

PRODUCT INFORMATION

PAMAM Dendrimer G3.0 Amine (water solution)

Item No. 39073

CAS Registry No.: 153891-46-4

Synonyms: PAMAM G3.0,
Polyamidoamine Dendrimer G3.0

MF: $[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]_n(\text{G}=n)$; dendri PAMAM(NH_2)₃₂ $[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]_n(\text{G}=n)$; dendri PAMAM(NH_2)₃₂

FW: 6,908.8

Supplied as: A solution in water

Storage: -20°C

Stability: ≥4 years

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

Description

PAMAM dendrimer G3.0 amine (PAMAM G3.0) is a polyamidoamine (PAMAM) dendrimer with amine termini that has been used as a drug delivery system *in vivo*.^{1,2} It is approximately 36 Å in diameter and has 32 surface groups.¹ It is cytotoxic to DU145 cells ($\text{IC}_{50} = \sim 13.42 \mu\text{M}$) and toxic to zebrafish embryos, inducing mortality 72 hours post-fertilization when used at a concentration of 0.2 μM .³ Liposomes coated with PAMAM G3.0 and encapsulating the isoquinoline alkaloid berberine (Item No. 10006427) and the anthraquinone chrysophanol (Item No. 19870) reduce hydrogen peroxide-induced production of reactive oxygen species (ROS) in ARPE-19 retinal epithelial cells and protect against retinal damage in a rat model of photooxidation-induced age-related macular degeneration (AMD).³

References

1. 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).
2. Lai, S., Wei, Y., Wu, Q., *et al.* Liposomes for effective drug delivery to the ocular posterior chamber. *J. Nanobiotechnology* **17**(1), 64 (2019).
3. Bodewein, L., Schmelter, F., Di Fiore, S., *et al.* Differences in toxicity of anionic and cationic PAMAM and PPI dendrimers in zebrafish embryos and cancer cell lines. *Toxicol. Appl. Pharmacol.* **305**, 83-92 (2016).

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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