Human alpha-Smooth Muscle Actin/ACTA2 antibody

Catalog Number: ATGA0358

PRODUCT INFORMATION

Catalog number
ATGA0358

Clone No.
AT132D3

Product type
Monoclonal Antibody

UnitProt No.
P62736

NCBI Accession No.
NP_001604

Alternative Names
Aortic smooth muscle actin, Alpha-actin-2, Cell growth-inhibiting gene 46 protein, Actin, Aortic smooth muscle, Intermediate form, ACTSA, ACTVS, GIG46

PRODUCT SPECIFICATION

Antibody Host
Mouse

Reacts With
Human

Concentration
1mg/ml (determined by BCA assay)

Formulation
Liquid in. Phosphate-Buffered Saline (pH 7.4) with 0.02% Sodium Azide, 10% glycerol

Immunogen
Recombinant human ACTA2 (3-377aa) purified from E. coli

Isotype
IgG1 kappa

Purification Note
By protein-A affinity chromatography

Application
ELISA, WB, ICC/IF, FACS

Usage
The antibody has been tested by ELISA, Western blot, ICC/IF and FACS analysis to assure specificity and reactivity. Since application varies, however, each investigation should be titrated by the reagent to obtain optimal results.

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Storage

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

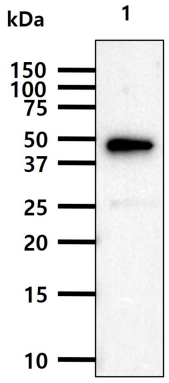
Alpha-actin-2 also known as actin, aortic smooth muscle or alpha smooth muscle actin (alpha-SMA, SMactin, alpha-SM-actin, ASMA). Actin proteins are major components of the eukaryotic cytoskeleton. At least six vertebrate actin isoforms have been identified. The cytoplasmic beta- and gamma-actin proteins are referred to as non-muscle actin proteins as they are predominantly expressed in non-muscle cells where they control cell structure and motility. Actin has major functions. Firstly, F-actin polymers form microfilaments - polar intracellular tracks for kinesin motor proteins, allowing the transport of vesicles, organelles and other cargo. Actin is a component of the cytoskeleton and links to alpha-actinin, E-cadherin and beta-catenin at adherens junctions. actin has a role in cell motility through polymerization and depolymerization of fibrils.

General References

Herman IM. et al. (1993) Curr Opin Cell Biol. 5(1): 48-55.
Guo DC., et al. (2009) Am J Hum Genet. 84(5): 617-627.

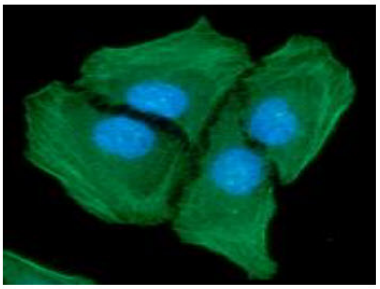
DATA

Western blot analysis (WB)



The recombinant protein (50ng) was resolved by SDS-PAGE, transferred to PVDF membrane and probed with anti-human ACTA2 antibody (1:1000). Proteins were visualized using a goat anti-mouse secondary antibody conjugated to HRP and an ECL detection system. Lane 1.: Recombinant human ACTA2 protein

Immunocytochemistry/Immunofluorescence (ICC/IF)



ICC/IF analysis of ACTA2 in HeLa cells. The cell was stained with ATGA0358 (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).

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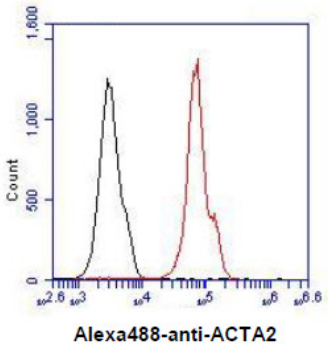
Flow cytometry (FACS)



Flow cytometry analysis of ACTA2 in Nb2-11 cell line, staining at 2-5ug for 1x10^6cells (red line). The secondary antibody used goat anti-mouse IgG Alexa fluor 488 conjugate. Isotype control antibody was mouse IgG (black line).