

#13901 Store at -20C

**Vinculin (E1E9V) XP® Rabbit mAb****Cell Signaling**  
TECHNOLOGY®**Orders:** 877-616-CELL (2355)  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, W-S, IHC-Bond, IHC-P, FC-FP	H M R Mk	Endogenous	124	Rabbit IgG	#P18206-2	7414

**Product Usage Information****Application****Dilution**

Western Blotting	1:1000
Simple Western™	1:10 - 1:50
IHC Leica Bond	1:600 - 1:2400
Immunohistochemistry (Paraffin)	1:150 - 1:600
Flow Cytometry (Fixed/Permeabilized)	1:800 - 1:1600

**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.*

For a carrier free (BSA and azide free) version of this product see product #40211.

**Specificity / Sensitivity**

Vinculin (E1E9V) XP® recognizes endogenous levels of total vinculin protein. This antibody also reacts with metavinculin, a 145 kDa splice variant of vinculin.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the amino terminus of human vinculin protein.

**Background**

Vinculin is a cytoskeletal protein that plays an important role in the regulation of focal adhesions and embryonic development (1-4). Three structural vinculin domains include an amino-terminal head, a short, flexible proline-rich region and a carboxy-terminal tail (1). In the inactive state, the head and tail domains of vinculin interact to form a closed conformation. The open and active form of vinculin translocates to focal adhesions where it is thought to be involved in anchoring F-actin to the membrane and regulation of cell migration (2). Phospholipid binding to the tail domain and subsequent phosphorylation of vinculin at Ser1033 and Ser1045 by PKC-α and Tyr100 and Tyr1065 by Src kinases weakens the head-tail interaction (5,6). This change in vinculin allows the binding of a number of other proteins, including talin, α-actinin and paxillin, which disrupts the head-tail interaction and initiates the conformational change from the inactive to active state (2,4). Vinculin deficiencies are associated with a decrease in cell adhesion and an increase in cell motility, suggesting a possible role in metastatic growth (7,8). This is supported by a demonstrated relationship between decreased vinculin expression and increased carcinogenesis and metastasis in colorectal carcinoma (9).

**Background References**

1. Izard, T. et al. (2004) *Nature* 427, 171-5.
2. Humphries, J.D. et al. (2007) *J Cell Biol* 179, 1043-57.
3. Witt, S. et al. (2004) *J Biol Chem* 279, 31533-43.
4. Xu, W. et al. (1998) *Development* 125, 327-37.
5. Ziegler, W.H. et al. (2002) *J Biol Chem* 277, 7396-404.
6. Zhang, Z. et al. (2004) *Mol Biol Cell* 15, 4234-47.
7. Rodríguez Fernández, J.L. et al. (1993) *J Cell Biol* 122, 1285-94.
8. Samuels, M. et al. (1993) *J Cell Biol* 121, 909-21.
9. Yang, H.J. et al. (2010) *Cancer Invest* 28, 127-34.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**WB:** Western Blotting **W-S:** Simple Western™ **IHC-Bond:** IHC Leica Bond  
**IHC-P:** Immunohistochemistry (Paraffin) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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