

Arp2 (Thr-237/Thr-238), phospho-specific

Cat. # AP3871

Host Rabbit Polyclonal

Size 100 µl

Background:

Cellular morphology, adhesion, and motility occur through dynamic reorganization of actin-based superstructures. Actin-binding proteins are critical for regulating actin polymerization and superstructure formation. The Arp2/3 complex is an actin polymerization-inducing complex that includes Arp2, Arp3, p41-Arc, p34-Arc, p21-Arc, p20-Arc, and p16-Arc. Several nucleation promoting factors, such as WASP and coronin, regulate the activity of the Arp2/3 complex. In addition, the Arp2/3 complex may be regulated by phosphorylation of specific subunits in the complex. Arp2 has two phosphosites, Thr-237 and Thr-238, that are evolutionarily conserved, and are phosphorylated along with Tyr-202 in response to growth factor stimulation. These phosphorylation events may regulate binding to the pointed end of actin filaments, and alanine substitutions of these Arp2 phosphosites inhibit membrane protrusions. Thus, phosphorylation may be another mode of Arp2/3 complex regulation in addition to the activity of nucleation-promoting factors.

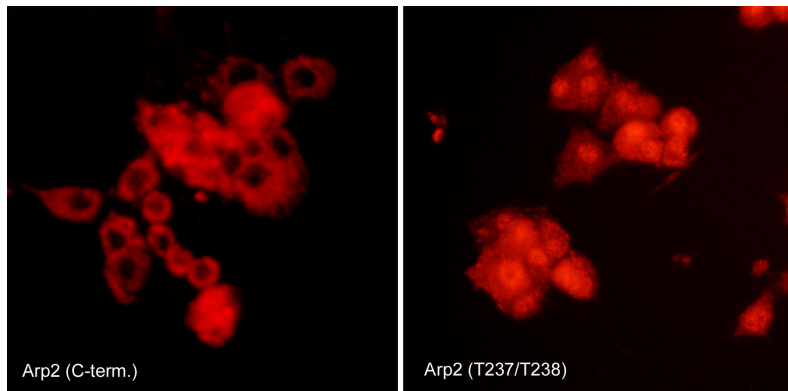
References

Kelleher, J.F. et al. (1995). *J Cell Biol.* 131(2):385.

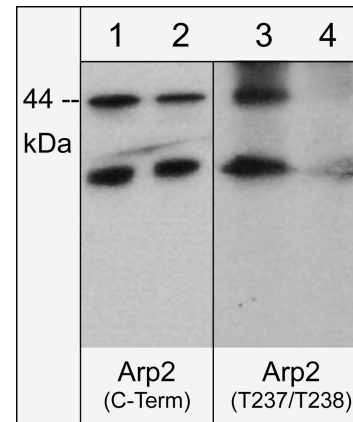
LeClaire, L.L. et al (2008). *J Cell Biol.* 182(4):647.

Soderling, S.H. (2009). *Sci Signal.* 2(55):pe5 (Review).

Kalwa, H. & Michel, T. (2011) *J Biol Chem.* 286(3):2320. (WB: bovine aortic endothelial cells)



Immunocytochemical labeling of Arp2 phosphorylation in rat PC12 cells differentiated with NGF. The cells were probed with Arp2 (C-terminal region) and Arp2 (Thr-237/Thr-238) rabbit polyclonal antibodies, then the antibodies were detected using appropriate secondary antibody conjugated to Cy3.



Western blot of human A431 cells treated with Calyculin A (100 nM) for 30 min. Blot lanes were untreated (lanes 1 & 3) or treated with lambda phosphatase (lanes 2 & 4) then probed with anti-Arp2 (C-terminal) (lanes 1 & 2) or anti-Arp2 (Thr-237/Thr-238) (lanes 3 & 4).

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Immunogen:

Phospho-Arp2 (Thr-237/Thr-238) synthetic peptide (coupled to KLH) corresponding to amino acid residues surrounding threonine 237 and threonine 238 in human Arp2. This peptide sequence is highly conserved in rat, mouse, chicken, and fish Arp2 proteins.

Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

Applications:

WB 1:1000
ELISA 1:2000
ICC 1:100

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1hour at room temperature.

Specificity:

This antibody was affinity purified using phospho-Arp2 (Thr-237/Thr-238) peptide (without carrier). The antibody detects 44 and 32 kDa* proteins corresponding to the molecular mass of Arp2 on SDS-PAGE immunoblots of human A431 and Jurkat cells treated with Calyculin A. This reactivity is not observed after lambda phosphatase treatment.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Related Products:

AP3861 Arp2 (C-terminal region) Rabbit Polyclonal
AX3875 phospho-Arp2 (Thr-237/Thr-238) Peptide
AK6060 Actin & Tubulin Antibody Sampler Kit
AP1671 Actin (Tyr-53), phospho-specific Rabbit Polyclonal
WK6110 N-WASP Phospho-Regulation Antibody Sampler Kit
CK6180 Coronin-1B Phospho-Regulation Antibody Sampler Kit

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