

PRODUCT INFORMATION

PAMAM Dendrimer G5.5 Carboxylate (sodium salt) (water solution) Item No. 39110

CAS Registry No.:	202009-67-4	
Synonyms:	PAMAM G5.5 Carboxylate, Polyamidoamine Dendrimer G5.5 Carboxylate	
MF:	$[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]:(\text{G}=5.5); \text{dendri}$	$[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]:(\text{G}=5.5); \text{dendri PAMAM}(\text{NHCH}_2\text{CH}_2\text{COONa})_{256}$
FW:	52,900.2	
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 G5.5 carboxylate (PAMAM G5.5 carboxylate) is a polyamidoamine (PAMAM) dendrimer with carboxylate termini that has been used as a drug delivery system *in vitro*.¹ It is approximately 103.9 Å in diameter in water and has 192 surface groups.² Unlike PAMAM dendrimer G3.0 amine (Item No. 39073), PAMAM G5.5 carboxylate (100 µg/ml) does not induce cytotoxicity or autophagy in A549 cells.³ Bimetallic nanoparticles of PAMAM G5.5 carboxylate with gold and platinum scavenge DPPH (Item No. 14805) radicals in a cell-free assay.⁴ Complexes of PAMAM G5.5 carboxylate with the active component of cisplatin are cytotoxic to A2780 ovarian cancer cells ($\text{IC}_{50} = 1.48 \mu\text{M}$).¹

References

1. Kirkpatrick, G.J., Plumb, J.A., Sutcliffe, O.B., *et al.* Evaluation of anionic half generation 3.5-6.5 poly(amidoamine) dendrimers as delivery vehicles for the active component of the anticancer drug cisplatin. *J. Inorg. Biochem.* **105(9)**, 1115-1122 (2011).
2. Caminati, G., Turro, N.J., and Tomalia, D.A. Photophysical investigation of starburst dendrimers and their interactions with anionic and cationic surfactants. *J. Am. Chem. Soc.* **112(23)**, 8515-8522 (1990).
3. Li, C., Liu, H., Sun, Y., *et al.* PAMAM nanoparticles promote acute lung injury by inducing autophagic cell death through the Akt-TSC2-mTOR signaling pathway. *J. Mol. Cell Biol.* **1(1)**, 37-45 (2009).
4. Endo, T., Fukunaga, T., Yoshimura, T., *et al.* Scavenging DPPH radicals catalyzed by binary noble metal-dendrimer nanocomposites. *J. Colloid Interface Sci.* **302(2)**, 516-521 (2006).

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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