

Anti-MYL4 Antibody

HA500471



Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	22 kDa

Description: Atrial Light Chain-1 (ALC-1), also known as Essential Light Chain, Atrial is a protein that in humans is encoded by the MYL4 gene. ALC-1 is expressed in fetal cardiac ventricular and fetal skeletal muscle, as well as fetal and adult cardiac atrial tissue. ALC-1 expression is reactivated in human ventricular myocardium in various cardiac muscle diseases, including hypertrophic cardiomyopathy, dilated cardiomyopathy, ischemic cardiomyopathy and congenital heart diseases. ALC-1 is expressed very early in skeletal muscle and cardiac muscle development; two E-boxes and CArG box in the MYL4 promoter region regulate transcription. ALC-1 expression in cardiac ventricles decreases in early postnatal development, but is highly expressed in atria throughout all of adulthood. Normal atrial function is essential for embryogenesis, as inactivation of the MYL7 gene was embryonic lethal at ED10.5-11.5. Evidence of ALC-1 isoform expression on contractile mechanics of sarcomeres came from experiments studying fibers from patients expressing a higher level of ALC-1 relative to VLC-1 in cardiac left ventricular tissue.

Immunogen: Recombinant protein within human MYL4 aa 10-197 / 197.

Positive control: Mouse lung tissue lysate, human heart tissue lysate, rat lung tissue, rat heart tissue.

Subcellular location: Myosin complex, cytosol, A band.

Database links: SwissProt: P12829 Human | P09541 Mouse | P17209 Rat

Recommended Dilutions:

WB	1:500-1:2,000
IHC-P	1:200-1:1,000

Storage Buffer: 1*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

Purity: Immunogen affinity purified.

Hangzhou HuaAn Biotechnology Co.,Ltd.

Orders: 0086-571-88062880

Technical:0086-571-89986345

Service mail: support@huabio.cn

www.huabio.cn



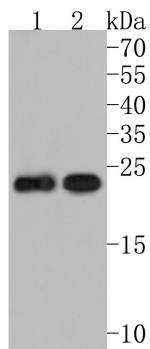


Fig1: Western blot analysis of MYL4 on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% NFDN/TBST for 1 hour at room temperature. The primary antibody (HA500471, 1/500) was used in 5% NFDN/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:200,000 dilution was used for 1 hour at room temperature.

Positive control:

Lane 1: Mouse lung tissue lysate

Lane 2: Human heart tissue lysate

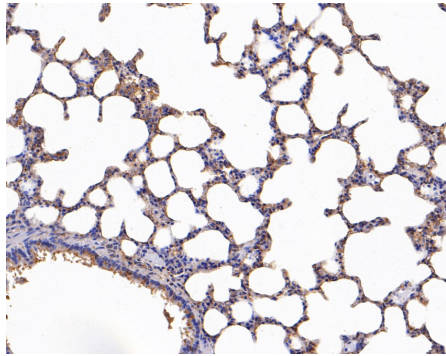


Fig2: Immunohistochemical analysis of paraffin-embedded rat lung tissue using anti-MYL4 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA500471, 1/800) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

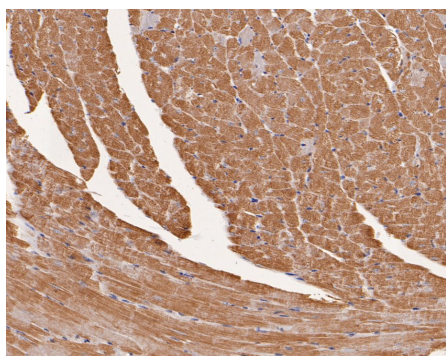


Fig3: Immunohistochemical analysis of paraffin-embedded rat heart tissue using anti-MYL4 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 30 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA500471, 1/800) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Note: All products are “FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE”.

Background References

1. Ghazizadeh Z et. al. Metastable Atrial State Underlies the Primary Genetic Substrate for MYL4 Mutation-Associated Atrial Fibrillation. *Circulation*. 2020 Jan
2. Wang TY. et. al. Human cardiac myosin light chain 4 (MYL4) mosaic expression patterns vary by sex. *Sci Rep*. 2019 Sep

Hangzhou HuaAn Biotechnology Co.,Ltd.

Orders: 0086-571-88062880

Technical:0086-571-89986345

Service mail: support@huabio.cn

www.huabio.cn



Applications: WB=Western blot IP=Immunoprecipitation IHC=Immunohistochemistry IF=Immunofluorescence FC=Flow cytometry