

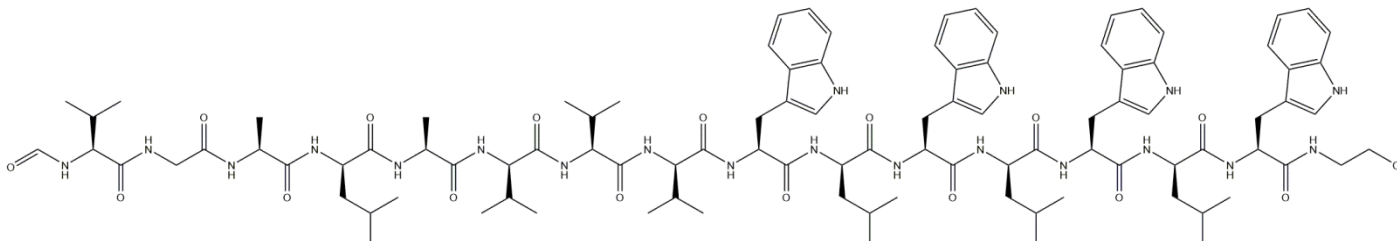
# Gramicidin A

12/19

**ALTERNATE NAMES:** Valinegramicidin A; Valyl gramicidin A; (2R)-2-[[[(2S)-2-[[2-[[[(2S)-2-formamido-3-methylbutanoyl]amino]acetyl]amino]propanoyl]amino]-N-[(2S)-1-[[[(2R)-1-[[[(2S)-1-[[[(2R)-1-[[[(2S)-1-[[[(2S)-1-[[[(2S)-1-[[[(2R)-1-[[[(2S)-1-[[[(2S)-1-(2-hydroxyethylamino)-3-(1H-indol-3-yl)-1-oxopropan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-3-(1H-indol-3-yl)-1-oxopropan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-3-(1H-indol-3-yl)-1-oxopropan-2-yl]amino]-4-methyl-1-oxopentan-2-yl]amino]-3-(1H-indol-3-yl)-1-oxopropan-2-yl]amino]-3-methyl-1-oxobutan-2-yl]amino]-3-methyl-1-oxobutan-2-yl]amino]-3-methyl-1-oxobutan-2-yl]amino]-1-oxopropan-2-yl]-4-methylpentanamide

**CATALOG #:** B2967-1 1 mg  
B2967-5 5 mg

**STRUCTURE:**



**MOLECULAR FORMULA:** C<sub>99</sub>H<sub>140</sub>N<sub>20</sub>O<sub>17</sub>

**MOLECULAR WEIGHT:** 1882.29

**CAS NUMBER:** 11029-61-1

**APPEARANCE:** Solid

**SEQUENCE:** HCO-Val-Gly-Ala-D-Leu-Ala-D-Val-Val-D-Val-Trp-D-Leu-Trp-D-Leu-Trp-D-Leu-Trp-NHCH<sub>2</sub>CH<sub>2</sub>OH

**PURITY:** ≥90%

**SOLUBILITY:** Soluble in ethanol and DMSO

**DESCRIPTION:** Gramicidin A is a peptide component of gramicidin, an antibiotic mixture originally isolated from *Bacillus brevis*. Gramicidin A is a linear channel-forming ionophore pentadecapeptide that forms a hydrophilic membrane pore that permits the rapid passage of monovalent cations. Gramicidin A shows potent antibiotic activity against gram-positive bacteria by forming channels which cause Na<sup>+</sup> influx, K<sup>+</sup> efflux, osmotic swelling, and cell lysis.

**STORAGE TEMPERATURE:** -20°C. Protect from air. Store under desiccating conditions.

**HANDLING:** Do not take internally. Wear gloves and mask when handling the product! Avoid contact by all modes of exposure.

**REFERENCES:**

1. Kelkar, D.A., and Chattopadhyay, A. The gramicidin ion channel: A model membrane protein. *Biochim. Biophys. Acta* 1768(9), 2011-2025 (2007).
2. David, J.M., Owens, T.A., Inge, L.J., et al. Gramicidin A blocks tumor growth and angiogenesis through inhibition of hypoxia-inducible factor in renal cell carcinoma. *Mol. Cancer Ther.* 13(4), 788-799 (2014).

**RELATED PRODUCTS:**

Gramicidin (Cat. No. B1264)  
 Anidulafungin (Cat. No. B2966)  
 Amphotericin B, USP (Cat. No. 2497)  
 Nystatin, USP (Cat. No. B1509)  
 Ampicillin sodium (Cat. No. 2484)

**DISCLAIMER:** **FOR RESEARCH USE ONLY! Not to be used on humans.**