

## Product datasheet

# Human TPM3 (Tropomyosin 3) knockout HEK-293T cell lysate ab258245

[2 Images](#)

### Overview

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<b>Product name</b>	Human TPM3 (Tropomyosin 3) knockout HEK-293T cell lysate
<b>Product overview</b>	Knockout cell lysate achieved by CRISPR/Cas9.
<b>Parental Cell Line</b>	HEK293T
<b>Organism</b>	Human
<b>Mutation description</b>	Knockout achieved by using CRISPR/Cas9, Homozygous: 1 bp insertion in exon 2.
<b>Passage number</b>	<20
<b>Knockout validation</b>	Sanger Sequencing, Western Blot (WB)
<b>Reconstitution notes</b>	To use as WB control, resuspend the lyophilizate in 50 µL of LDS* Sample Buffer to have a final concentration of 2 mg/ml. For reducing conditions, we recommend a final concentration of 0.1 M DTT. <i>*Usage of SDS sample buffer is not recommended with these lyophilized lysates.</i>

### Notes

**Lysate preparation:** Our lysates are made using RIPA buffer to which we add a protease inhibitor cocktail and phosphatase inhibitor cocktail (ratio: 300:100:10). *This means that the protein of interest is denatured.* If you require a native form of the protein please use the live cell version - found [here](#). Please refer to our lysis protocol for further details on how our lysates are prepared.

**User storage instructions:** Lyophilizate may be stored at 4°C. After reconstitution, store at -20°C for short-term storage or -80°C for long-term storage.

Access thousands of knockout cell lysates, generated from commonly used cancer cell lines.

**[See here for more information on knockout cell lysates.](#)**

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### Tested applications

**Suitable for:** WB

## Properties

**Storage instructions** Store at -80°C. Please refer to protocols.

Components	1 kit
ab260506 - Human TPM3 knockout HEK293T cell lysate	1 x 100µg
ab255553 - Human wild-type HEK293T cell lysate	1 x 100µg

**Cell type** epithelial

**STR Analysis** Amelogenin X D5S818: 8, 9 D13S317: 12, 14 D7S820: 11 D16S539: 9, 13 vWA: 16, 19 TH01: 7, 9.3 TPOX: 11 CSF1PO: 11, 12

## Target

**Function** Binds to actin filaments in muscle and non-muscle cells. Plays a central role, in association with the troponin complex, in the calcium dependent regulation of vertebrate striated muscle contraction. Smooth muscle contraction is regulated by interaction with caldesmon. In non-muscle cells is implicated in stabilizing cytoskeleton actin filaments.

**Involvement in disease** Defects in TPM3 are the cause of nemaline myopathy type 1 (NEM1) [MIM:609284]. A form of nemaline myopathy with autosomal dominant or recessive inheritance. Nemaline myopathies are muscular disorders characterized by muscle weakness of varying severity and onset, and abnormal thread-or rod-like structures in muscle fibers on histologic examination. Autosomal dominant nemaline myopathy type 1 is characterized by a moderate phenotype with onset between birth and early second decade of life. Weakness is diffuse and symmetric with slow progression often with need for a wheelchair in adulthood. The autosomal recessive form has onset at birth with moderate-to-severe hypotonia and diffuse weakness. In the most severe cases, death can occur before 2 years. Less severe cases have delayed major motor milestones, and these patients may walk, but often need a wheelchair before 10 years.

Defects in TPM3 are a cause of thyroid papillary carcinoma (TPC) [MIM:188550]. TPC is a common tumor of the thyroid that typically arises as an irregular, solid or cystic mass from otherwise normal thyroid tissue. Papillary carcinomas are malignant neoplasm characterized by the formation of numerous, irregular, finger-like projections of fibrous stroma that is covered with a surface layer of neoplastic epithelial cells. Note=A chromosomal aberration involving TPM3 is found in thyroid papillary carcinomas. A rearrangement with NTRK1 generates the TRK fusion transcript by fusing the amino end of isoform 2 of TPM3 to the 3'-end of NTRK1.

**Sequence similarities** Belongs to the tropomyosin family.

**Domain** The molecule is in a coiled coil structure that is formed by 2 polypeptide chains. The sequence exhibits a prominent seven-residues periodicity.

**Cellular localization** Cytoplasm > cytoskeleton.

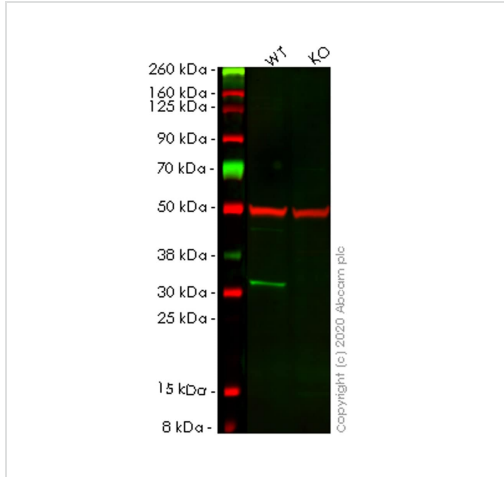
## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab258245 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 33 kDa.

## Images

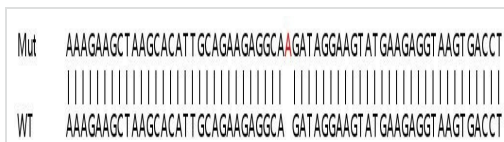


Western blot - Human TPM3 (Tropomyosin 3)  
knockout HEK293T cell lysate (ab258245)

**Lane 1:** Wild-type HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate (20 ug)

**Lane 2:** TPM3 knockout HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate (20 ug)

**ab113692** was shown to specifically react with Tropomyosin 3 in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line **ab266422** (knockout cell lysate ab258245) was used. Wild-type and Tropomyosin 3 knockout samples were subjected to SDS-PAGE. **ab113692** and Anti-beta Tubulin [EP1331Y] - Microtubule Marker (**ab52901**) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (**ab216777**) and Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (**ab216772**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Sanger Sequencing - Human TPM3 knockout  
HEK293T cell lysate (ab258245)

Homozygous: 1 bp insertion in exon 2

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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