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# TMEM64 Protein (AA 1-380) (Strep Tag)





Go to Product page

#### Overview

Quantity:	1 mg
Target:	TMEM64
Protein Characteristics:	AA 1-380
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This TMEM64 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

#### **Product Details**

Sequence:

MRSPGGILLQ ALPRLLQHAA LPGLAELPAR WALPRGAGGD GPADRLPRGG GASAAAAAAA ASGALLGAYL ERHGPPEASE LPEPGGALAG GPGSGGGGVV VGVAEVRNWR CCCLGSTCWC RSLVLVCVLA ALCFASLALV RRYLHHLLLW VESLDSLLGV LLFVVGFIVV SFPCGWGYIV LNVAAGYLYG FVLGMGLMMV GVLIGTFIAH VVCKRLLTAW VAARIQSSEK LSAVIRVVEG GSGLKVVALA RLTPIPFGLQ NAVFSITDLS LPNYLMASSV GLLPTQLLNS YLGTTLRTME DVIAEQSVSG YFVFCLQIII SIGLMFYVVH RAQVELNAAI VACEMELKSS LVKGNQPNTS

GSSFYNKRTL TFSGGGINVV

Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- · Made in Germany from design to production by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

#### Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require posttranslational modifications.
- During lysate production, the cell wall and other cellular components that are not required for
  protein production are removed, leaving only the protein production machinery and the
  mitochondria to drive the reaction. During our lysate completion steps, the additional
  components needed for protein production (amino acids, cofactors, etc.) are added to
  produce something that functions like a cell, but without the constraints of a living system all that's needed is the DNA that codes for the desired protein!

#### Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.
- · We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

#### Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):

- 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE.
- Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.

# **Product Details** >80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot. Purity: Endotoxin Level: Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg) Grade: Crystallography grade **Target Details** TMEM64 Target: Alternative Name: TMEM64 (TMEM64 Products) Transmembrane protein 64,FUNCTION: Positively regulates TNFSF11-induced osteoclast Background: differentiation. Acts as a regulator of TNFSF11-mediated Ca(2+) signaling pathways via its interaction with SERCA2 which is critical for the TNFSF11-induced CREB1 activation and mitochondrial ROS generation necessary for proper osteoclast generation. Association between TMEM64 and SERCA2 in the ER leads to cytosolic Ca (2+) spiking for activation of NFATC1 and production of mitochondrial ROS, thereby triggering Ca (2+) signaling cascades that promote osteoclast differentiation and activation. Negatively regulates osteoblast differentiation and positively regulates adipocyte differentiation via modulation of the canonical Wnt signaling pathway. Mediates the switch in lineage commitment to osteogenesis rather than to adipogenesis in mesenchymal stem cells by negatively regulating the expression, activity and nuclear localization of CTNNB1. {ECO:0000250|UniProtKB:Q3U145}. Molecular Weight: 39.7 kDa UniProt: Q6YI46 **Application Details** Application Notes: In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

modifications.

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Comment:

### **Application Details**

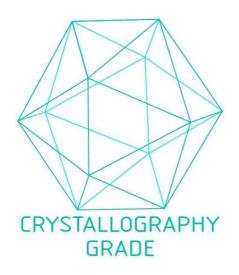
components needed for protein production (amino acids, cofactors, etc.) are added to produce
something that functions like a cell, but without the constraints of a living system - all that's
needed is the DNA that codes for the desired protein!
For Research Use only

## Handling

Restrictions:

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

#### Images



**Image 1.** "Crystallography Grade" protein due to multi-step, protein-specific purification process