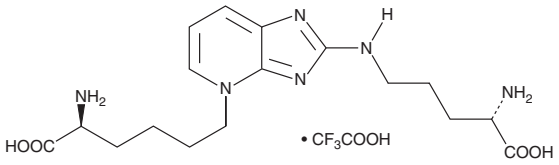
PRODUCT INFORMATION

Pentosidine (trifluoroacetate salt)

Item No. 10010254

CAS Registry No.: 225784-09-8
Formal Name: αS-amino-2-[[4S-amino-4-carboxybutyl]amino]-4H-imidazo[4,5-b]pyridine-4-hexanoic acid, trifluoroacetate salt
MF: $C_{17}H_{26}N_6O_4 \bullet CF_3COOH$
FW: 492.4
Purity: ≥98%
UV/Vis.: λ_{max}: 211, 331 nm
Supplied as: Lyophilized
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Pentosidine (trifluoroacetate salt) is supplied lyophilized. A stock solution may be made by dissolving the pentosidine (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Pentosidine (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of pentosidine (trifluoroacetate salt) in ethanol is approximately 30 mg/ml and approximately 20 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of pentosidine (trifluoroacetate salt) can be prepared by directly dissolving the lyophilized pentosidine (trifluoroacetate salt) in aqueous buffers. The solubility of Pentosidine (trifluoroacetate salt) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Advanced glycation end products (AGEs) are compounds formed by non-enzymatic chemical reactions following the bonding of sugars to proteins or lipids during diabetes, uremia, aging, rheumatic arthritis, and other conditions. A receptor for the AGEs (RAGE) binds certain members of this class to initiate cell signaling.[1,2] Pentosidine is a well-characterized natural AGE that is often used as a biomarker for the production of all AGEs. While pentosidine can be measured in urine, the majority of this AGE is catabolized before excretion.[3]

References

1. Neeper, M., Schmidt, A.M., Brett, J., *et al.* Cloning and expression of a cell surface receptor for advanced glycosylation end products of proteins. *J. Biol. Chem.* **267(21)**, 14998-15004 (1992).
2. Brett, J., Schmidt, A.M., Yan, S.D., *et al.* Survey of the distribution of a newly characterized receptor for advanced glycation end products in tissues. *Am. J. Pathol.* **143(6)**, 1699-1712 (1993).
3. Miyata, T., Ueda, Y., Horie, K., *et al.* Renal catabolism of advanced glycation end products: The fate of pentosidine. *Kidney Int.* **53(2)**, 416-422 (1998).

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.

Copyright Cayman Chemical Company, 10/10/2023

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM