

Recombinant Human BIRC1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50067

Size: 10ug, 100ug

Protein Name: Baculoviral IAP repeat-containing protein 1 (Neuronal apoptosis inhibitory protein)

Synonym: NAIP, BIRC1

UniProt ID: Q13075

UniProt Link: www.uniprot.org/uniprotkb/Q13075/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1403 AA

Molecular Weight: 160 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MATQQKASDERISQFDHNLPELSALLGLDAVQLAKELEEEEQKERAKMQKGYNSQMRSEAKRLKT
FVTYEPYSSWIPQEMAAAGFYFTGVKSGIQCFCSSLILFGAGLTRLPIDHKKRFHPDCGFLNKKDVGN
IAKYDIRVKNLKSRLRGGMRYQEEEARLASFRNWPFFYVQGISPCLVSEAGFVFTGKQDTVQCFCSC
GGCLGNWEEGDDPWKEHAKWFPKCEFLRSKKSSEEITQYIQSYKGFVDITGEHFVNSWVQRELP
ASAYCNDISIFAYEELRLDSFKDWPRESAVGVAALAKAGLFYTGKIDIVQCFCSCGGCLEKWQEGDDPL
DDHTRCFPNCPFLQNMKSSAEVTPDLQSRGELCELLETTSESNELEDSIAGPIVPEMAQQGEAQWFQ
EAKNLNEQLRAAYTSASFRHMSLLDISSDLATDHLLGCDLSIASKHISKPVQEPLVLPEVFGNLNSVM
CVEGEAGSGKTVLLKKIAFLWASGCCPLLNRFLVLYLSLSTRPDEGLASIIICDQLLEKEGSVTEMC
VRNIIQQLKNQVLFLLDDYKEICSIQVIGKLIQKNHLSRTCLLIIVRTNRARDIRRYLETILEIKAFPFYN
TVCILRKLF SHNMTRLRKFMVYFGKNQSLQKIQTPLFVAICAHWQYFPDPSFDDVAVFKSYMER
LSLRNKATAEILKATVSSCGELALKGFFSCCFEFNDDDLAEAGVDEDEDLTMCLMSKFTAQRLRPFY
RFLSPAFQEFLAGMRLIELLSDRQEHQDLGLYHLKQINSPMMTVSAYNNFLNYVSSLPSTKAGPKIV
SHLLHLVDNKESENISENDDYLKHQPEISLQMQLLRGLWQICPQAYFSMVSEHLLVLALKTAYQSNT
VAACSPFVLQFLQGRTLTLGALNLQYFFDHPELSLLRSIHFPPIRGNKTSAPRAHFSVLETCFDKSQVP
TIDQDYASAFEPMNEWERNLAEKEDNVKSYMDMQRRASPDSTGYWKLSPKQYKIPCLEVDVNDID
VVGQDMLEILMTVFSASQRIELHLNHSRGFIESIRPALELSKASVTKCSISKLELSAAEQELLTLPSLE
SLEVSGTIQSQDQIFPNLDKFLCLKELSDLEGNINVFVSVIPEEFPNFHHMEKLLIQISAEYDPSKLVKLI
QNSPNLHVFLKCNFFSDFGSLMTMLVSCCKLLEIKFSDSFFQAVPFVASLPNFISLKILNLEGQQFP



DEETSEKFAYILGSLSNLEELILPTGDGIYRVAKLIQQCQQLHCLRVL SFFKTLNDDSVVEIAKVAISGG
FQKLENLKL SINHKITEEGYRNFFQALDNMPNLQELDISRHFTECIKAQATTVKSLSQCVLRLPRLRL
NMLSWLLDADDIALLNVMKERHPQSKYLTILQKWILPFSPIIQK

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Baculoviral IAP repeat-containing protein 1 (Neuronal apoptosis inhibitory protein) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Anti-apoptotic protein which acts by inhibiting the activities of CASP3, CASP7 and CASP9. Can inhibit the autocleavage of pro-CASP9 and cleavage of pro-CASP3 by CASP9. Capable of inhibiting CASP9 autoproteolysis at 'Asp-315' and decreasing the rate of auto proteolysis at 'Asp-330'. Acts as a mediator of neuronal survival in pathological conditions. Prevents motor-neuron apoptosis induced by a variety of signals. Possible role in the prevention of spinal muscular atrophy that seems to be caused by inappropriate persistence of motor-neuron apoptosis: mutated or deleted forms of NAIP have been found in individuals with severe spinal muscular atrophy.; Acts as a sensor component of the NLRC4 inflammasome that specifically recognizes and binds needle protein CprI from pathogenic bacteria *C.violaceum*. Association of pathogenic bacteria proteins drives in turn drive assembly and activation of the NLRC4 inflammasome, promoting caspase-1 activation, cytokine production and macrophage pyroptosis. The NLRC4 inflammasome is activated as part of the innate immune response to a range of intracellular bacteria such as *C.violaceum* and *L.pneumophila*.

Subcellular Localization: N/A

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.