

PRODUCT INFORMATION



PAMAM Dendrimer G6.0 Amine (water solution)

Item No. 39076

CAS Registry No.: 163442-69-1
Synonyms: PAMAM G6.0, Polyamidoamine Dendrimer G6.0
MF: $[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]_n(\text{G}=n)$; dendri PAMAM(NH_2)₂₅₆
FW: 58,046.1
Supplied as: A solution in water
Storage: -20°C
Stability: ≥2 years

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

Description

PAMAM dendrimer G6.0 amine (PAMAM G6.0) is a polyamidoamine (PAMAM) dendrimer with amine termini that has been used as a drug delivery system *in vivo*.¹ It is approximately 67 Å in diameter and has 256 surface groups.² PAMAM G6.0 is active against clinical isolates of several bacteria (MICs = 0.25-25 µg/ml).³ It increases the cell growth rate of HEK293T and HeLa cells when used at concentrations ranging from 100 to 500 nM but is cytotoxic to the same cells when used at concentrations greater than or equal to 700 nM.⁴ PAMAM G6.0 in complex with the phosphodiesterase 5 (PDE5) and PDE6 inhibitor vardenafil (Item No. 14930) increases the oral bioavailability of vardenafil in rabbits.¹ It has been used to deliver MRI contrast agents in mice.⁴

References

1. Tawfik, M.A., Tadros, M.I., and Mohamed, M.I. Polyamidoamine (PAMAM) dendrimers as potential release modulators and oral bioavailability enhancers of vardenafil hydrochloride. *Pharm. Dev. Technol.* **24**(3), 293-302 (2019).
2. Heiden, T.C., Dengler, E., Kao, W.J., *et al.* Developmental toxicity of low generation PAMAM dendrimers in zebrafish. *Toxicol. Appl. Pharmacol.* **225**(1), 70-79 (2007).
3. Rastegar, A., Nazari, S., Allahabadi, A., *et al.* Antibacterial activity of amino- and amido- terminated poly (amidoamine)-G6 dendrimer on isolated bacteria from clinical specimens and standard strains. *Med. J. Islam. Repub. Iran* **31**, 64 (2017).
4. Parimi, S., Barnes, T.J., Callen, D.F., *et al.* Mechanistic insight into cell growth, internalization, and cytotoxicity of PAMAM dendrimers. *Biomacromolecules* **11**(2), 382-389 (2010).
5. Nwe, K., Milenic, D., Bryant, L.H., *et al.* Preparation, characterization and *in vivo* assessment of Gd-albumin and Gd-dendrimer conjugates as intravascular contrast-enhancing agents for MRI. *J. Inorg. Biochem.* **105**(5), 722-727 (2011).

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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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