

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.

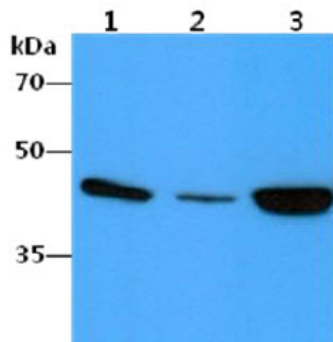
General References

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)



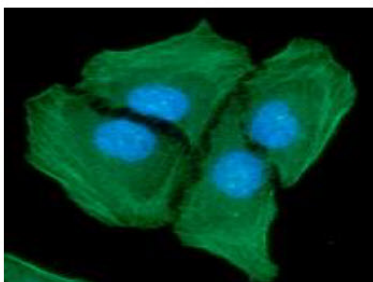
The cell lysates (40ug) were resolved by SDS-PAGE, transferred to PVDF membrane and probed with anti-human ACTA2 antibody (1:1000). Proteins were visualized using a goat anti-mouse secondary antibody conjugated to HRP and an ECL detection system.

Lane 1.: HepG2 cell lysate

Lane 2.: SW480 cell lysate

Lane 3.: HeLa cell lysate

Immunocytochemistry/Immunofluorescence (ICC/IF)

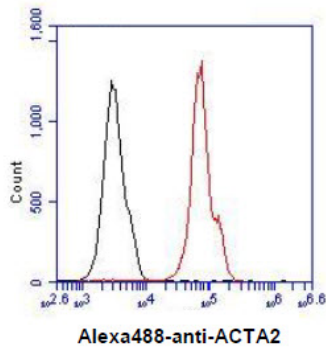


ICC/IF analysis of ACTA2 in HeLa cells. The cell was stained with ATGA0358 (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).

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Flow cytometry (FACS)



Flow cytometry analysis of ACTA2 in Nb2-11 cell line, staining at 2-5ug for 1×10^6 cells (red line). The secondary antibody used goat anti-mouse IgG Alexa fluor 488 conjugate. Isotype control antibody was mouse IgG (black line).