

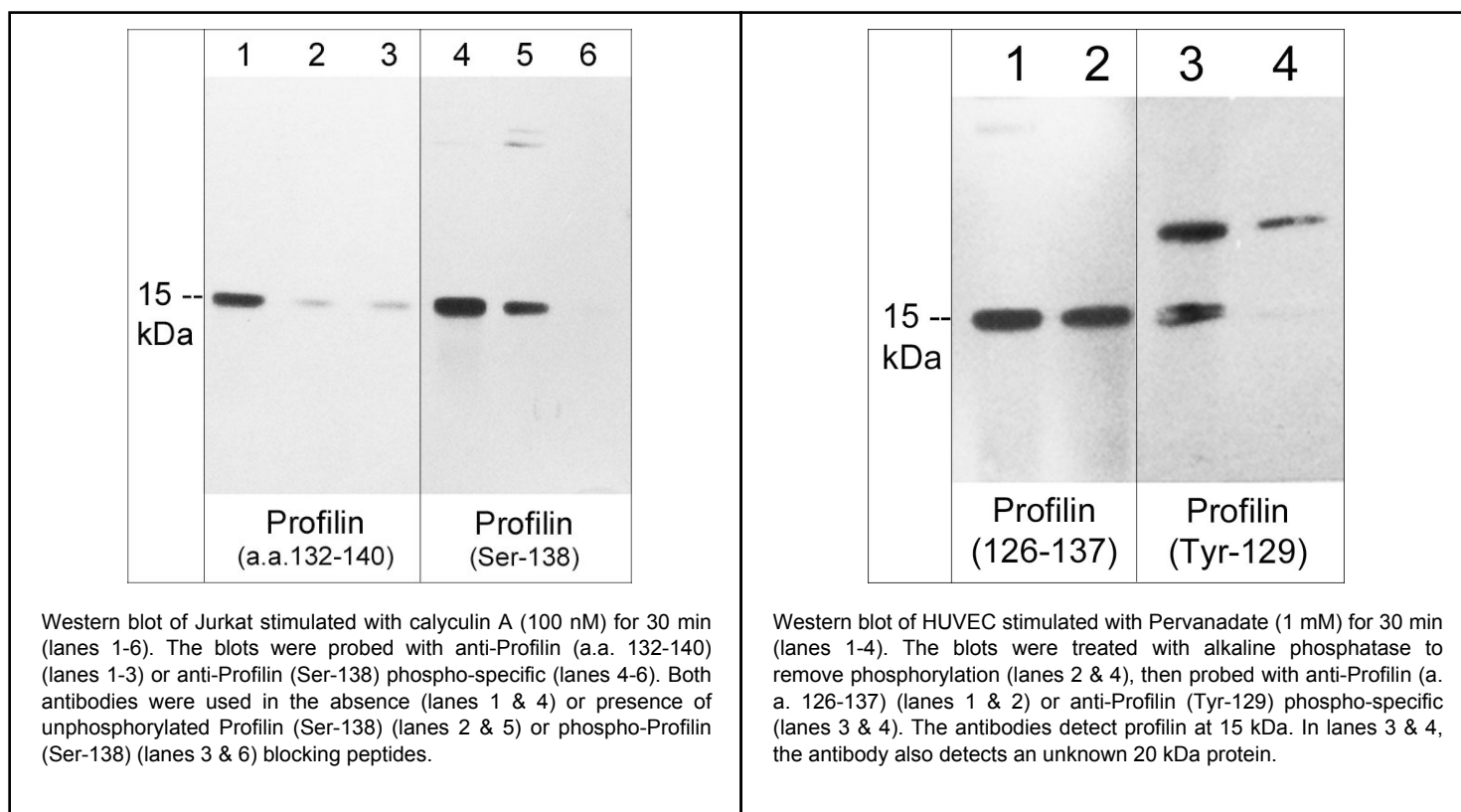
Kit Summary

The Profilin phospho-regulation antibody sampler kit can be used to detect phosphorylation of Tyr-129 and Ser-138 relative to total profilin expression levels. The kit includes rabbit polyclonal phospho-specific antibodies to Tyr-129 and Ser-138, as well as rabbit polyclonal antibodies that detect different epitopes in the C-terminal region of Profilin. The kit also includes an anti-Rabbit Light Chain specific:HRP secondary reagent for detection of rabbit polyclonal antibody in western blot, ELISA, or immunocytochemistry.

Kit Components

Cat. #	Description	Product Type	Size	Applications	Species Reactivity	WB Dilution
PP4821	Profilin (a.a. 132-140)	Rabbit pAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000
PP4791	Profilin (Ser-138), phospho-specific	Rabbit pAb	50 µl	WB, E,	Hu, Rt, Ms	1:1000
PP4801	Profilin (a.a. 126-137)	Rabbit pAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000
PP4751	Profilin (Tyr-129), phospho-specific	Rabbit pAb	50 µl	WB, E	Hu, Rt, Ms	1:1000
RS3251	Anti-Rabbit Ig Light-Chain Specific:HRP	Mouse mAb	50 µl	WB, E, ICC, IHC	Rb	1:5000

Applications: WB = Western blot, E = ELISA, ICC = Immunocytochemistry, IP = Immunoprecipitation, IHC = Immunohistochemistry, FC = Flow Cytometry
Species: H = Human, R = Rat, Ms = Mouse, C = Chicken, F = Fish, Fr = Frog, Rb = Rabbit



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Background

Profilins are small actin-binding proteins that have functions in cell motility, cytokinesis, gene transcription, endocytosis and neuronal plasticity. Four profilin isoforms have been identified in mammals. Profilin-1 (PFN1) and profilin-2a (PFN2a) isoforms are highly conserved in structure, but PFN1 is ubiquitously expressed while PFN2a is preferentially enriched in brain. In addition, there are two testis-specific profilins, PFN3 and PFN4, that significantly differ in primary sequence and function compared to PFN1 and PFN2a. Profilin is phosphorylated at both tyrosine and serine residues *in vivo*. Tyr-129 is phosphorylated in response to VEGF-A stimulation, and this promotes profilin actin binding and polymerization. Tyr-129 phosphorylation may be important for angiogenesis induced by injuries. Ser-138 is phosphorylated by ROCK and dephosphorylated by PP1. This serine phosphorylation inhibits G-actin binding, as well as decreases profilin's aggregation suppressor activity by inhibiting binding to huntingtin. Thus, Tyr-129 phosphorylation may activate while Ser-138 phosphorylation may inhibit profilin activity.

Background References

- Shao, J. & Diamond, M.I. (2012) PLoS ONE 7(3): e32802.
Shao, J. et al. (2008) Mol Cell Biol. 28(17):5196.

Buffer and Storage

Rabbit polyclonal antibodies are supplied in phosphate-buffered saline (PBS), 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. The secondary reagents are supplied in the same buffer without azide. Store all at -20°C . Stable for 1 year.

Product Citations

Cat. #	Citation & Application
PP4821	Stanslowsky N. et al. (2016) J Neurosci. 36(47):12027. (WB: human striatal medium spiny neurons)
PP4791	Stanslowsky N. et al. (2016) J Neurosci. 36(47):12027. (WB: human striatal medium spiny neurons)
PP4751	Chen, J. et al. (2017) Cell Discov. 3:17044. (WB: mouse cortical tissues)
PP4751	Dombert B. et al. (2017) Front Mol Neurosci. 10:346. (ICC: mouse spinal motoneurons)
RS3251	Kawasaki, H. et al. (2013) World J Gastroenter. 19(17):2629. (WB, ICC: mouse intestinal myofibroblasts and
RS3251	Estrada-Bernal, A. et al. (2011) J Neurooncol. 102:353. (Western blot)

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