

TITLE

Cancer targeting potential of some ligand anchored poly (propyleneimine) dendrimers: A comparison

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The present investigation was aimed at developing and comparing the cancer-targeting potential of ligand-anchored dendrimers. Folate-, dextran-, and galactose-anchored poly (propylene imine) dendrimers were synthesized and characterized. Dendritic formulations were evaluated for *ex vivo* cytotoxicity on HeLa and SiHa cell lines. Flow cytometry studies were performed on the *HeLa* cell line. An *ex vivo* MTT assay on HeLa cells indicated IC₅₀ values of 0.05, 0.2, 0.8, and 0.08 μ M for folate, dextran, and galactose formulations, and for free paclitaxel (PTX), respectively. An analogous observation was carried out in SiHa cells, where IC₅₀ values of 0.6, 0.8, 10, and 6 μ M were observed by folate, dextran, and galactose formulations, and free PTX, respectively. The outcome of the MTT assay and flow cytometry suggested the order of targeting potential of various ligands under investigation as folate > dextran > galactose. The outcome is deemed to be of scientific value and is believed to assist drug delivery scientists during selection of targeting ligands.

Biography

Prashant Kesharwani has completed his M.Pharm in Pharmaceutics from Dr. Hari Singh Gour University Sagar, in 2009 under the supervision of Professor N.K.Jain. He is the recipient of AICTE, New Delhi, India, Graduate Research Fellowship. After his post graduation, he worked as junior research associate in formulation and development department, Indoco Remedies Ltd., Navi Mumbai, India. Presently, he is a PhD Research Scholar at Pharmaceutics Research Laboratories, Dr. Hari Singh Gour University Sagar, India. He coauthored three international publications. His current research interests encompass drug targeting and treatment strategies for cancer with novel and controlled drug delivery systems.