

PRODUCT INFORMATION



Gramicidin A

Item No. 26384

CAS Registry No.: 11029-61-1

Formal Name: (R)-2-((2S,5R,8S,11R,14S,17R,20S,26S)-2-((1H-indol-3-yl)methyl)-17-isobutyl-5,8,11,26-tetraisopropyl-14,20-dimethyl-4,7,10,13,16,19,22,27,28-nonaixo-3,6,9,12,15,18,21,24,25-nonaazaoctacosanamido)-N-((5S,8R,11S,14R,17S)-5,11-bis((1H-indol-3-yl)methyl)-1-hydroxy-18-(1H-indol-3-yl)-8,14-diisobutyl-4,7,10,13,16-pentaexo-3,6,9,12,15-pentaazaoctadecan-17-yl)-4-methylpentanamide

HCO—Val—Gly—Ala—D-Leu—Ala—D-Val—Val—D-Val—Trp—D-Leu—
Trp—D-Leu—Trp—D-Leu—Trp—NHCH₂CH₂OH

MF: C₉₉H₁₄₀N₂₀O₁₇

FW: 1,882.3

Purity: ≥90%

UV/Vis.: λ_{max}: 223 nm

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

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

Laboratory Procedures

Gramicidin A is supplied as a solid. A stock solution may be made by dissolving the gramicidin A in the solvent of choice, which should be purged with an inert gas. Gramicidin A is soluble in ethanol and DMSO.

Gramicidin A is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Gramicidin A is a peptide component of gramicidin, an antibiotic mixture originally isolated from *B. brevis*.¹ Gramicidin A is a highly hydrophobic channel-forming ionophore that forms channels in model membranes that are permeable to monovalent cations. It induces degradation of hypoxia inducible factor 1 α (HIF-1α) in HEK293 cells and reduces growth in a human renal cell carcinoma mouse xenograft model when administered at a dose of 0.22 mg/kg three times per week.² Gramicidin A has commonly been used to study channel structure and function.¹

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).

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.

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