

Factor XIII and tissue transglutaminase inhibitor

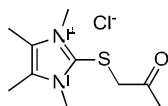
Product No. ADG535

Description

Synthetic inhibitor: 1,3,4,5-Tetramethyl-2-[(2-oxopropyl)thio]imidazolium chloride.

The molecule was developed to block coagulation factor XIIIa, however the compound inhibits tissue transglutaminase as well. Both enzymes are inhibited with an IC₅₀ of about 0.25 µM.

Molecular Formula: C₁₀H₁₇ClN₂OS
(free cation: C₁₀H₁₇N₂OS⁺)

Chemical Structure:

Molecular Weight: 248.77 (free cation: 213.32)

Purity by HPLC: >95 % (214 nm)

Presentation

10 mg off white solid powder

Solubility

Dissolve e.g. 5.00 mg in 402 µl PBS buffer to obtain a 50 mM solution

Storage

Store at -20°C, desiccate

References

1. Transglutaminase inhibition by 2-[(2-oxopropyl)thio]imidazolium derivatives: mechanism of factor XIIIa inactivation. Freund K F *et al.*, *Biochemistry*. 1994 Aug 23;33(33):10109-19.
2. Novel inhibitors against the transglutaminase-catalysed crosslinking of lens proteins. Lorand L *et al.* *Exp Eye Res*. 1998 May;66(5):531-6.
3. Stimulated platelets use serotonin to enhance their retention of procoagulant proteins on the cell surface. Dale GL *et al.* *Nature*. 2002 Jan 10;415(6868):175-9.
4. Factor XIIIa generation assay: a tool for studying factor XIII function in plasma. Dodt J *et al.* *Anal Biochem*. 2013 Aug 15;439(2):145-51.
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6. Role of transglutaminases in cuff-induced atherosclerotic lesion formation in femoral arteries of ApoE3 Leiden mice. Matlung HL *et al.* *Atherosclerosis*. 2010 Nov;213(1):77-84.
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8. Factor XIII activity mediates red blood cell retention in venous thrombi. Aleman MM *et al.* *J Clin Invest*. 2014 Aug;124(8):3590-600.

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