

## Kv1.2 - Potassium voltage-gated channel subfamily A, member 2

### Product specification

**Acronym:** Kv1.2

**Class:** Ion channel

**Origin:** Rat

**Molecular weight:** 57 kDa

**Application:** Screening & display technologies,  
Structural biology

**Purity:** >60%

**Activity:** to be tested

**Length:** Full length

**TMD:** 6

**Biological function:** potential neuronal action ,  
transmembrane potassium transport

### Product description

Kv1.2 is a 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. Can form functional homotetrameric channels and heterotetrameric channels (with 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. Roles include pacemaking and preventing hyper-excitability and aberrant action potential firing at a presynaptic level.

**Protein Source:** Kv1.2 wild type protein.

*Fig.1: AA sequence of Kv1.2 protein*

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10      20      30      40      50
MIVSICDPVD TAAALPCIPQ IDYDPIRHH CCTRVVNTS GIDHLEQIKI
60      70      80      90     100
LAQFPETLLG DPKKRHYFD PLRNEYFDR NRPSFDAILY YYOSGGLRR
110     120     130     140     150
PVNVPIDHS EIERVYIGI EAPNIREDI GYIKLIRPI PNIETQQWN
160     170     180     190     200
LLFEYPSSEG PARIIAIVSV MVILISIVSF CLETLPFAD ENEDNHGGGV
210     220     230     240     250
TFHTYENSTI GYQQSTSTFD PFFIVETLCI IWFSEFLVR FFACPSKAEF
260     270     280     290     300
FTNIMNIIDI VAIIPVFITL GTELAEKPED AQQGQAMSL AILRVIRLVR
310     320     330     340     350
VFRIFKLSRH SKGLQILGQT LKASNRELGL LIFFLEIGVI LFSSAVYFAE
360     370     380     390     400
ADLRDQIPK IPDAIMWAVV SMITVGVQDM VPELEGGKIV GMLDARQVI
410     420     430     440     450
TIALPVPVIV SMFNVYVHRE TEGEEQACVL QVTSQPKIPS SPDLKRSRA
460     470     480     490
SELSKSDVPE IQGVNMMI DEIRLEIKIA KCHLANIVV MLEKNEIDV

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**Affinity Tag:** Histidine tag fused to the N-terminal end of the protein.

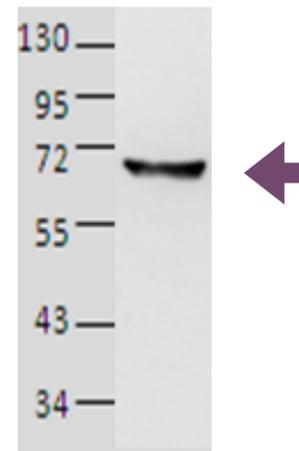
**Production conditions:** Kv1.2 is expressed in a cell-free expression system in the presence of lipid vesicles. 100 µg can be produced and qualified in about 1 week.

## Quality analysis

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**Purity:** Typically > 60% as determined by SDS-Page and Coomassie Blue staining.

**Purification procedure:** As standard, Kv1.2 proteoliposomes are purified on a sucrose gradient. Further purification steps can be added if required.



*Fig.2: Proteoliposome Kv1.2 after purification (Western blot identification).*

## Formulation

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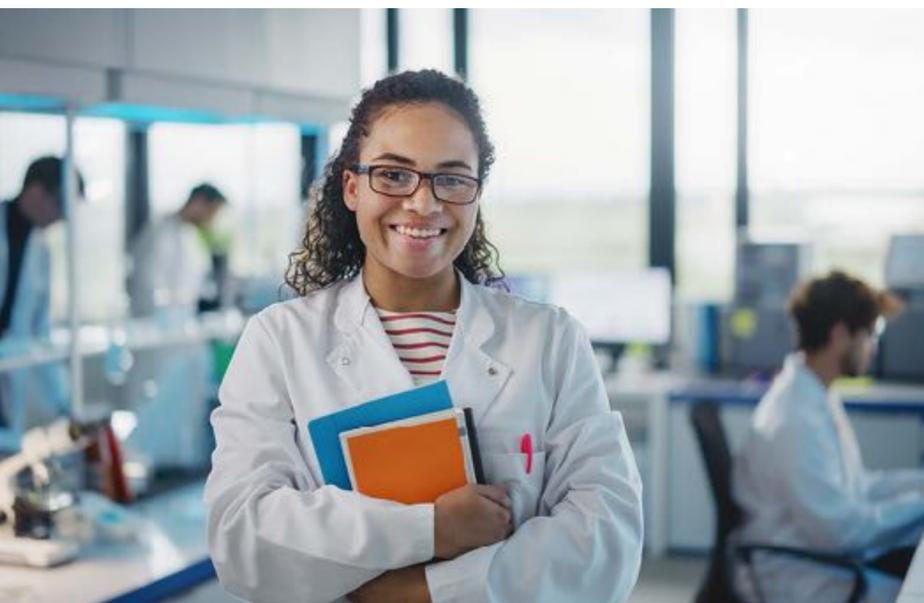
**Buffer:** Available in Tris 50mM, pH 7.5. Other buffers or customized formulation can be provided upon request.

**Customized Hydrophobic matrix:** Customized formulation with specific lipids like PEGylated or biotinylated lipids can be used upon request, as well as targeting molecules.

**Storage/Stability:** Store at +4°C for up to one week or several months at -80°C. Aliquot for storage. Do not freeze-thaw after aliquoting.

**Use restrictions:** For life science research use only.

**Available sizes:** 10µg, 20µg, 100 µg, 200 µg, 500 µg, bulk



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