

# PRODUCT INFORMATION



## PAMAM Dendrimer G5.0 Amidoethanol (water solution)

Item No. 39114

<b>Synonyms:</b>	PAMAM 5.0 Amidoethanol, Polyamidoamine Dendrimer G5.0 Amidoethanol	
<b>MF:</b>	$[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]:(\text{G}=5); \text{dendri PAMAM}(\text{NHCH}_2\text{CH}_2\text{OH})_{128}$	$[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]:(\text{G}=5); \text{dendri PAMAM}(\text{NHCH}_2\text{CH}_2\text{OH})_{128}$
<b>FW:</b>	28,950.9	
<b>Supplied as:</b>	A solution in water	
<b>Storage:</b>	-20°C	
<b>Stability:</b>	≥2 years	

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

### Description

PAMAM dendrimer G5.0 amidoethanol (PAMAM G3.0-amidoethanol) is a polyamidoamine (PAMAM) dendrimer with hydroxyl termini.<sup>1</sup> It is approximately 51 Å in diameter in PBS and has 128 surface groups. PAMAM G3.0-amidoethanol dendrimers encapsulating gold nanoparticles induce oxidation of carbon monoxide in a cell-free assay.<sup>2</sup> It binds to bilirubin ( $K_d = 8.5 \mu\text{M}$ ).<sup>3</sup> PAMAM G5.0 amidoethanol is active against *S. aureus*.<sup>4</sup> It inhibits plaque formation induced by Middle East respiratory syndrome coronavirus (MERS-CoV) in Vero cells when used at a concentration of 10  $\mu\text{M}$ .<sup>5</sup> PAMAM G3.0-amidoethanol has been used in the formation and isolation of platinum nanoclusters for *in vitro* breast cancer subtyping.<sup>6</sup>

### 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. Kracke, P., Haas, T., Saltsburg, H., *et al.* CO oxidation on unsupported dendrimer-encapsulated gold nanoparticles. *J. Phys. Chem. C* 114(39), 16401-16407 (2010).
3. Shcharbin, D. and Bryszewska, M. Complex formation between endogenous toxin bilirubin and polyamidoamine dendrimers: A spectroscopic study. *Biochim. Biophys. Acta* 1760(7), 1021-1026 (2006).
4. Altaher, Y. and Kandeel, M. Structure-activity relationship of anionic and cationic polyamidoamine (PAMAM) dendrimers against *Staphylococcus aureus*. *J. Nanomater.* 4013016 (2022).
5. Kandeel, M., Al-Taher, A., Park, B.K., *et al.* A pilot study of the antiviral activity of anionic and cationic polyamidoamine dendrimers against the Middle East respiratory syndrome coronavirus. *J. Med. Virol.* 92(9), 1665-1670 (2020).
6. Tanaka, S.-i., Wadati, H.S., K., Yasuda, H., *et al.* Red-fluorescent Pt nanoclusters for detecting and imaging HER2 in breast cancer cells. *ACS Omega* 5(37), 23718-23723 (2020).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/18/2023

#### 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