

Recombinant Mouse USH2A Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51581

Size: 10ug, 100ug

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

Synonym: Ush2A, Gm676

UniProt ID: Q2QI47

UniProt Link: www.uniprot.org/uniprotkb/Q2QI47/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 5193 AA

Molecular Weight: 570 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MHYLALSPGFLCYTIKTLILAYLASVLVLAASQGVFPRLNVGAFRKVSTVPTHATCGFPGPSTFCRS
PVAAEHVQLCTERLCIQDCPYRSASPLYTALLEGLRSCIPADDGDLHPYSRSSSVSFMFGSHQNCPS
LRAPRLAAELTAVWLKLEQGGTMCVIEKTVDGQIVFKVTISEKETMFYYRTVNGLQPPIKVMTPGRIL
MKKWIHLTVQVHQTAISFFVDGLEENSTAFDTRLHDSVTDVSSVIQVGQSLNGSEQFVGRMQDF
RLYNVSLTNREILEVFSGDFPHLHIQPHCRCPGSHPRVHPSVQQYCIPNGAGDTPEHRMSRLNPEA
HPLSFINDDDVATSWISHVFTNITQLYEGVAISIDLENGQYQVLKVITQFSSLQPVAIRIQRKKADSSPW
EDWQYFARNCSVWGMKDNELENPNSVNCLQLPDFIPFSHGNVTFDLLTSGQKHRPGYNDFYNSS
VLQEFMRATQIRLHFHGGYYPAGHTVDWRHQYYAVDEIIVSGRCQCHGHAETCDRTRRPYRCLCSP
HSFTEGPQCDCRSPLYNDKPFRSGDNVNAFNCKPCQCHGHASSCHYDASVDPFPLEHNRGGGGV
CDDCQHHTTGRHCESCQDYFYRPVGADPAAPDACKLDCNDRAGTRNGSLHCDPIGGQCDCCKRRV
SGRQCLQCQDGFYDLQALDPDGCRCPCNCNPSGTVGDITCHQNSGQCCKANVIGLRCNRCNFG
FKFLQSFNGDGCEPCQCNLHGSVNQLCDPLSGQCACKKEAKGLKCDSCRENFYGLPWSACEVCD
CSKAGSQPGTVCDTETGQCVCKPNVGGRCQCSQCKAGYFNLYQNDSHLCLTCNCEKMGTVNGSLR
CDKSTGQCPCCKLGVTLRCHQCKPHRFNLTMDNPQGCQACDCDSLGLTPGSMCDPISGQCCLCLPH
RQGRRCCEQCQPGFYSSPSNATGCLPCLCHTAGAVSHICNSVTGQCSCHDPSTTGRSCHQCQESYF
RFDPLTGRCRPCHCHVAGASNGTCAVGTGQCFCKEFVTGSKCDTCVPGASHLDVNNLLGCSKTPS
QQPPPRGWVQSSSTINVSWSPECPNAHWLTYTLFRNGSEIYTTEDHPYYTQYFLDTSLSPTAY
SYYIETSNVHSSTRSIPVIYETKPEVSEGHLNLTHIIPVGSDSITLTWTGLSNSSDPVAKYVLSCTPVDS



TEPCVSYEGPETSATIWNLPFTQYCFVSQGCTNESCFYSLPIIVTTAQAPPQTQGPPTVWKISPTTEL
RIEWSPPVDSNGIIISYELYMRRWLSTEEESLVFESHGLVSSHSAHQSVNPSKNLLQQPQASTFISGLE
PHTEYAFRVLAVNMAGRVSASAWASERTGESVPVFMAPPSSVPLSPHSLSVSWEKPAENFTRGEIIG
YKISMVSEHFPLHDVPVMCSKMHFAKSQDQSYIVRGLEPYRTYSFTVSLCDSVGCVTSAALGSGQT
LAAAPQLRPPMVTGVNSTTVHIRWLPPAGVNGPPPLYHLERKKSSLPAAATAAVTKGTRFVGHGYC
RFPRTAHADFIGIKASFRTVRPEGLILLALSPGDQEEYFTLQLKNGRPYFLYNSQGTLEVTPTDDPS
QGYRDGEWHEIIAVRHQAFAFGQITLDGQYTGSSSSSLNGSSVTGGYTGLFVGGVPQGHSLVQKRLEIIQ
RGFVGCLKDVFIMKGYSPSGTWLPLDWQSSEEQVNVHPSWEGCPTNLEEGVQFLGAGFLELPST
FHAADFEISLKFQTDQLNGLLLFIHNTEGPDFLAVELKRGLLSFKFNSSLVFTRVDLRLGLADCDGK
WNTVSIKKEGSVSVRVNALKKSTSQAAGQPLLNSPVYLGIPRELQDAYRHLETPGFRGCVKE
VAFARGVVNLASVSSRAVRVNQDGLSSDSTVNCGGNDSILVYRGSQQSVYESGLQPFTEYLYRV
TASHEGGAVSSDWSRGRTLGTAPQSVPTPSRAQSINGSSVEVAWNEPAVVKGVLEKYVLKAYSED
SSQPRVPSASTELHDTSTHSGVLIGLHPFHSYTVTLTACSRAGCTESSQALSISTPQEAPQEVQAPV
AVALPNSLSFFWSLPRQANGIITQYSLYVDGRLVYTGKGQNYTVTDLRVFAAYEIIVGACTQAGCTNS
SQVILHTAQLPPEQVDPPLGLTVLDSRTIHVRWKQPRQLNGILERYILYILNPIHNSTMWSVYVNSTEKL
QAHVLHHLSPGGLYLIRLVCTGGGCTTSEPSQALMEETIPEGVPAPRAHSYSPDSFNISWTEPEYP
NGVITTYELYLDDTLIHNSGLSCHAYGFDPGSLHTFQVQACTAKGCALGPLVGNRTLEAPPEGVNV
VLVKPEGSREAHVRWDAPAHPNGRLTYSVHFTGSFYADQAGDNYTLLSGTKTIRGIEGSRLWVLVD
GLVPCSHYMVQVNASNSRGSVLSDPVSSEMPPGAPDGLLSPRLAAAAPTSLQVWVSTPARNNAPG
SPRYQLQMRPGPSTHGRLELFPISASLSYEVTGLQPFTVYEFRLVATNGFGTAYSATWPLMTTEDK
PGPIDAPILINVKARMLSVIWRQPAKCNAGITHYNIYHGRLYLTVSGRVNTNYTVPLHPYKAYHFQVE
ACTSQGCSKSPSSETVWTLPGNPEGIPSPQLFPYTPTSIIVTWQPSAHLDLLVENVTIERRVKGKKEV
RNLVTLARSQAMKFIDNDPALRPWTRYEYRVLGSTLDGGTNSSAWVEVTRPCRPSPGVQPPTVRVL
APDTEVSVWKAPLMQNGDILSYEIRMPEPLIKMTNMSSIMLSHLVKHLIPFTNYSVTIVACSGGNGYL
AGCTESPPTLATTHPAPPQELAPLSVILLSESDVGISWQPPSKPNGPNLRYELLRCKIQQLASNPPE
DLNLWHNIYSGTRWFYKDKGLSRFTTYEYKLFVHNSVGFTPSREVTVTTLGASPERGATVTASILNH
TAIDVRWKKPTFQDLQGDVEYYTLFWSSGTSEESLKIFPDVDFHVGQLSPNVEYQVFLLVFNGVHAI
NSTVVHVTMWEEEPQGMPLPEVVIINSTAVRVIWTSPPSNPNAVVTESVYVNNKLYKTGTDAPGSFV
LEDLSPFTIYDIQVEVCTKDACVKSNGTQVSTAEDTPSDISIPVIRGITSRSLQIDWTTTPANPNGIILGYD
VLRKTRWPCSETQKLTDKPRDELCKAVKCQYPGKVCGHCTCYSPTGKVCDDGLLYDPQPGYSCCED
KYIALSPNATGVCCGGRMWEAQPDHQCCSGHYARILPGEICCPDERHNRVSVGFGDACC GTMPYA
TSGSQVCCAGRLQDGYRQQCCGGEMVSQDFQCCGGGEEGMVYSYLPGLMCCGQDYVNMSETIC
CSASSGESKAHVRKDDPTPVKCCGTLSPEQRCCDGVGYNPLKYVCSDEISAGMAMKETRVCATI
CPATMKATAHCGRCDFNATTHICTVMRGLNPTGKKAVEGLCSAAEEIVHSGDVNTHSFIDRDLKPS
TVYEYRISAWNSYGRGFSQSVRASTREDVPEGVKAPRWARTGKHEDVIFLQWEEP MQSNGPIIHYIL
FRDGRERFQGTALSFTDTQGIQPLQEYSYQLKACTAAGCAVSCKVVAATTQRSPENVPPP NITAQS
SETLHLSWSVPEKMKDAIKAYQLWLDGKGLIYTDTSRRQHTVTGLQPYTNYSFTLAVCTSVGCTSS
EPCVGQTLQAAPQGVWVTPRHHIINSTTVELYWNPPERPNGLISQYQLRRNGSLLL VGGRDNQSFTD
SNLEPGSRYIYKLEARTGGGSSWSEDLVQMPLWTPEDIHPPCNVTVLGSDSIFVAWPTPGNLLPKI
PVEYSILLSGGSVTLLVFSVRHRQSAHLKNLSPFTQYEIRIQACQNGGCGVSPGTYVRTLEAAPVGL
MPPLLKALGSSCIEVKWMPPTRPNGIITSYVHRRPADTEEEESLLFWWSEGALEFTDDTGTLRPFTLY
EYRVRAWNSQGAVDSPWSTIQTLEAPPRGLPAPRVQATSAHSAMLNWTEPEAPNGLISQYHVIYQE
RPDAAAPGSSTVHAFTVTGTSRQAHLFGLEPFTTYHIGVVAVNSAGKVSSPWTLIKTLESAPSGLMN
FTVEQREKGRALLQWSEPVTNGVIKAYNIFNDGVLEYSGLGRQFLFRRLAPFTLYTLILEACTTAG
CAHSVPQPLWTEEAPPDQMAPTIQSVGPTNVRLHWSQPASPNGKIIHYEVIRRRSEEDWGNTTW
QADGNTVFTEYNTQGNWVYNDTGLQPWRQYAYRICAWNSAGHTCSSWNVVRTLQAPPDGLSPP
EISYVSMSPQLQLLISWLPPRHSNGVIQGYRLQRDGVLPALNFNASTFSYMDSQLLPFSTYSYAILACT
GGGCCTSEPTNITTPEVPPSEVSPVLWDISAHQMNVSWSPPSIPNGKIVKYLQCDGEEHLAGQGL
SFLLSNLQPSTQYNISLVACTSGGCTASRTTSAWTKAPPENMDPPTLHITGPESIEITWTPPRNPHG
LIRSYELRRDGAIVYVGLETRYHDFTLAPGVEYSYSVTATNSRGSVLSPLVKGQTSAPSAPGLQPPKL
HSGDALELLADWDPPVRTNGKIINYTLFVREMFEGKTRAMSINTTHSSFGTRSLTVKHLKPFHRYEVR
VQACTALGCTSSSEWTSTQTSEVPPLRQPAPHLEVQTATGGFQPIVAVWWAGPLQPNGKIICFELYR
RQVAAWPGTSSSLLIYNGSFRSFMDSSELLPFTEYEQVWAVNSAGKAASNWTRCARTGPAPPEGLQ
APTFTVSSSTRAVVNISVPSRPNGNISLFRVFSNSSGTHVTLSEGTATQQTLDLSPFTTYTIGVEACT
CFNCCSRGPTAELRTHPAPPSGLSPPQVQTLGSRMASVHWTPPLLNGVIHSYELQLQRACPPDSA
PRCPPSHTERKYWGPGRASLAGLQPNATAYGVQVAVYNEAGSTASGWTNFSTKKEMPQYQALFS
VDSNASMVWVDWSGTFLNGLHKEYVVTGGRRVYSGLDTTLYIPRMVDKIFFFQVTCCTTDIGSVKT
PLVQYDAATGSGLVLTTTPGEKKGAGTKSTEFYSELWFIMVMAVVGILLAIFLSLILQRKIHKEPCIRER



PPLVPLQKRMTPLSVYPPGETHVGLADTRLPRSGTPMSIRSSQSVSVLRIPSQSQLSHAYSQSSLHR
SVSQLMDMADKKVVTEDSLWETIMGHSSGLYVDEEELMNAIKGFSSVTKEHTAFTDTHL

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 (PubMed:20502675). In the inner ear, required for the maintenance of hair bundle ankle formation, which connects growing stereocilia in developing cochlear hair cells (PubMed:20502675, PubMed:24334608). 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 (PubMed:20502675).

Subcellular Localization: Cell projection, stereocilium membrane ; Single-pass type I membrane protein. Photoreceptor inner segment . Note=Component of the interstereocilia ankle links in the inner ear sensory cells (PubMed:20502675, PubMed:24334608). In photoreceptors, localizes at a plasma membrane microdomain in the apical inner segment that surrounds the connecting cilia called periciliary membrane complex (PubMed:20502675, PubMed:24334608).; [Isoform 2]: Secreted.

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.