

# Villin recombinant protein

CatalogNo: YD3029

## Key Features

### Reactivity

- Human

## Recommended Dilution Ratios

## Storage

**Storage\*** -15°C to -25°C/1 year(Avoid freeze / thaw cycles)

**Formulation** Phosphate-buffered solution

## Basic Information

**Source** Mammalian cells

**Purification** Mammalian cells

**Purity** >90% as determined by SDS-PAGE

## Immunogen Information

## Target Information

**Gene name** VIL1 VIL

**Protein Name** Villin-1

### Organism

Human

### Gene ID

[7429](#);

### UniProt ID

[P09327](#);

**Cellular  
Localization**

Cytoplasm, cytoskeleton. Cell projection, lamellipodium. Cell projection, ruffle. Cell projection, microvillus. Cell projection, filopodium tip . Cell projection, filopodium .  
Note=Relocalized in the tip of cellular protrusions and filipodial extensions upon infection with S.flexneri in primary intestinal epithelial cells (IEC) and in the tail-like structures forming the actin comets of S.flexneri. Redistributed to the leading edge of hepatocyte growth factor (HGF)-induced lamellipodia (By similarity). Rapidly redistributed to ruffles and lamellipodia structures in response to autotaxin, lysophosphatidic acid (LPA) and epidermal growth factor (EGF) treatment. .

**Tissue specificity**

Specifically expressed in epithelial cells. Major component of microvilli of intestinal epithelial cells and kidney proximal tubule cells. Expressed in canalicular microvilli of hepatocytes (at protein level).

**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 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.

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## | Validation Data

## | Contact information

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**Villin recombinant protein**

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