

Store at  
-20C  
#13430

# Focal Adhesion Protein Antibody Sampler Kit



Orders: 877-616-CELL (2355)  
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

1 Kit (6 x 20 microliters)

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

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

Please visit [cellsignal.com](http://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  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . 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,  $\alpha$ -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).  $\alpha$ -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

- Burridge, K. et al. (1988) *Annu Rev Cell Biol* 4, 487-525.
- Calderwood, D.A. et al. (2000) *J Biol Chem* 275, 22607-10.
- French-Constant, C. and Colognato, H. (2004) *Trends Cell Biol* 14, 678-86.
- Parsons, J.T. et al. (2000) *Oncogene* 19, 5606-13.
- Nayal, A. et al. (2004) *Curr Opin Cell Biol* 16, 94-8.
- Turner, C.E. (2000) *J Cell Sci* 113 Pt 23, 4139-40.
- Burridge, K. et al. (1992) *J Cell Biol* 119, 893-903.
- Bellis, S.L. et al. (1995) *J Biol Chem* 270, 17437-41.
- Bellis, S.L. et al. (1997) *Biochem J* 325 ( Pt 2), 375-81.
- Izard, T. et al. (2004) *Nature* 427, 171-5.

11. Humphries, J.D. et al. (2007) *J Cell Biol* 179, 1043-57.
  12. Witt, S. et al. (2004) *J Biol Chem* 279, 31533-43.
  13. Xu, W. et al. (1998) *Development* 125, 327-37.
  14. Clark, K. et al. (2010) *J Cell Biochem* 109, 808-17.
  15. Hafizi, S. et al. (2002) *Biochem Biophys Res Commun* 299, 793-800.
  16. Lo, S.H. et al. (1994) *Bioessays* 16, 817-23.
  17. Lo, S.H. et al. (1994) *J Cell Biol* 125, 1067-75.
  18. Chen, H. and Lo, S.H. (2003) *Biochem J* 370, 1039-45.
  19. Katz, M. et al. (2007) *Nat Cell Biol* 9, 961-9.
  20. Chen, H. et al. (2002) *Proc Natl Acad Sci U S A* 99, 733-8.
  21. Otey, C.A. and Carpen, O. (2004) *Cell Motil Cytoskeleton* 58, 104-11.
- 

## Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

XP is a registered trademark of Cell Signaling Technology, Inc.

U.S. Patent No. 7,429,487, foreign equivalents, and child patents deriving therefrom.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.