PRODUCT INFORMATION

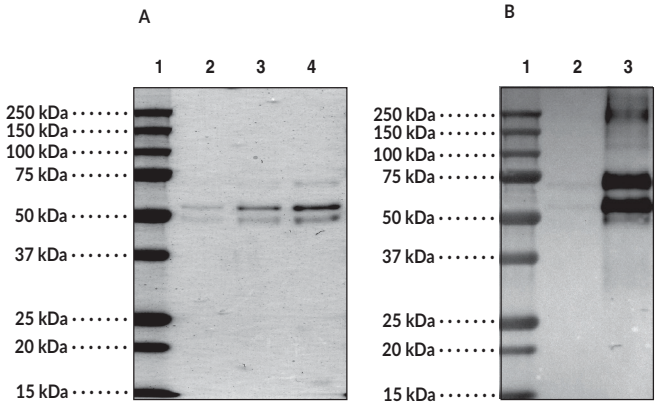
Carbamylated Human Fibrinogen

Item No. 21370

Overview and Properties

Synonym: Ca-Fibrinogen
Source: Fibrinogen purified from human plasma and modified with potassium cyanate
Molecular Weight: α chain isoform 1 (95 kDa), α chain isoform 2 (69.8 kDa), β chain (55.9 kDa), and isoform γ-B chain (51.5 kDa)
Storage: 4°C (as supplied)
Stability: ≥2 years
Supplied in: A solution in PBS, pH 7.4

Images



Panel A: Analysis of carbamylated human fibrinogen stained with coomassie on 12% SDS-PAGE.
Lane 1: MW Markers
Lane 2: Human fibrinogen (1 µg)
Lane 3: Human fibrinogen (2 µg)
Lane 4: Human fibrinogen (4 µg)

Panel B: Western blot analysis of human fibrinogen carbamylation.
Lane 1: MW Markers
Lane 2: Human fibrinogen
Lane 3: Carbamylated human fibrinogen
Human fibrinogen (lane 2) and carbamylated human fibrinogen (lane 3) were reacted with a biotin labeled probe specific for carbamylated lysines and run on 12% SDS-PAGE alongside MW markers (lane 1). The proteins were blotted to nitrocellulose and detected using streptavidin-HRP.

Representative gel image shown; actual purity may vary between each batch but protein will be ≥95% pure.

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Description

Citrullination and carbamylation are two post-translational modifications that result in the generation of citrulline and homocitrulline, two highly related, non-standard amino acids. While citrullination of arginine is catalyzed by peptidylarginine deiminases (PADs), homocitrulline results from the non-enzymic reaction of cyanate with lysine. Carbamylation occurs at low levels in healthy individuals, but at higher levels in several clinical conditions such as atherosclerosis, kidney disease, and inflammation.[1-3] Carbamylation can lead to changes in protein function, cellular function, and generation of an immune response to homocitrulline containing proteins.[1-3] This product contains carbamylated human fibrinogen (α, β and γ chains).

References

1. Shi, J., van Veelen, P.A., Mahler, M., *et al*. Carbamylation and antibodies against carbamylated proteins in autoimmunity and other pathologies. *Autoimmun. Rev*. **13(3)**, 225-230 (2014).
2. Pruijn, G.J.M. Citrullination and carbamylation in the pathophysiology of rheumatoid arthritis. *Front. Immunol.* **6**, 192 (2015).
2. Mastrangelo, A., Colasanti, T., Barbati, C., *et al*. The role of posttranslational protein modifications in rheumatological diseases: Focus on rheumatoid arthritis. *J. Immunol. Res*. **2015** 712490 (2015).

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