

## Product datasheet for **SC127332**

### Aquaporin 4 (AQP4) (NM\_004028) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Aquaporin 4 (AQP4) (NM_004028) Human Untagged Clone
Tag:	Tag Free
Symbol:	Aquaporin 4
Synonyms:	MIWC; WCH4
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC127332 sequence for NM_004028 edited (data generated by NextGen Sequencing)

```
ATGGTGGCTTTCAAAGGGGTCTGGACTCAAGCTTTCTGGAAAGCAGTCACAGCGGAATTTCTGGCCATGC
TTATTTTTGTTCTCCTCAGCCTGGGATCCACCATCAACTGGGGTGAACAGAAAAGCCTTTACCGGTCGA
CATGGTTCTCATCTCCCTTTGCTTTGGACTCAGCATTGCAACCATGGTGCAGTGCCTTTGGCCATATCAGC
GGTGGCCACATCAACCCTGCAGTACTGTGGCCATGGTGTGCACCAGGAAGATCAGCATCGCCAAGTCTG
TCTTCTACATCGCAGCCCAGTGCCTGGGGGCCATATTGGAGCAGGAATCCTCTATCTGGTCACACCTCC
CAGTGTGGTGGGAGGCCGGGAGTACCATGGTTCATGGAAATCTTACCCTGGTTCATGGTCTCCTGGTT
GAGTTGATAATCACATTTCAATTGGTGTCTACTATCTTTGCCAGCTGTGATTCCAACGGACTGATGTCA
CTGGCTCAATAGCTTTAGCAATTGGATTTCTGTTGCAATTGGACATTTATTTGCAATCAATTATACTGG
TGCCAGCATGAATCCCGCCCGATCCTTTGGACCTGCAGTTATCATGGGAAATTGGGAAAACCATGGATA
TATTGGGTTGGGCCCATCATAGGAGCTGTCTCGCTGGTGGCCTTTATGAGTATGTCTTCTGTCCAGATG
TTGAATTCAAACGTCGTTTTAAAGAAGCCTTCAGCAAAGCTGCCAGCAAACAAAAGGAAGCTACATGGA
GGTGGAGGACAACAGGAGTCAGGTAGAGACGGATGACCTGATTCTAAAACCTGGAGTGGTGCATGTGATT
GACGTTGACCGGGGAGAGGAGAAGAAGGGGAAAGACCAATCTGGAGAGGTATTGTCTTCAGTATGA
```

Clone variation with respect to NM\_004028.4



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**5' Read Nucleotide Sequence:** >OriGene 5' read for NM\_004028 unedited  
 ACTATAGGCGGCCGACATTCGCACGAGGGAAGGCATGAGTGACAGACCCACAGCAAGG  
 CCGTGGGGTAAGTGTGGACCTTTGTGTACCAGAGAGAACATCATGGTGGCTTTCAAAGGG  
 GTCTGGACTCAAGCTTTCTGAAAGCAGTCACAGCGGAATTTCTGGCCATGCTTATTTTT  
 GTTCTCCTCAGCCTGGGATCCACCATCAACTGGGTGGAACAGAAAAGCCTTTACCGGTC  
 GGCATGGTTCTCATCTCCCTTTGCTTTGGACTCAGCATTGCAACCATGGTGCAGTGCCTT  
 GGCCATATCAGCGGTGGCCACATCAACCCTGCAGTGACTGTGGCCATGGTGTGCACCAGG  
 AAGATCAGCATCGCCAAGTCTGTCTTCTACATCGCAGCCAGTGCCTGGGGGCCATCATT  
 GGAGCAGGAATCCTCTATCTGGTCACACCTCCCAGTGTGGTGGGAGGCCTGGGAGTCACC  
 ATGGTTCATGAAATCTTACCGCTGGTCATGGTCTCCTGGTTGAGTTGATATCACATTTA  
 ATTGGTGTACTATCTTGCCAGCTGTGATTCCAACGACTGATGCTACTGGCTCAATAG  
 CTNTAGCATTGGATTTTTCTGTTGCAATTGGACATTTATTTGCAATAATTATACTGGTGC  
 CAGCATGAATCCCGCCGATCCTTTGGACCTGCAGTTATCATGGGGAAATGGGAAACCA  
 TGATTATTTGGGTTTGGGGCCATCATAGGAAGTGCCTCGCTGGGGCTTATAAAAAAT  
 GGCTTCTGGCCCCAAGGTTGATTCAAACCTCGTTAAAAGAAGCCTCAGCAAAGCTGCCA  
 GCAACAAAAGAACTCNTGGGGGGGGGAGACAACCGAATCAGTAAAAACGGTGACTGATC  
 TAACCGGAGGGGCTGTGAATGACCCCCCGGAAAAGAAAAAGGAAAAACACTTGGGA  
 AGGTTTGTATAGACTAAAAACCCCTGAACAACAAAATTTTAAACGGCTGAATTTTT  
 CCCCTAGGGAAAAATGGTAAAAAAGA

**3' Read Nucleotide Sequence:** >OriGene 3' read for NM\_004028 unedited  
 ATGGACCGGGCCGCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTAAATGTTTACCTT  
 TAAAAACATCCAATGTTTATTTTCAAGCTTAGTAGTACAAGATGCAACATAATTCAA  
 GAAAATCAACCACAGTGCTAATACTTTAATATATTATTCAAATATTAGACGTTACAGTT  
 TAAATCTTTTTAACATTAGCTCTAATGTTGGAATAACATTTAAGTTAATAAATAACTGTG  
 AATATAACCATATGTTTCAGTCTATTCTCCCGAGTTATCCTAAATGACAATTTTATTGTG  
 ATTTGGGTCAAAAAGTGATAAAATGTTTATATGTTTTCATAAATGTCATGTTTATT  
 TAATTAATCCTGAAGAGAACCTAGAAAATACATTCCAATGGGTTACATAAATTAGACGTAT  
 TTTTGTAGCTCTTCGATTTTTTTTTAAACATGAGTGAGTCACACTGTAAGTCTTAAAT  
 TTAGTGTTCATTGCACATAACATTTTTTGAATGATTTTACAGGCTATAGGTAGTCAT  
 TTGCAAAAGATGGCCACAATTTTTGATCCTTGAATTAATGTCTTTCATTTATTTTCAGAGA  
 ATTATAGTTTTCAAAGCTACTGCTCTTATGGNGCAATCTGTAGAGTACTAACTCACAA  
 AATTTGTGGTAACAAAAGAGAGTTTTGTTACATTACACTTTNNCAATAGNTACCATCC  
 TCTACTAATTTTTCATGGTAAAAACACTTTANGGAAAGACAGAANTACTTTTTAGTATAA  
 AATGGTCTGAATTTGCAAANTCTATAGTGCTTATGAGAATTATTTGGGCTTTATATGG  
 GTTGATAAGGTGNCTTGTCCCCAGACTTTTCTCAGGTGCCACAAAGGCAATCTCTG  
 TGAATGGTCGTACGGGAGGTTGTGCAATGCTGCATCNGAGCCTCTAGATCATCTACAT  
 TGATTACTGCCTAGTTGAATT

**Restriction Sites:** NotI-NotI  
**ACCN:** NM\_004028  
**Insert Size:** 5000 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_004028.3](#), [NP\\_004019.1](#)

**RefSeq Size:** 5444 bp

**RefSeq ORF:** 906 bp

**Locus ID:** 361

**UniProt ID:** [P55087](#)

**Cytogenetics:** 18q11.2

**Protein Families:** Druggable Genome, Transmembrane

**Gene Summary:**

This gene encodes a member of the aquaporin family of intrinsic membrane proteins that function as water-selective channels in the plasma membranes of many cells. This protein is the predominant aquaporin found in brain and has an important role in brain water homeostasis. Alternatively spliced transcript variants encoding different isoforms have been described for this gene. Additional isoforms, resulting from the use of alternative in-frame translation initiation codons, have also been described. Recent studies provided evidence for translational readthrough in this gene, and expression of C-terminally extended isoforms via the use of an alternative in-frame translation termination codon. [provided by RefSeq, Jun 2018]

Transcript Variant: This variant (2, also known as hMIWC1) is alternatively spliced at the 5' end, which causes translation initiation from an in-frame, downstream start codon, compared to variant 1. Variant 2 encodes two isoforms, resulting from the use of alternative in-frame translation termination codons. The encoded isoform (M23), which results from the use of the upstream UGA stop codon, has a shorter N-terminus compared to isoform M1. This isoform is the same as that represented in NM\_001364286.1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.