

PRODUCT INFORMATION



Citrullinated Vimentin (human, recombinant)

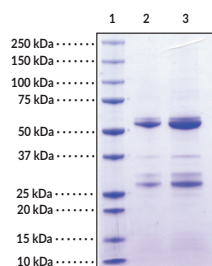
Item No. 21942

Overview and Properties

Source: Human recombinant vimentin purified from *E. coli*
Amino acids: 2-466
Uniprot No.: P08670
Molecular Weight: 53.5 kDa
Storage: -80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein
Stability: ≥1 year
Purity: ≥55% estimated by SDS-PAGE
Supplied in: 10 mM Tris, pH 8.0
Protein
Concentration: *batch specific* mg/ml

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

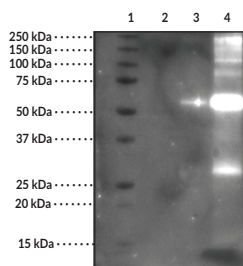
Images



SDS-PAGE analysis of citrullinated vimentin stained with coomassie.

Lane 1: MW Markers
Lane 2: Citrullinated Vimentin (2 µg)
Lane 3: Citrullinated Vimentin (4 µg)

Representative gel image shown; actual purity may vary between each batch.



Analysis of vimentin citrullination. Vimentin and citrullinated vimentin were reacted with Cayman's Citrulline-specific Probe-biotin (Item No. 17450) and detected using Streptavidin:HRP (Item No. 16747).

Lane 1: MW Markers
Lane 2: Vimentin pre-citrullination (100 ng)
Lane 3: Vimentin post-citrullination (100 ng)
Lane 4: Citrullinated vimentin PAD2-depleted (100 ng)

Representative gel image shown; actual purity may vary between each batch.



Identification of modified sites in Citrullinated Vimentin (Item No. 21942). Citrullinated Vimentin was detected by LC-MS/MS and analyzed using Mascot and Scaffold PTM software. Deiminated arginines are indicated in teal.

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
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Description

Vimentin is a cytoskeleton 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).²⁻⁴ ACPAs against citrullinated proteins, such as vimentin, are considered to be highly specific markers for rheumatoid arthritis and other autoimmune diseases.^{3,4}

References

1. Eriksson, J.E., Dechat, T., Grin, B., *et al.* Introducing intermediate filaments: From discovery to disease. *J. Clin. Invest.* **119(7)**, 1763-1771 (2009).
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. 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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