

PRODUCT INFORMATION



PAMAM Dendrimer G2.5 Carboxylate (sodium salt) (water solution)

Item No. 39107

CAS Registry No.: 202009-65-2

Synonyms: PAMAM G2.5 Carboxylate,
Polyamidoamine Dendrimer G2.5 Carboxylate

MF: $[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]_n(\text{G}=2.5); \text{dendri}$ $[\text{NH}_2(\text{CH}_2)_2\text{NH}_2]_n(\text{G}=2.5); \text{dendri PAMAM}(\text{NHCH}_2\text{CH}_2\text{COONa})_{32}$
PAMAM $(\text{NHCH}_2\text{CH}_2\text{COONa})_{32}$

FW: 6,265.6

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 G2.5 carboxylate is a polyamidoamine (PAMAM) dendrimer with carboxylate termini (PAMAM G2.5).¹ It is approximately 48.3 Å in diameter in water and has 24 surface groups.² PAMAM G2.5 binds to cytochrome c and decreases its hydrolysis by chymotrypsin by approximately ~30% in a cell-free assay when used at a concentration of 1 μM. When coupled to polyethylenimine (PEI), PAMAM G2.5 co-assembles with DNA into dendrosome nanoparticles (DNPs), which increase transfection efficiency and decrease DNA nuclease degradation in HeLa cells.³ When coupled to the adenosine A₁ receptor agonist adenosine amine congener (ADAC; Item No. 34394), PAMAM G2.5-ADAC inhibits forskolin-induced activation of adenylyl cyclase in CHO cells expressing the human adenosine A₃ receptor (EC₅₀ = 1.6 nM).⁴

References

1. Chiba, F., Hu, T.C., Twyman, L.J., *et al.* Dendritic macromolecules as inhibitors to protein-protein binding. *Macromol. Symp.* **287(1)**, 37-41 (2010).
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. Pan, S., Cao, D., Huang, H., *et al.* A serum-resistant low-generation polyamidoamine with PEI 423 outer layer for gene delivery vector. *Macromol. Biosci.* **13(4)**, 422-436 (2013).
4. Klutz, A.M., Gao, Z.-G., Lloyd, J., *et al.* Enhanced A₃ adenosine receptor selectivity of multivalent nucleoside-dendrimer conjugates. *J. Nanobiotechnology* **6**, 12 (2008).

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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