

PRODUCT INFORMATION



Human Fibrinogen (PAD4 Citrullinated)

Item No. 400076

Overview and Properties

Synonyms: cFBG, cFG
Source: Fibrinogen, purified from human plasma, that has been shown by certified tests to be negative for HBsAg and for antibodies to HIV and HCV. Citrullinated with human recombinant PAD4.

Uncitrullinated Fibrinogen

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: -80°C (as supplied); avoid freeze/thaw cycles by aliquoting the protein

Stability: 2 years

Purity: Homogeneous by SDS-PAGE. Clottable proteins: $\geq 95\%$

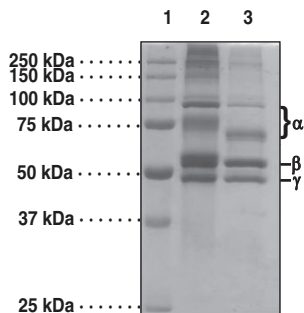
Supplied in: A lyophilized powder. Upon rehydration with 1 ml of water the product contains 50 mM Tris-HCl, pH 7.4, 150 mM sodium chloride.

Reconstitution

Instructions: For optimal recovery, the fibrinogen vial and ultrapure water should be pre-warmed to 37°C. Slowly add warmed water dropwise to reconstitute, as to not mix or agitate. Incubate at 37°C without agitation for 30 minutes. It is normal for the final solution to appear hazy. Do not store on ice, as precipitation may occur. To maximize recovery the final concentration should be no greater than 1 mg/ml in water.

This product has a propensity to clot, therefore extra care must be taken when following the recommended reconstitution protocol outlined above. Recovery amounts may vary

Image



Lane 1: MW Markers
Lane 2: Citrullinated Fibrinogen (5 μ g)
Lane 3: Fibrinogen
(uncitrullinated control) (5 μ g)

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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Description

Fibrinogen is a plasma clotting factor composed of three different polypeptide chains (α , β and γ). Under chronic inflammatory conditions, fibrinogen can be acted upon by the enzyme peptidylarginine deiminase 4 (PAD4), converting specific arginine residues to citrulline. Patients with rheumatoid arthritis (RA) produce antibodies that bind citrullinated human fibrinogen.¹ The citrullinated fibrinogen and reactive antibodies form immune complexes in RA patients, and these immune complexes can stimulate macrophages.^{2,3} Recently, it has been discovered that immunizing certain strains of mice with citrullinated human fibrinogen can induce the production of anti-citrullinated human fibrinogen antibodies and the development of arthritis that shares many pathophysiological features of the human disease.^{4,5}

References

1. Hill, J.A., Al-Bishri, J., Gladman, D.D., *et al.* Serum autoantibodies that bind citrullinated fibrinogen are frequently found in patients with rheumatoid arthritis. *J. Rheumatol.* **33(11)**, 2115-2119 (2006).
2. Zhao, X., Okeke, N.L., Sharpe, O., *et al.* Circulating immune complexes contain citrullinated fibrinogen in rheumatoid arthritis. *Arthritis Res. Ther.* **10(4)**, (2008).
3. Sokolove, J., Zhao, X., Chandra, P.E., *et al.* Immune complexes containing citrullinated fibrinogen costimulate macrophages via toll-like receptor 4 and Fc γ receptor. *Arthritis Rheum.* **63(1)**, 53-62 (2011).
4. Hill, J.A., Bell, D.A., Brintnell, W., *et al.* Arthritis induced by posttranslationally modified (citrullinated) fibrinogen in DR4-IE transgenic mice. *J. Exp. Med.* **205(4)**, 967-979 (2008).
5. Yue, D., Brintnell, W., Mannik, L.A., *et al.* CTLA-4Ig blocks the development and progression of citrullinated fibrinogen-induced arthritis in DR4-transgenic mice. *Arthritis Rheum.* **62(10)**, 2941-2952 (2010).

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