

# PRODUCT INFORMATION



## Octreotide (acetate)

Item No. 23757

**Formal Name:** D-phenylalanyl-L-cysteinyl-L-phenylalanyl-D-tryptophyl-L-lysyl-L-threonyl-N-[(1R,2R)-2-hydroxy-1-(hydroxymethyl)propyl]-cyclic(2→7)-disulfide, L-cysteinamide, acetate

**Synonym:** SMS 201-995

**MF:** C<sub>49</sub>H<sub>66</sub>N<sub>10</sub>O<sub>10</sub>S<sub>2</sub> • XC<sub>2</sub>H<sub>4</sub>O<sub>2</sub>

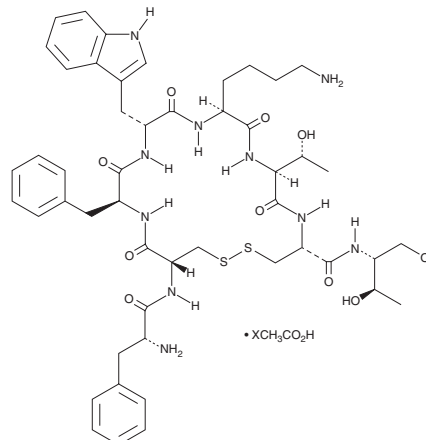
**FW:** 1,019.2

**Purity:** ≥95%

**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥2 years



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

### Laboratory Procedures

Octreotide (acetate) is supplied as a solid. A stock solution may be made by dissolving the octreotide (acetate) in the solvent of choice, which should be purged with an inert gas. Octreotide (acetate) is slightly soluble in organic solvents such as DMSO and methanol.

### Description

Octreotide is an octapeptide analog of somatostatin that binds to somatostatin receptors (SSTRs) with a higher affinity for the somatostatin subgroup 2 receptors, SST<sub>2</sub>, SST<sub>3</sub>, and SST<sub>5</sub> (K<sub>i</sub>s = 875, 0.57, 26.8, >1,000, and 6.8 nM for SST<sub>1-5</sub> receptors, respectively).<sup>1</sup> Within subgroup 2 SSTRs, it selectively binds to SST<sub>2</sub> over SST<sub>3</sub> and SST<sub>5</sub> receptors with IC<sub>50</sub> values of 0.02, 92.9, and 21.8 nM, respectively, for human receptors. Octreotide inhibits the secretion of growth hormone *in vitro* in rat pituitary cells three-fold more potently than somatostatin and *in vivo* in rhesus monkey (ID<sub>50</sub> = 0.38 µg/kg per hour).<sup>2</sup> It inhibits proliferation of VEGF-stimulated human umbilical endothelial cells (HUVECs) with an EC<sub>50</sub> value of approximately 1 µM.<sup>3</sup> It also inhibits growth of LCI-D20 human hepatocellular carcinoma cell tumors in a nude mouse xenograft model when administered at a dose of 50 µg/kg twice daily. Formulations containing octreotide have been used in the treatment of acromegaly to reduce growth hormone and IGF-1 levels.

### References

1. Moore, S.B., van der Hoek, J., de Capua, A., *et al.* Discovery of iodinated somatostatin analogues selective for hsst2 and hsst5 with excellent inhibition of growth hormone and prolactin release from rat pituitary cells. *J. Med. Chem.* **48(21)**, 6643-6652 (2005).
2. Bauer, W., Briner, U., Doepfner, W., *et al.* SMS 201-995: A very potent and selective octapeptide analogue of somatostatin with prolonged action. *Life Sci.* **31(11)**, 1133-1140 (1982).
3. Jia, W.-D., Xu, G.-L., Xu, R.-N., *et al.* Octreotide acts as an antitumor angiogenesis compound and suppresses tumor growth in nude mice bearing human hepatocellular carcinoma xenografts. *J. Cancer Res. Clin. Oncol.* **129(6)**, 327-334 (2003).

#### 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, 07/11/2023

#### 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