Revision 1

Store at -20C

#13430

Focal Adhesion Protein Antibody Sampler Kit

1 Kit (6 x 20 microliters)

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
α-Actinin (D6F6) XP® Rabbit mAb	6487	20 µl	100 kDa	Rabbit IgG
FAK Antibody	3285	20 µl	125 kDa	Rabbit
Paxillin (D9G12) Rabbit mAb	12065	20 µl	54, 62, 68 kDa	Rabbit IgG
Talin-1 (C45F1) Rabbit mAb	4021	20 µl	270 kDa	Rabbit IgG
Tensin 2 Antibody	11990	20 µl	145-155 kDa	Rabbit
Vinculin Antibody	4650	20 µl	124 kDa	Rabbit
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Focal Adhesion Protein Antibody Sampler Kit provides an economical means to evaluate proteins involved in focal adhesions. The kit includes enough antibody to perform two western blot experiments per primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Background

Focal adhesions connect the cytoskeleton with the extracellular matrix (ECM), a complex structure of secreted macromolecules that surrounds mammalian organs and tissues. Integrins clustered on the extracellular side of focal adhesions relay signals from the ECM to intracellular protein complexes that signal the actin cytoskeleton to regulate tension for cell motility. Internal signals converge on focal adhesions to regulate integrin receptor affinity and avidity. Signaling through focal adhesions regulates cell adhesion, migration, proliferation, apoptosis, and gene expression, and impacts cellular processes such as development, wound healing, immune response, invasion, metastasis and angiogenesis (reviewed in 1-3). Focal adhesion kinase (FAK) is a widely expressed cytoplasmic protein tyrosine kinase involved in integrin-mediated signal transduction. Integrin clustering triggers FAK recruitment to the focal adhesion complex (4). Talin is a large, multidomain focal adhesion protein that interacts with the intracellular domains of integrins and other focal adhesion proteins. Talin is involved in the formation of focal adhesions and in linking focal adhesions to the actin cytoskeleton (5). Paxillin is a key component of integrin signaling that localizes primarily to focal adhesion sites in the extracellular matrix (6). Tyrosine phosphorylation of paxillin is required for integrin-mediated cytoskeletal reorganization (7). Paxillin is phosphorylated by FAK at Tyr118 (8,9). Vinculin is a cytoskeletal protein involved in regulation of focal adhesions and embryonic development (10-13). Active vinculin translocates to focal adhesions where it may be involved in anchoring F-actin to the membrane and regulating cell migration. Vinculin binds a number of proteins, including talin, α-actinin and paxillin (11,13). Tensin 2 localizes to focal adhesions of various tissues and exhibits highest expression in heart, kidney, and liver (14,15). Tensin 2 belongs to a family of cytoskeletal proteins that include Tensin 1-3 and Cten, which couple integrins to the actin cytoskeleton (16). Tensin family proteins play an important role in signal transduction, cell proliferation, and motility (17-20). α-actinin is a member of the spectrin family of cytoskeletal proteins that was first recognized as an actin cross-linking protein, but also interacts with a large number of cytoskeletal signaling proteins, including those involved in cellular adhesion, migration, and immune cell targeting (21).

Background References

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