Arp2/3 Complex Regulation
Antibody Sampler Kit

Catalog # AK6390

Kit Components:

Catalog#	Description	Host	Size	Applications	Species Reactivity	MW (kDa)
AP3861	Arp2 (C-terminal region)	Rabbit pAb	50 µl	WB, E	H, R, M,C,F	44
AP3871	Arp2 (Thr-237/Thr-238), phospho-specific	Rabbit pAb	50 µl	WB, E	H, R, M,C,F	44
WP2101	WASP / N-WASP	Rabbit pAb	50 µl	WB, E	H, R, M	65
WP2601	N-WASP (Tyr-256), phospho-specific [Conserved site]	Rabbit pAb	50 µl	WB, E	H, R, M	65
CP2581	Coronin-1B (C-terminus)	Rabbit pAb	50 µl	WB, E, ICC	H, R, M	60
CP2621	Coronin-1B (Ser-2), phospho-specific	Rabbit pAb	50 µl	WB, E, ICC	H, R, M	60

Applications: WB = western blot, E = ELISA, ICC = immunocytochemistry. Species: H = Human, R = Rat, M = Mouse, C = Chicken, F = Fish

Kit Summary:
The Arp2/3 complex regulation antibody sampler kit can be used to examine phosphorylation of the Arp2/3 complex subunit Arp2, as well as the Arp2/3 complex regulators N-WASP/WASP and Coronin-1B. The kit contains antibodies to monitor total expression levels of each of these proteins relative to site-specific phosphorylation.

Buffers and Storage:
Rabbit polyclonal antibodies are each supplied in 50µl 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.

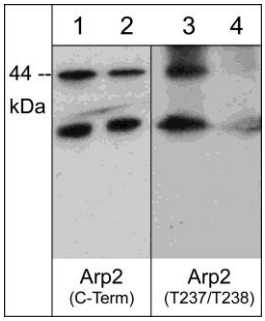
Background:
Cellular morphology, adhesion, and motility occur through dynamic reorganization of actin-based superstructures. Actin-binding proteins are critical for regulating actin polymerization and superstructure formation. The Arp2/3 complex is an actin polymerization-inducing complex that includes Arp2, Arp3, p41-Arc, p34-Arc, p21-Arc, p20-Arc, and p16-Arc. Several nucleation promoting factors, such as WASPs and coronins, regulate the activity of the Arp2/3 complex. WASP is tyrosine phosphorylated at tyrosine 291 after antigen receptor activation in B-cells and collagen stimulation of platelets. Phosphorylation of the analogous site in N-WASP (Tyr-256) stimulates its activity, reduces nuclear N-WASP, and is required for neurite extension. Both Coronin-1B and Coronin-1A interaction with Arp2/3 complex may be regulated by phosphorylation. PKC phosphorylates the N-terminus at Ser-2, and this phosphorylation reduces interactions with Arp2/3 leading to diminished cell motility. The Arp2/3 complex is also regulated by phosphorylation. Arp2 has two phosphosites, Thr-237 and Thr-238, which are evolutionarily conserved. These sites 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.

References:

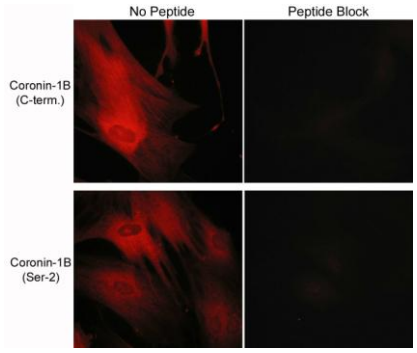
Wu, X. et al. (2004) J Biol Chem 279(10):9565.
Foger, N. et al. (2006) Science 313:839.
Cai, L. et al. (2007) Cell 128:915.
LeClaire, L.L. et al (2008). J Cell Biol. 182(4):647.
Soderling, S.H. (2009). Sci Signal. 2(55):pe5 (Review).

Product References (WP2601) :

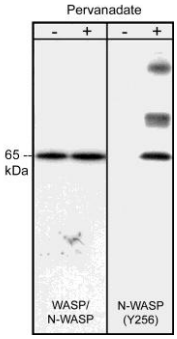
Pichot, C.S. et al. (2009) British J. Cancer 1 –10. (WB: Breast Cancer Cell lines)



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 (T237/T238) (lanes 3 & 4).



Immunocytochemical labeling of coronin-1B in rabbit fibroblasts treated with Calyculin A. The cells were labeled with anti-Coronin-1B (C-terminus) and anti-Coronin-1B (Ser-2) antibodies, then detected using secondary antibody conjugated to Cy3. The antibodies were used in the absence (left) or presence (right) of their respective blocking peptide (CX2585 or CX2625).



Western blot analysis of control and pervanadate-treated human A431 cells. Blots were probed with either rabbit polyclonal anti-WASP/N-WASP (WP2101) or anti-N-WASP (Tyr-256) (WP2601).

FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

www.ecmbiosciences.com
telephone: 859-879-2075
toll-free: 1-800-859-8202
info@ecmbiosciences.com

ECM Biosciences

Rev 11/09