

Ullas, P. T.; Madhusudana, S. N.; Desai, A.; Jayamurugan, G.; Rajesh, Y. B. R. D.; Jayaraman, N., 2011, "Dendritic poly(ether imine) based gene delivery vector", *Bioconjugate Chem.*, 22, 115 – 119.

The work establishes that the poly(ether imine)-based dendrimers are efficient gene delivery vectors, a property hitherto unknown for this series of dendrimers. Poly(ethylene imine) polymers are studied in detail, although their toxicities warrant continued search for functionalizations that permit the polymer with reduced toxicities. Poly(ether imine) (PETIM) dendrimers described herein provide a solution to the long-drawn problem of identifying a synthetic, non-toxic gene delivery vehicles. Structural precision associated with poly(ether imine) dendrimers adds further importance to the functions uncovered on these dendrimers. Further, significantly reduced toxicity profiles in the cationic form demarcate this series of dendrimers from other known cationic polymers and dendrimers, including cationic poly(amido amine) dendrimers. The *in vitro* gene delivery properties of poly(ether imine) dendrimers are studied systematically, including identifying internalization of dendrimers in the cell and quantitation of gene expression levels.