

PRODUCT INFORMATION



Citrullinated Vimentin (G147R mutant; human, recombinant)

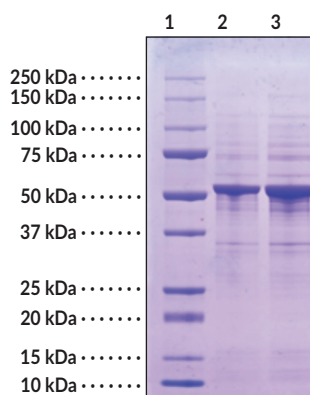
Item No. 46119

Overview and Properties

Source: Recombinant human vimentin^{G147R} expressed in *E. coli* and citrullinated by PAD2
Amino Acids: 1-466 (full length)
Uniprot No.: P08670
Molecular Weight: 53.75 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥70% estimated by SDS-PAGE
Supplied in: 10 mM Tris, pH 7.5
Protein
Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images

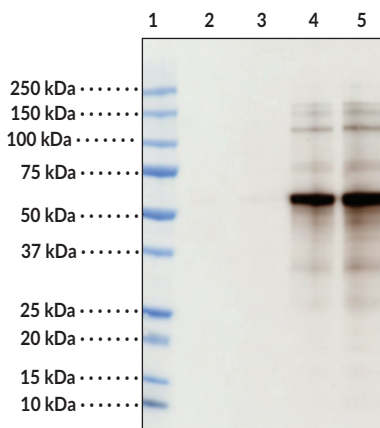


Lane 1: MW Markers

Lane 2: Citrullinated Vimentin (G147R mutant) (2 µg)

Lane 3: Citrullinated Vimentin (G147R mutant) (4 µg)

SDS-PAGE Analysis of Citrullinated Vimentin (G147R mutant; human, recombinant).



Lane 1: MW Markers

Lane 2: Vimentin (G147R mutant; human, recombinant) (150 ng)

Lane 3: Vimentin (G147R mutant; human, recombinant) (300 ng)

Lane 4: Citrullinated Vimentin (G147R mutant; human, recombinant) (150 ng)

Lane 5: Citrullinated Vimentin (G147R mutant; human, recombinant) (300 ng)

Analysis of vimentin^{G147R} citrullination: Citrullinated Vimentin (G147R mutant; human, recombinant) was reacted with a Cayman's Citrulline-specific Probe biotin (Item No. 17450). The proteins were blotted to PVDF membrane and detected using streptavidin:HRP (Item No. 16747).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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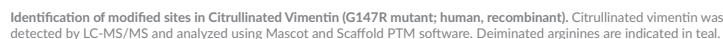
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Citrullination sites shown are representative of typical results. Batch-to-batch variations may occur.

Vimentin is a cytoskeletal intermediate filament protein present in cells of mesenchymal origin, including leukocytes, endothelial cells, and smooth muscle cells.¹ It is subject to citrullination by peptidyl arginine deiminase 2 (PAD2; Item No. 10785) under high calcium concentrations, which can occur during macrophage apoptosis.² Citrullinated vimentin has been shown to have a role in the production of anti-citrullinated protein antibodies (ACPAs).^{2,3} Serum levels of immune complexes targeting citrullinated vimentin are increased in patients with rheumatoid arthritis and positive for ACPAs.⁴ Serum and plasma levels of citrullinated vimentin are also increased in patients with lung cancer or idiopathic pulmonary fibrosis, respectively.^{5,6} Citrullinated vimentin containing a glycine-to-arginine substitution (vimentin^{G147R}) has been found in isolated human synovial fluid.⁷ Vimentin^{G147R} has increased antigenicity compared with wild-type vimentin in serum from patients with rheumatoid arthritis. Cayman's Citrullinated Vimentin (G147R; human, recombinant) protein is derived from purified Vimentin (G147R mutant; human, recombinant) (Item No. 45102) that has been modified by PAD2 (Item No. 10785), which was removed by affinity chromatography after the reaction.

1. Ivaska, J., Pallari, H.-M., Nevo, J., *et al.* Novel functions of vimentin in cell adhesion, migration, and signaling. *Exp. Cell Res.* **313**(10), 2050-2062 (2007).
2. Asaga, H., Yamada, M., and Senshu, T. Selective deimination of vimentin in calcium ionophore-induced apoptosis of mouse peritoneal macrophages. *Biochem. Biophys. Res. Commun.* **243**(3), 641-646 (1998).
3. Soós, L., Szekanecz, Z., Szabó, Z., *et al.* Clinical evaluation of anti-mutated citrullinated vimentin by ELISA in rheumatoid arthritis. *J. Rheumatol.* **34**(8), 1658-1663 (2007).
4. Van Steendam, K., Tillemans, K., De Ceuleneer, M., *et al.* Citrullinated vimentin as an important antigen in immune complexes from synovial fluid of rheumatoid arthritis patients with antibodies against citrullinated proteins. *Arthritis Res. Ther.* **12**(4), R132 (2010).
5. Willumsen, N., Bager, C.L., Leeming, D.J., *et al.* Serum biomarkers reflecting specific tumor tissue remodeling processes are valuable diagnostic tools for lung cancer. *Can. Med.* **3**(5), 1136-1145 (2014).
6. Li, F.J., Surolia, R., Li, H., *et al.* Autoimmunity to vimentin is associated with outcomes of patients with idiopathic pulmonary fibrosis. *J. Immunol.* **199**(5), 1596-1605 (2017).
7. Bang, H., Egerer, K., Gauliard, A., *et al.* Mutation and citrullination modifies vimentin to a novel autoantigen for rheumatoid arthritis. *Arthritis Rheum.* **56**(8), 2503-2511 (2007).

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