

PRODUCT INFORMATION

Citrullinated Vimentin (G147R) (R145 + R147) (140-160)-biotin Peptide Item No. 37625

Overview and Properties

Contents:	This vial contains 1 mg of lyophilized peptide.
Synonyms:	Biotin-GQGKS(Cit)L(Cit)DLYEEEMRELRRQ, Citrullinated VIM (G146R) (R144 + R146)-biotin
Peptide Sequence:	Biotin-GQGKSXLXDLYEEEMRELRRQ (X=Citrulline)
Uniprot No.:	P08670
Molecular Weight:	2,878.2
Form:	Solid
Storage:	-20°C (as supplied)
Stability:	≥3 years

Description

Citrullinated vimentin (G147R) (R145 + R147) (140-160)-biotin peptide is a biotinylated version of a di-citrullinated form of a mutant isoform of the cytoskeleton intermediate filament protein vimentin, vimentin^{G146R}, which has been found in the synovial fluid of patients with rheumatoid arthritis.¹ Vimentin is subject to citrullination by peptidyl arginine deiminase 2 (PAD2) under high calcium concentrations, which can occur during macrophage apoptosis.^{2,3} Serum levels of immune complexes targeting citrullinated vimentin are increased in patients with rheumatoid arthritis and positive for anti-citrullinated protein antibodies (ACPAs).⁴ Serum and plasma levels of citrullinated vimentin are also increased in patients with lung cancer or idiopathic pulmonary fibrosis, respectively.^{5,6} Cayman's Citrullinated Vimentin (G147R) (R145 + R147) (140-160)-biotin Peptide is intended for use in the detection of autoantibodies against vimentin^{G146R} citrullinated at R145 and R147.

References

1. 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).
2. Li, F.J., Surolia, R., Li, H., *et al.* Citrullinated vimentin mediates development and progression of lung fibrosis. *Sci. Transl. Med.* **13**(585), eaba2927 (2021).
3. 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).
4. Van Steendam, K., Tilleman, 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).

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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