

# PRODUCT INFORMATION



## PAMAM Dendrimer G4.0 Amidoethanol (water solution)

Item No. 39113

<b>Synonyms:</b>	PAMAM G4.0 Amidoethanol, Polyamidoamine Dendrimer G4.0 Amidoethanol
<b>MF:</b>	$[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]:(\text{G}=4); \text{dendri PAMAM}(\text{NHCH}_2\text{CH}_2\text{OH})_{64}$
<b>FW:</b>	14,277.2
<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 G4.0 amidoethanol (PAMAM G4.0 amidoethanol) is a polyamidoamine (PAMAM) dendrimer with hydroxyl termini that has been used as a drug delivery system *in vivo*.<sup>1</sup> It is approximately 45 Å in diameter and has 64 surface groups.<sup>2</sup> Conjugates of PAMAM G4.0 amidoethanol and the synthetic glucocorticoid methylprednisolone (Item No. 15013) decrease ovalbumin-induced increases in the number of eosinophils in bronchoalveolar lavage fluid (BALF) and lung tissue to a greater extent than methylprednisolone alone in a mouse model of lung inflammation.<sup>1</sup> PAMAM G4.0 amidoethanol is toxic to the cyanobacteria *Anabaena* and green alga *C. reinhardtii* ( $\text{EC}_{50}$ s = 5.13 and 1.02 mg/L, respectively) and induces the formation of reactive oxygen species (ROS) in both.<sup>3</sup> Unlike PAMAM G3.0, -G4.0, -G5.0, and -G6.0-NH<sub>2</sub>, PAMAM G4.0 amidoethanol is unable to transfect cells.<sup>4</sup>

### References

1. Inapagolla, R., Guru, B.R., Kurtoglu, Y.E., *et al.* *In vivo* efficacy of dendrimer-methylprednisolone conjugate formulation for the treatment of lung inflammation. *Int. J. Pharm.* **399**(1-2), 140-147 (2012).
2. Bai, L., Wan, H., and Street, S.C. Preparation of ultrafine FePt nanoparticles by chemical reduction in PAMAM-OH template. *Colloids Surf. A Physicochem.* **349**(1-3), 23-28 (2009).
3. Gonzalo, S., Rodea-Palomares, I., Leganés, F., *et al.* First evidences of PAMAM dendrimer internalization in microorganisms of environmental relevance: A linkage with toxicity and oxidative stress. *Nanotoxicology* **9**(6), 706-718 (2015).
4. Shakhbazau, A., Isayenka, I., Kartel, N., *et al.* Transfection efficiencies of PAMAM dendrimers correlate inversely with their hydrophobicity. *Int. J. Pharm.* **383**(1-2), 228-235 (2010).

#### 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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