

Recombinant Human SHC1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50892

Size: 10ug, 100ug

Protein Name: SHC-transforming protein 1 (SHC-transforming protein 3) (SHC-transforming protein A) (Src homology 2 domain-containing-transforming protein C1) (SH2 domain protein C1)

Synonym: SHC1, SHC, SHCA

UniProt ID: P29353

UniProt Link: www.uniprot.org/uniprotkb/P29353/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 583 AA

Molecular Weight: 63 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MDLLPPKPKYNPLRNESLSSLEEGASGSTPPEELPSPSASSLGPIPLPGDDSPPTLCSFFPRMSNL
RLANPAGGRPGSKGEPGRAADDGEGIVGAAMPDSGPLLLQDMNKLSGGGGRRTRVEGGQLGGE
EWTRHGSFVNKPTRGWLHPNDKVMGPGVSYLVRYMGCVEVLQSMRALDFNTRTQVTREASLVCE
AVPGAKGATRRRKPCSRPLSSILGRSNLKFAGMPITLTVSTSSLNLMAADCKQIIANHHMQSISFASG
GDPDTAEYVAYVAKDPVNQRACHILECPEGLAQDVISTIGQAFELRFKQYLRNPPKLVTPHDRMAGF
DGSAWDEEEEEPPDHQYYNDFPGKEPPLGGVDMRLREGAAPGAARPTAPNAQTPSHLGATLPV
GQPVGGDPEVRKQMPPPPPCPGRELFDDPSYVNVQNLDKARQAVGGAGPPNPAINGSAPRDLFD
MKPFEDALRVPPPPQSVSMAEQLRGEPWFHGKLSRREA EALLQLNGDFLVRESTTTPGQYVLTGL
QSGQPKHLLLVDPEGVVRTKDH RFESVSHLISYHMDNHLPIISAGSELCLQQPVERKL

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 SHC-transforming protein 1 (SHC-transforming protein 3) (SHC-transforming protein A) (Src homology 2 domain-containing-transforming protein C1) (SH2 domain protein C1) 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: Signaling adapter that couples activated growth factor receptors to signaling pathways. Participates in a signaling cascade initiated by activated KIT and KITLG/SCF. Isoform p46Shc and isoform p52Shc, once phosphorylated, couple activated receptor tyrosine kinases to Ras via the recruitment of the GRB2/SOS complex and are implicated in the cytoplasmic propagation of mitogenic signals. Isoform p46Shc and isoform p52Shc may thus function as initiators of the Ras signaling cascade in various non-neuronal systems. Isoform p66Shc does not mediate Ras activation, but is involved in signal transduction pathways that regulate the cellular response to oxidative stress and life span. Isoform p66Shc acts as a downstream target of the tumor suppressor p53 and is indispensable for the ability of stress-activated p53 to induce elevation of intracellular oxidants, cytochrome c release and apoptosis. The expression of isoform p66Shc has been correlated with life span (By similarity). Participates in signaling downstream of the angiopoietin receptor TEK/TIE2, and plays a role in the regulation of endothelial cell migration and sprouting angiogenesis. Involved in the oncostatin-M-mediated signaling pathway through type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) where it contributes to activation of the Ras/Raf/MAPK pathway through JAK1-dependent recruitment to OSMR subunit of OSMR complex and SHC1 association with GRB2 (PubMed:11016927).

Subcellular Localization: Cytoplasm. Cell junction, focal adhesion .; [Isoform p46Shc]: Mitochondrion matrix . Note=Localized to the mitochondria matrix. Targeting of isoform p46Shc to mitochondria is mediated by its first 32 amino acids, which behave as a bona fide mitochondrial targeting sequence. Isoform p52Shc and isoform p66Shc, that contain the same sequence but more internally located, display a different subcellular localization.; [Isoform p66Shc]: Mitochondrion . Note=In case of oxidative conditions, phosphorylation at 'Ser-36' of isoform p66Shc, leads to mitochondrial accumulation.

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.