

## Anti-Villin Polyclonal Antibody

### Product Details

Ig Type:	IgG
Reactivity:	Mouse (predicted:Human,Rat,Dog,Horse,Rabbit)
Molecular Weight:	Theoretical: 93 kDa. Actual: 93 kDa.
Purification:	Protein A purified

### Applications

Verified Activity:	Sample: Large intestine (Mouse) Lysate at 40 µg Primary: Anti-Villin (TMAB-14103) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 93 kD Observed band size: 93 kD
Application:	WB
Recommended	WB: 1:500-2000

### Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

### Antigen Details

Immunogen:	KLH conjugated synthetic peptide: human Villin
Antigen Species:	Human
Gene ID:	7429
Uniprot ID:	P09327

### Research Background

Villin can cap, nucleate, sever and bundle actin in a calcium and phosphoinositide regulated manner. It is associated with the microvillar actin core bundle of intestinal and renal brush border implicated in adsorption. Villin is composed of six repeats, each containing 150 residues that together constitute the core domain followed by the carboxyl terminal headpiece domain of 87 residues. The core domain retains the calcium dependent capping nucleating and severing activity, whereas the headpiece domain contributes towards actin filament bundling and binding F actin, independently of Calcium.

Function : Epithelial cell-specific Ca(2+)-regulated actin-modifying protein that modulates the reorganization of microvillar actin filaments. Plays a role in the actin nucleation, actin filament bundle assembly, actin filament capping and severing. Binds phosphatidylinositol 4,5-bisphosphate (PIP2) and lysophosphatidic acid (LPA); binds LPA with higher affinity than PIP2. Binding to LPA increases its phosphorylation by SRC and inhibits all actin-modifying activities. Binding to PIP2 inhibits actin-capping and -severing activities but enhances actin-bundling activity. Regulates the intestinal epithelial cell morphology, cell invasion, cell migration and apoptosis. Protects against apoptosis induced by dextran sodium sulfate (DSS) in the gastrointestinal epithelium. Appears to regulate cell death by maintaining mitochondrial integrity. Enhances hepatocyte growth factor (HGF)-induced epithelial cell

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motility, chemotaxis and wound repair. Upon *S.flexneri* cell infection, its actin-severing activity enhances actin-based motility of the bacteria and plays a role during the dissemination.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

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