



**LD Biopharma, Inc.**  
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<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human ACCN4 Protein  
**Catalog Number:** hRP-2149  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human Acid-sensing ion channel 4 (ACCN4) gene encodes a probable cation channel with high affinity for sodium. It is membrane protein with two transmembrane domain and one extracellular domain. In vitro, has no proton-gated channel activity. ACCN4 gene was mainly detected for its expression in pituitary gland and weakly expressed in brain, vestibular system and organ of Corti. It forms a homotrimer or tetramer with other ASIC proteins. Recent data indicated that during cell damage or stress, ACCN4 family membrane plays an important role in apoptosis pathway, so regulating ACCN4 protein function in vivo map provides a good target for targeting diseases therapy, such as stroke treatment.

Full-length extracellular domain of human ACCN4 protein cDNA (217 – 546aa) was constructed with codon optimization gene synthesis and expressed with a human N-terminal T7-His-TEV cleavage site Tag (29aa) fusion. This protein was expressed in E. coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** ACCN4 (ASIC4; BNAC4)  
**Accession Number:** NP\_878267  
**Species:** Human  
**Size:** 25 µg / Vial  
**Composition:** 0.25 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

### Key References



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Irene R Chassagnon, et al., *Potent neuroprotection after stroke afforded by a double – knot spider venom peptide that inhibits acid-sensing ion channel 1a*.  
[www.pnas.org/cgi/doi/10.1073/pnas.1614728114](http://www.pnas.org/cgi/doi/10.1073/pnas.1614728114) (2017)

Schwartz V, et al., *Acid-sensing ion channel (ASIC) 4 predominantly localizes to an early endosome-related organelle upon heterologous expression*. *Sci Rep* 5, 18242 (2015)

Donier E, et al., *Regulation of ASIC activity by ASIC4--new insights into ASIC channel function revealed by a yeast two-hybrid assay*. *Eur. J. Neurosci.* 28 (1), 74-86 (2008)

Grunder S, et al., *Acid-sensing ion channel (ASIC) 4 gene: physical mapping, genomic organisation, and evaluation as a candidate for paroxysmal dystonia*. *Eur. J. Hum. Genet.* 9 (9), 672-676 (2001)

## Applications

1. May be used for in vitro ACCN4 mediated sodium channel activation / apoptosis regulation study for various neuronal cells with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction assay.
3. Potential stroke therapeutic protein, such as ACC4 function, to be neutralized for protection of neuronal cell apoptosis during stroke treatment.
4. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGEFRGYLTRPHLVAMDPAAPAPVAGFPAVTLCNINRFR  
HSALSDADIFHLANLTGLPDKDRDGHRAAGLRYPEPDMVDILNRTGHQLADMLKSCNFSGHHCS  
ASNFSVVYTRYGKCYTFNADPRSSLPSRAGGMGSGLEIMLDIQEEYLPWIWRETNETSF EAGIR  
VQIHSQEEPPYIHQLGFGVSPGFQTFVSCQEQLTYLPQPWGNCRASELREPELQGYSAYSVS  
ACRLRCEKEAVLQRCHCRMVHMPDSLGGGPEGPCFCPTPCNLTRYGKEISMVRIPNRGSARYLA  
RKYNRNETYIRENFLVLDVFFFEALTSEAMEQRAAYGLSA