



<b>Immunogen</b>	Full length recombinant human vimentin expressed in and purified from E. coli
<b>Epitope</b>	Amino acids 409 - 425 (SRISLPLPNFSSLNRET)
<b>Clone number</b>	2D1
<b>Isotype</b>	IgG2a
<b>Purification</b>	Protein G affinity chromatography
<b>Concentration</b>	1 mg/ml
<b>Formulation</b>	50% PBS, 50% glycerol plus 5mM sodium azide
<b>Predicted species reactivity</b>	Rat, Human
<b>Tested species reactivity</b>	Rat, Human, Mouse (no staining)

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## Tested applications

<b>Applications</b>	ICC, WB, IHC(IF)
<b>Western blot optimal concentration</b>	0.2µg/ml (1:5,000) as tested in HEK293T and HeLa cell lysates. We have only been able to successfully test this antibody in human derived cell lines with animal tissues showing mostly negative results.
<b>IHC(IF) optimal concentration</b>	1µg/ml (1:1000) as tested in 4% PFA fixed rat brain sections
<b>ICC optimal concentration</b>	0.25µg/ml (1:4000) as tested in mixed primary rat neuronal cultures.
<b>Positive control</b>	Vimentin is highly expressed in human cell lines such as HEK293 and HeLa while also being expressed at high levels in glia within the CNS.
<b>Negative control</b>	Vimentin is not expressed in some human derived cell lines such as HepG2 and RT4 cells while in tissue samples vimentin is not expressed in hepatocytes but is in other cell types within the liver.
<b>Open data link</b>	Please follow <a href="#">this link</a> to the OSF.

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## Target information

<b>UniProt ID</b>	P08670
<b>Gene name</b>	VIM
<b>NCBI full gene name</b>	VIM – Vimentin
<b>Entrez gene ID</b>	<a href="#">7431</a>
<b>Amino acids</b>	466 - 53.65kDa
<b>Isoforms</b>	Vimentin has no fully described isoforms.
<b>Expression</b>	Vimentin is expressed in tissues with a mesenchymal origin including glia, fibroblasts, endothelial cells lining blood vessels, renal tubular cells and many cells of the immune system amongst others. Vimentin is also expressed in cells undergoing a epithelial-mesenchymal transition therefore used as a marker for this.
<b>Subcellular expression</b>	Vimentin is expressed in the intermediate filaments of the cytoskeleton.
<b>Target function</b>	As a intermediate filament component, vimentin has important roles in anchoring organelles within a cell, providing resilience to mechanical stress and regulating cytoskeletal interactions.
<b>Processing</b>	The initiator methionine is removed to form the mature protein.

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<b>Post translational modifications</b>	Subject to phosphorylation on multiple residues alongside possessing sumoylation, N-6 acetylation and N-6 succinylation sites.
<b>Homology (compared to human)</b>	Mouse and rat show 97.4% identity to human Vimentin in a BLAST search.
<b>Similar proteins</b>	The following proteins were identified as being similar to Vimentin in a BLAST search: <ul style="list-style-type: none"> <li>• Desmin - 62.9% identity</li> <li>• GFAP - 58.1% identity</li> <li>• Peripherin - 57.1% identity</li> </ul>
<b>Epitope homology (between species)</b>	In a BLAST search the epitope sequence had the following homology with: <ul style="list-style-type: none"> <li>• Rat - 94.4% identity</li> <li>• Human - 94.4% identity</li> <li>• Mouse - 88.4%</li> <li>• Chimpanzee - 94.4% identity</li> <li>• Cow - 94.4% identity</li> <li>• Chicken - 66.7% identity</li> </ul>
<b>Epitope homology (other proteins)</b>	A BLAST search identified the following proteins as having similarity with the epitope sequence: <ul style="list-style-type: none"> <li>• Desmin - 61.1% identity, 53.5kDa</li> <li>• Peripherin - 64.3% identity, 53.6kDa</li> <li>• Reelin - 56.3% identity, 388kDa</li> <li>• LY6G5B - 100% identity (matched across only 7 residues, 22.5kDa)</li> </ul>

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## Storage & Handling

<b>Storage instructions</b>	-20°C
<b>Important</b>	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

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## References

### Vimentin in cancer and its potential as a molecular target for cancer therapy.

Satelli A et al (2011) Cellular and molecular life sciences : CMLS 68

**PubMedID** [21637948](#)

### Vimentin on the move: new developments in cell migration.

Battaglia RA et al (2018) F1000Research 7

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### Vimentin: Regulation and pathogenesis.

Paulin D et al (2022) Biochimie 197

**PubMedID** [35151830](#)

### The role of GFAP and vimentin in learning and memory.

Wilhelmsson U et al (2019) Biological chemistry 400

**PubMedID** [31063456](#)

### Vimentin and epithelial-mesenchymal transition in human breast cancer--observations in vitro and in vivo.

Kokkinos MI et al (2007) Cells, tissues, organs 185

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**Roles of vimentin in health and disease.**

Ridge KM et al (2022) Genes & development 36

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