

## Potassium voltage-gated channel subfamily A member 2 (Kcna2) Recombinant Protein | Kcna2 recombinant protein

Recombinant Mouse Potassium voltage-gated channel subfamily A member 2 (Kcna2)

|                               |                                                                 |
|-------------------------------|-----------------------------------------------------------------|
| CATALOG #<br><b>AAA113698</b> | HOST<br><b>E Coli or Yeast or Baculovirus or Mammalian Cell</b> |
|-------------------------------|-----------------------------------------------------------------|

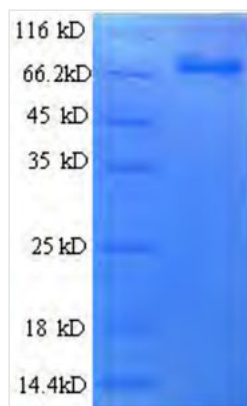
### PRODUCT SYNONYMS

Potassium voltage-gated channel subfamily A member 2 (Kcna2); Recombinant Mouse Potassium voltage-gated channel subfamily A member 2 (Kcna2); Recombinant Potassium voltage-gated channel subfamily A member 2 (Kcna2); Potassium voltage-gated channel subfamily A member 2; MK2 Voltage-gated potassium channel subunit Kv1.2; Kcna2 recombinant protein

### PRODUCT SPECIFICATIONS

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                    | E Coli or Yeast or Baculovirus or Mammalian Cell                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Purity/Purification     | Greater or equal to 85% purity as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Form/Format             | Lyophilized or liquid (Format to be determined during the manufacturing process)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Sequence Positions      | 1-499                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Sequence                | MTVATGDPVD EAAALPGHPQ DTYDPEADHE CCERVVINIS GLRFETQLKT LAQFPETLLG DPKKRMRYFD<br>PLRNEYFFDR NRPSFDAILY YYQSGGRLRR PVNVPLDIFS EEIRFYELGE EAMEMFREDE GYIKEERPL<br>PENEFRQVW LLFEYPESSG PARIIAIVSV MVILISIVSF CLETLPIFRD ENEDMHGGGV TFHTYSNSTI<br>GYQQSTSFTD PFFIVETLCI IWFSFEFLVR FFACPSKAGF FTNIMNIIDI VAIIPYFITL GTELAEPED<br>AQQGQQAMSL AILRVIRLVR VFRIFKLSRH SKGLQILGQT LKASMRELGL LIFFLFIGVI LFSSAVYFAE<br>ADERDSQFPS IPDAFWWAVV SMTTVGYGDM VPTTIGGKIV GSLCAIAGVL TIALPVPVIV SNFNIFYHRE<br>TEGEEQAQYL QVTSCPKIPS SPDLKKS RSA STISKSDYME IQEGVNNSNE DFREENLKTA NCTLANTNYV<br>NITKMLTDV |
| Sequence Length         | 499                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Species                 | Mus musculus (Mouse)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Preparation and Storage | Store at -20 degree C. For extended storage, store at -20 or -80 degree C.<br>Notes: Repeated freezing and thawing is not recommended. Store working aliquots at 4 degree C for up to one week.                                                                                                                                                                                                                                                                                                                                                                                         |

### IMAGES



SDS-PAGE

ADDITIONAL INFORMATION

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Related Product Information for Kcna2 recombinant protein | <p>Voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes, primarily in the brain and the central nervous system, but also in the cardiovascular system. Prevents aberrant action potential firing and regulates neuronal output. Forms tetrameric potassium-selective channels through which potassium ions pass in accordance with their electrochemical gradient. The channel alternates between opened and closed conformations in response to the voltage difference across the membrane (PubMed:12527813, PubMed:21233214). Can form functional homotetrameric channels and heterotetrameric channels that contain variable proportions of KCNA1, KCNA2, KCNA4, KCNA5, KCNA6, KCNA7, and possibly other family members as well; channel properties depend on the type of alpha subunits that are part of the channel (PubMed:20696761). Channel properties are modulated by cytoplasmic beta subunits that regulate the subcellular location of the alpha subunits and promote rapid inactivation of delayed rectifier potassium channels (By similarity). In vivo, membranes probably contain a mixture of heteromeric potassium channel complexes, making it difficult to assign currents observed in intact tissues to any particular potassium channel family member. Homotetrameric KCNA2 forms a delayed-rectifier potassium channel that opens in response to membrane depolarization, followed by slow spontaneous channel closure (PubMed:23864368). In contrast, a heteromultimer formed by KCNA2 and KCNA4 shows rapid inactivation (PubMed:23864368). Contributes to the regulation of action potentials in neurons (PubMed:12527813, PubMed:17925011). KCNA2-containing channels play a presynaptic role and prevent hyperexcitability and aberrant action potential firing (PubMed:17634333, PubMed:17925011). Response to toxins that are selective for KCNA1, respectively for KCNA2, suggests that heteromeric potassium channels composed of both KCNA1 and KCNA2 play a role in pacemaking and regulate the output of deep cerebellar nuclear neurons (By similarity). Response to toxins that are selective for KCNA2-containing potassium channels suggests that in Purkinje cells, dendritic subthreshold KCNA2-containing potassium channels prevent random spontaneous calcium spikes, suppressing dendritic hyperexcitability without hindering the generation of somatic action potentials, and thereby play an important role in motor coordination (By similarity). KCNA2-containing channels play a role in GABAergic transmission from basket cells to Purkinje cells in the cerebellum, and thereby play an import role in motor coordination (PubMed:20696761). Plays a role in the induction of long-term potentiation of neuron excitability in the CA3 layer of the hippocampus (PubMed:23981714). May function as down-stream effector for G protein-coupled receptors and inhibit GABAergic inputs to basolateral amygdala neurons (By similarity). May contribute to the regulation of neurotransmitter release, such as gamma-aminobutyric acid (GABA) (By similarity). Contributes to the regulation of the axonal release of the neurotransmitter dopamine (PubMed:21233214). Reduced KCNA2 expression plays a role in the perception of neuropathic pain after peripheral nerve injury, but not acute pain (By similarity). Plays a role in the regulation of the time spent in non-rapid eye movement (NREM) sleep (PubMed:17925011).</p> |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

NCBI AND UNIPROT INFORMATION

|                                  |                                                                                                          |
|----------------------------------|----------------------------------------------------------------------------------------------------------|
| NCBI GI #                        | 157012015                                                                                                |
| NCBI GeneID                      | 16490                                                                                                    |
| NCBI Accession #                 | NP_032443.3                                                                                              |
| NCBI GenBank Nucleotide #        | NM_008417.5                                                                                              |
| UniProt Accession #              | P63141; P15386; Q02010; Q8C8W4                                                                           |
| Molecular Weight                 | 72kD                                                                                                     |
| NCBI Official Full Name          | potassium voltage-gated channel subfamily A member 2                                                     |
| NCBI Official Synonym Full Names | potassium voltage-gated channel, shaker-related subfamily, member 2                                      |
| NCBI Official Symbol             | Kcna2                                                                                                    |
| NCBI Official Synonym Symbols    | Mk-2; Kv1.2; Akr6a4; Kca1-2; Gm10672; ENSMUSG00000074335                                                 |
| NCBI Protein Information         | potassium voltage-gated channel subfamily A member 2; MK2; voltage-gated potassium channel subunit Kv1.2 |
| UniProt Protein Name             | Potassium voltage-gated channel subfamily A member 2                                                     |
| UniProt Gene Name                | Kcna2                                                                                                    |
| UniProt Entry Name               | KCNA2_MOUSE                                                                                              |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | [contact@aaabiotech.com](mailto:contact@aaabiotech.com)  
Online datasheet: <https://www.aaabiotech.com/kcna2-recombinant-protein-e-coli/113698>