



Recombinant Rat USH2A Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52550

Size: 10ug, 100ug

Protein Name: Usherin (Usher syndrome type IIa protein homolog) (Usher syndrome type-2A protein homolog)

Synonym: Ush2a

UniProt ID: Q8K3K1

UniProt Link: www.uniprot.org/uniprotkb/Q8K3K1/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 5125 AA

Molecular Weight: 563 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MYYLALSSGFLGQAIKTSILAYLASVLLAASQGVFPRLNVGAFKKVSIVPSHATCGYPGPSTFCRSA
VAAEHAQLCAERLCIQDCPYRSASPPYTALLEGLRSCIPADHGDHPYSRNSTSFIFGSHKNCP
QAPRLAAEFTLAVWLKPERGSTMVLEKTADGQIVFKVTISERETMFYYRTVNGLQPPIKVMTPGRIL
MKKWIHHTVQVHETEVSFVDGLEENSTAFDTRTLRDSIMDSVPSTVLIGQSLNGSELFVGRMQDFR
LYNVSLTNREILELFSGDLPHLHIQSHCRCPGSHPRVHPSVQQYCIPNGVEDTLQHRVSRLNPEAHP
LSFINDDDVATSWISHVFTDITQLNQGVASIDLENGQYQVFQITIRFSSPQPVAMRIQRKKADKSLWE
DWQYFARNCSVWGMKNNGDLENPNNSVNCLQFPEFIPFSHGNVTFDLLTSGQKHRPGDYDFYNSSL
LQEFMTATQIRLYFRGLFYPAWHTVDSRHRYYAVDEITIIGRCQCHGHAETCDRTRRPYRCLCSPHS
FTEGPQCGRCSPLYNDKPFRRSGNKVHAFNCKPCQCHGHASSCHYDASMDPFPLEYNRGGGGVCD
DCQHHTTGRNCESCQDYFYRPIGADPADPEVCKKHCDNRDGRNGSLLCDLVGDQCCKRRVSG
RRCFRCHIGFYGLQALDPDCCRPCDCNPSGTVDGDITCHHNSGQCCKANVIGLRCDRCFSFGFKFL
RSLNADGCEPCHCNLHGSVNQLCDPLSGQCVCKKEAKGLRCDVCRENFYGLPWSACEVDCNRA
GTQAGTVCDAAETGQCVCKPSVGGRRRCSECKEGYFNLRQNDSHLCLPCNCEKTGTVNGSLLCDKST
GQCPCKLGVTLGRCHQCKPHRFNLTMNPPQGCQACDCDSLGTLLGSMCDPVSGQCLCLPHRQER
RCVQCQPGCYSSPSNATGCLPCLCHTVATKNCICNSVTGHYCPCDPSTTGLSWHQCQDRYFRFDP
LTGRCRPHCHVAGASNGTCAVTVGQCFCKEFVTGSKCDTCVPGASHLDVNNLLACSKTPSQQPP
PRGRVQSSSAINLSWSPPDFPNAHWLTYTLFRDDSEIYTTDDQHPYYTQYFLDTSLSPTAYSYYIET
SNVHSSTRSIPVIYKTKPEGSEGHNLTHIIPVASDSITLVWTGLSNHSGPIEKYVLSCTPVDHTEPCV



SYEGPETSATIRNLVPFTQYCFSVQGCTNGSCLYSSPITVTTAQAPPQRQEPPTVWKISPTTELKVEW
SRPVDSNGVIIRYELYMKRWPSTEEESLVFESHGWFHSHPASPSANQSENVLQDPQVSTVLSGLDPH
TEYAFRVLAVNMAGSVSSAWASERTGESAPVFMAAPSVSPLSPYSLSVSWEKPAENFTRGEIIGYKI
SMVSESPQRDVPVMCSKLVHFAESQDQSYIVQRLKPYRTYSFTVSLCASVGCVTSAALGEGQTLAA
APAQLRSPMVTGVTSTTVHIRWLPPAEVNGPPPLYRLERRESFLPAATAARTKGTRFMGDGYCRFP
RTAHPDFIGIKASFWRVPEGLILLALHPDNQEEYFALQLKSGRPYFLYNPQGSLSVEVTTADDHSQQY
SDGQWHEITAIRHQSFQGITLDEQYTDSSASLNGSSVTGGYTRLFVGGLPQGHTILQKRPVRRGFVG
CLKDVSILKGSSPSGTWLPLDWQSSEEQVNVHHSWEGCPTDLEEGVQFLGAGFLELRSDTFHAAK
DFEISLKFQTDQLNGLLLFIHNTEGLDFLAMELKSGLLSFQLNSSRILTRVEVRLGRTHCDGKWNVRTI
RREGSMVSVGVNELTKSTSRAGDQPPLLTSPVYLGIPQELQASYRHLTLEQGFRGCVKEVAFTRG
AVVNLASVSSRAVRVNQDGCLSSDSTVNCGGNDSILVYRGSRSQSVYESGLQPFTYLYRVTASHKG
GSVSSDWSRGRTLGSAPHSVPTPSRAQSINGYSVEVAWNEPAMVKGVLKYILKAYSEDSQAQPHM
PSASTEFNNTDIRTGILTGLHPFHSYAVTLTACSRAGCTESSRALSISTPQEAPQEVQAPVAEALPNS
LSFFWSPPRQANGIITQYSLYMDGRLVYTGKGQNYTVTDLRVFTAYEITVGACTRAGCTNSSRVILHT
AQLPPERVDPPVLAILDSRTVHIQWKQPRQLNGILERYILYTLNPTHNSTVWDVVYNSTENLQTHLLY
HLSPGCLYLIKLGACTGGGCTTSEPSQALMDETVEGPVAPRAHSHSPDSFNISWTEPGHPNGVITT
YELYLDGTLIHNSSELSCHAYGFDPSLHTFQVQACTAKGCALGPLVENRTLEAPPEGTVNLFVKPE
GSREAARWDAPPHPNGRLTYSVLITGNFYADQAGDNYTLLSSTKT VHSSKGDRLWVLVDRLVPCS
NYTVQVNASNSQGSVLSDRVSVEMPPGAPDGLLSPRLAAATPTSLQVWSTPARNNAPGSPRYQL
QMRPDPSTRGLLELFPISALLSYEVTGLQPFTVYEFRLVATNGFGSAYS DWTPLMTTEDKPGPMDA
PVLNVKAGMMSVAWRKPTECNGAITHYNIYQHGRLYLTVSGGVNTCTVHLPHTAYQFQIEACSS
KGCMSMPASETVWTLPGTPEGIPGPELLPYTPTKIIVSWQPPTHLDGLVENITIERRVKEQEEVRS LVI
LPRSQA VR FIDNDPALRPWTHYEYRVLGSTLNGGTNSSAWVEVTRPSRPSGVQPPTVHVLGPDAV
EVTWKAPLIRNGDIVSYEIRMPDPLIEITNVT SFVLSHLVKHLIPFTNYSVSIVACSGGHGYLGGCTESL
PTFATTHPALPQELTPLSISLLGQSYVGISWQPPSKPNGPNLRYELLRRKIQQPLASNP PEDLNLWHN
IYSGTRRFYEDKGLSRFTTYEYKLFVHNSLGFTPSQEVTVTTLAGSPERGATVTASILNHTAIDVRWK
RPTFQDLQGDVEYYTLFWSSGTSVESLKIFPDVDFHVGHLAPNVEYQVFLLVFNGVHAINSTVVRVT
TWEEPRGMRPPEVVIINSTAVRVIWTSPPSNPNAVITESSVYANNELHKAGAGAPGSFTLEDLSPFTI
YDIQVEVCTKDACVKSSGTQVSTAEDTPSGISIP IIRDITSRSLQIDWTAPGNPNGIILGYDVL RKTWRL
CSETQKLTDKPRDELCKAVKCQYPGNVCGHTCYSPGTKVCCDGLLYDPQPGYSCCEEKYIALLPNS
TGVCCGGRQREAAQPDHQQCCSGHYIRILPGEICCPDERHNRVSVGFGDACC GTMPYATSGS QVCCA
GKLQDGYRRQCCGGMVMSQDFKCCGGGEEGMVYSSLPGMLCCGQDYVNMSDTICCSASSGDSK
AHVRGSDPMPVRCCHTELIPESQQCCDGVGYNPVKYVCSDEISAGMATEETRV CATVCPATMRAT
AHCQGQCDFNATTHICTVSRGPLNPIGKETAEGLCSTAEIIVHSGDENTRSFIDTDLEPSTVYEYRVSV
WNSYGRGFSQS VRASTREDVPQGV TAPRWARTGNHEDVIFLTWKEPTQSNGPITHYILLRDGRERF
QGAALSFTDTQGIQPLQEYSYQLKACTAAGCADSCKVVATATRGVLESVPPP NITAQSPETLHLSWS
VPEKRND AIKEYQLWLDGKGLIYTD TNDRRQHTVTGLQPHTNYSFTLSACTSVGCTSSEPSVGQTL
QAAPQGVWVTPRHIINSTTVELYWNPPERPNGVISQYRLRRNGSLLL VGGRDDQSFTDKNLEPNR
YIYTLEARTGGGSSLSEEYLVQMPMWT PEDVHPPCNVTVLGSDSIFVAWPAPGILLPKIPVEYSILLS
GGNMMLLTFSVGLRQSAYLKNLAPFTQYEIRIQACQEGCGVSPGTHVRTLEAAPVGLMPPLLKALGS
HCIEVKWTPPTRPNGIITSYVIHRRPADTEEEESLLFWWSEGALEFTDDTDTLRPFTLYEYRVRAWNSK
GVVDS PWSSVQTLEAPPQDL PAPWVQVTS AHSVLLNWTEPEAPNGLISQYHVIYQERPDEAAPGSS
TVHAFTVKGSSRQAHLFGLEPFTTYHIGVAAVNRAGKVSSPWTLIKTLESAPSGLMNFTA EQREGGR
ALLLQWSEPVRTNGVIKAYNVFSDGLPEYSGLGRQFLFRRLAPFTLYILTLEACTAAGCAHSVPQTL
WTEEAPPDSQMAPTIQSVEPTSVRLHWSQPANPNGKIIRYEVIRRLQGEDWGNRTVQADENTVFT
EYNTGNGWVCTDTGLQPWGLYSYRICTWNSAGHTCSSWSVVRTSQAPPDGLSPPEVSYVST SPL
QLLISWFAPRHTNGVIQSYRLQRNGVFAAASFNSSTFSYTDGQLLPFTTYSYAVLACTGGGCCTSEP
TNITTPEASPAGVSPPVLWAIGAHQINVSWSPPSVPNGKIAKYLLHCDGEEHLAGQDLSLLL SNLRPF
TQYNVSLVACTKGGCTASRVASAWTMEAPPEDMDPPTLHVMGPESIEITWAPPRNPHGQIRSYELR
RDGAIVYIGLETRYHDFILTPGVQYGYTVTATNSRGSVLSPLVKGQTSPSAPSGLQPPKLRAGEALEL
LVNWNPPVRTNGKITNYTLFIRELLEGEIRTM CINTTHSSFGTRSLAVKHLKPFHRYEVRVQACTALG
CTSSEWTPQTSEIPPLLQ PAPHLEVQTAAGGFQPIVAVWWAGPLQPHGKIVRFELYRRQTASWPG
TSSPLLIYNGSLSSFTDRELLPFTEYEYQVWAVNSAGKVASNWTWCRTGPAPPEGLKAPT FHTVSS
TQAVVNISAPSKPNGNISLFRVFSNSSGTHVMLSEGMATQQTLHDLRPFTTYAIGVEACTCFNCCSR
GPTAELRTHPAPPSGLSPPQVQTLGSRMASFQWAPPQLPNGVIHSYELQLHRACPPDSAPHCPPSP
TERKYWGPGHRASLAGLQPN TAYGVQVVAHNEAGSTASGWTSFR TKKEMPQYQALFSVDSNAST
VVVDWSGTFVLNGQLKEYVVT DGGRRVYSGLDTTLYIPRTVDK TFFFQVTCTTDIGSVKTPLVQYDA



TTGFGLVLTPGGKKGAGTKSTEFYTDTRLPRSGTPVSIRSSQSVSVLRIPSQSQLSHAYSQGSLHR
SVSQLMDSPDKKALTEDSLWETIMGHSSGLCVDEEELMNAIKGFSSVTKEHTAFTDTHL

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 Usherin (Usher syndrome type IIa protein homolog) (Usher syndrome type-2A protein homolog) 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: Involved in hearing and vision as member of the USH2 complex. In the inner ear, required for the hair bundle ankle formation, which connects growing stereocilia in developing cochlear hair cells. In retina photoreceptors, the USH2 complex is required for the maintenance of periciliary membrane complex that seems to play a role in regulating intracellular protein transport.

Subcellular Localization: [Isoform 2]: Secreted .; Cell projection, stereocilium membrane . Photoreceptor inner segment . Note=Component of the interstereocilia ankle links in the inner ear sensory cells. In photoreceptors, localizes at a plasma membrane microdomain in the apical inner segment that surrounds the connecting cilia called periciliary membrane complex.

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.