

PRODUCT INFORMATION



PAMAM Dendrimer G3.0 Amidoethanol (water solution)

Item No. 39112

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| Synonyms: | PAMAM 3.0 Amidoethanol, Polyamidoamine Dendrimer G3.0 Amidoethanol |
| MF: | $[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]_n:(\text{G}=3); \text{dendri}$ PAMAM $(\text{NHCH}_2\text{CH}_2\text{OH})_{32}$ |
| FW: | 6,940.4 |
| 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 G3.0 amidoethanol (PAMAM G3.0 amidoethanol) is a polyamidoamine (PAMAM) dendrimer with hydroxyl termini.¹ It is approximately 30 Å in diameter in PBS and has 32 surface groups. PAMAM G3.0 amidoethanol is an antagonist for the pore-forming channels anthrax protective antigen 63 (PA63) in lipid membranes ($\text{IC}_{50} = 44.9 \text{ nM}$).² It inhibits aggregation of amylin containing a serine-to-glycine substitution at position 20 (amylin^{S20G}) in a concentration-dependent manner and amylin^{S20G}-induced toxicity in MIN6-K8 and NIT-1 pancreatic β -cells at 6 μM .³ Topical application of PAMAM G3.0 amidoethanol (1 mg/ml) encapsulating the synthetic glucocorticoid dexamethasone (Item No. 11015) increases the levels of dexamethasone in the sclera, conjunctiva, and cornea in isolated rabbit eyes.⁴ It reduces tail growth in *C. riparius* larvae and induces DNA damage in a comet assay using *C. riparius* larval homogenates when used at concentrations of 10 or 100 ppm.⁵

References

1. Dobrovolskaia, M.A., Patri, A.K., Simak, J., et al. Nanoparticle size and surface charge determine effects of PAMAM dendrimers on human platelets *in vitro*. *Mol. Pharm.* **9**(3), 382-393 (2012).
2. Förstner, P., Bayer, F., Kalu, N., et al. Cationic PAMAM dendrimers as pore-blocking binary toxin inhibitors. *Biomacromolecules* **15**(7), 2461-2474 (2014).
3. Gurzov, E.N., Wang, B., Pilkington, E.H., et al. Inhibition of hIAPP amyloid aggregation and pancreatic β -cell toxicity by OH-terminated PAMAM dendrimer. *Small* **12**(12), 1615-1626 (2016).
4. Yavuz, B., Pehlivan, S.B., Vural, İ., et al. *In vitro/in vivo* evaluation of dexamethasone--PAMAM dendrimer complexes for retinal drug delivery. *J. Pharm. Sci.* **104**(11), 3814-3823 (2015).
5. Planelló, R., Rosal, R., Aquilino, M., et al. Genotoxic effects and transcriptional deregulation of genetic biomarkers in *Chironomus riparius* larvae exposed to hydroxyl- and amine-terminated generation 3 (G3) polyamidoamine (PAMAM) dendrimers. *Sci. Total Environ.* **774**, 145828 (2021).

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