

# Anti-Telethonin antibody

## Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7 Preservative: 0.01% Thimerosal (merthiolate) Constituents: 10% Glycerol (glycerin, glycerine), 1.21% Tris, 0.75% Glycine
Form	Liquid
Clonality	Polyclonal
Immunogen	Recombinant Full Length Protein corresponding to Human TCAP. Database link <a href="#">Q15273</a> ↗
Purification technique	Affinity purification Immunogen
Concentration	1 mg/mL The concentration of this product may be batch-dependent <a href="#">Batch concentration finder</a> →

## Reactivity data

### WB

#### Tested

Species	Mouse
Dilution info	1/500.00000 - 1/3000.00000
Notes	-

#### Expected

<b>Species</b>	Human
<b>Dilution info</b>	Use at an assay dependent concentration.
<b>Notes</b>	-

## Predicted

<b>Species</b>	Rhesus monkey, Rat, Cow, Dog, Pig
<b>Dilution info</b>	-
<b>Notes</b>	-

## IHC-P

### Tested

<b>Species</b>	Human
<b>Dilution info</b>	1/100.00000 - 1/1000.00000
<b>Notes</b>	-

### Expected

<b>Species</b>	Mouse
<b>Dilution info</b>	Use at an assay dependent concentration.
<b>Notes</b>	-

## Predicted

<b>Species</b>	Rhesus monkey, Rat, Cow, Dog, Pig
<b>Dilution info</b>	-
<b>Notes</b>	-

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## Target data

[See full target information TCAP](#) 

<b>Function</b>	Muscle assembly regulating factor. Mediates the antiparallel assembly of titin (TTN) molecules at the sarcomeric Z-disk.
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## Storage

<b>Shipped at conditions</b>	Blue Ice
<b>Appropriate short-term storage duration</b>	1-2 weeks
<b>Appropriate short-term storage conditions</b>	+4°C
<b>Appropriate long-term storage conditions</b>	-20°C
<b>Aliquoting information</b>	Upon delivery aliquot
<b>Storage information</b>	Avoid freeze / thaw cycle

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## Notes

Abcam is leading the way to address reproducibility in scientific research with our highly validated recombinant monoclonal and recombinant multiclonal antibodies. Search & select one of Abcam's thousands of recombinant alternatives to eliminate batch-variability and unnecessary animal use.

If you do not find a host species to meet your needs, our catalogue and custom Chimeric range provides scientists the specificity of Abcam's RabMAbs in the species backbone of your choice. Remember to also review our range of edited cell lines, proteins and biochemicals relevant to your target that may help you further your research goals.

Abcam antibodies are extensively validated in a wide range of species and applications, so please check the reagent specifications meet your scientific needs before purchasing. If you have any questions or bespoke requirements, simply visit the Contact Us page to send us an inquiry or contact our Support Team ahead of purchase.

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## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

### Activity summary

Telethonin also known as Tcap is a small protein with a molecular mass of approximately 19 kDa. It is an important component of the sarcomere in striated muscle cells primarily expressed in the heart and skeletal muscles. Telethonin resides at the Z-disc of the sarcomere where it interacts with titin one of the largest known proteins to maintain the structural integrity and elasticity of muscle tissues. This protein supports the mechanical stability of muscle fibers during contraction and relaxation by acting as a molecular spring.

### Biological function summary

The function of telethonin expands beyond simple structural support. It acts as part of the protein complex at the Z-disc important for maintaining sarcomere architecture. This complex involves interactions not only with titin but also with other structural proteins such as actin and myotilin. Telethonin's presence helps coordinate the assembly and maintenance of the Z-disc contributing to muscle

strength and resilience. It also plays a role in signaling pathways that regulate muscle protein gene expression and response to mechanical stress.

### **Pathways**

Telethonin integrates into several significant signaling cascades. One major pathway involves the titin-telethonin interaction as part of the mechanical signaling responsible for muscle function and adaptation. Through its involvement with titin telethonin influences pathways linked to muscle hypertrophy and atrophy as well as sarcomere organization. Furthermore telethonin associates with signaling proteins like myostatin an important regulator of muscle growth modulating muscle size and adaptation to workload changes.

### **Associated diseases and disorders**

Telethonin's malfunction often shows links with cardiomyopathies and muscular dystrophies. Mutations in the telethonin gene are associated with limb-girdle muscular dystrophy type 2G a condition where muscle weakness and degeneration occur due to defects in the muscle fiber structure. Moreover telethonin's interaction with titin connects it to dilated cardiomyopathy a condition where the heart weakens and enlarges impairing its ability to pump effectively. Understanding telethonin's role provides insights into these muscle-related diseases and offers potential therapeutic targets for intervention.

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## **Product promise**

### **Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

### **Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

### **Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

### **Not recommended**

We do not recommend this combination. It is not covered by our product promise.

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We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

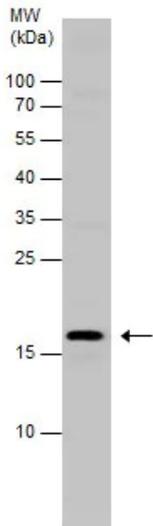
Full details and terms and conditions can be found here:

[Terms & Conditions.](#)

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## **2 product images**

## Western blot - Anti-Telethonin antibody (ab228582)



15% SDS-PAGE

All lanes:

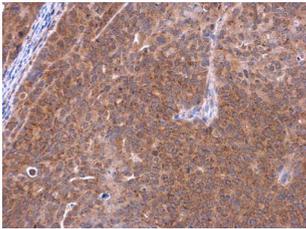
Western blot - Anti-Telethonin antibody (ab228582) at 1/500 dilution

All lanes:

Mouse muscle tissue extract at 50  $\mu$ g

Developed using the ECL technique.

Predicted band size: 19 kDa, 28 kDa, 39 kDa, 57 kDa



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Telethonin antibody (ab228582)

Paraffin-embedded Huh7 (human) xenograft tissue stained for Telethonin with ab228582 at 1:500 dilution in immunohistochemical analysis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.