVPPPAHMGFRSSPKTPPRRP