Supporting Information

Co-delivery of AKT3 siRNA and PTEN plasmid by antioxidant nanoliposomes for enhanced anti-proliferation of prostate cancer cells

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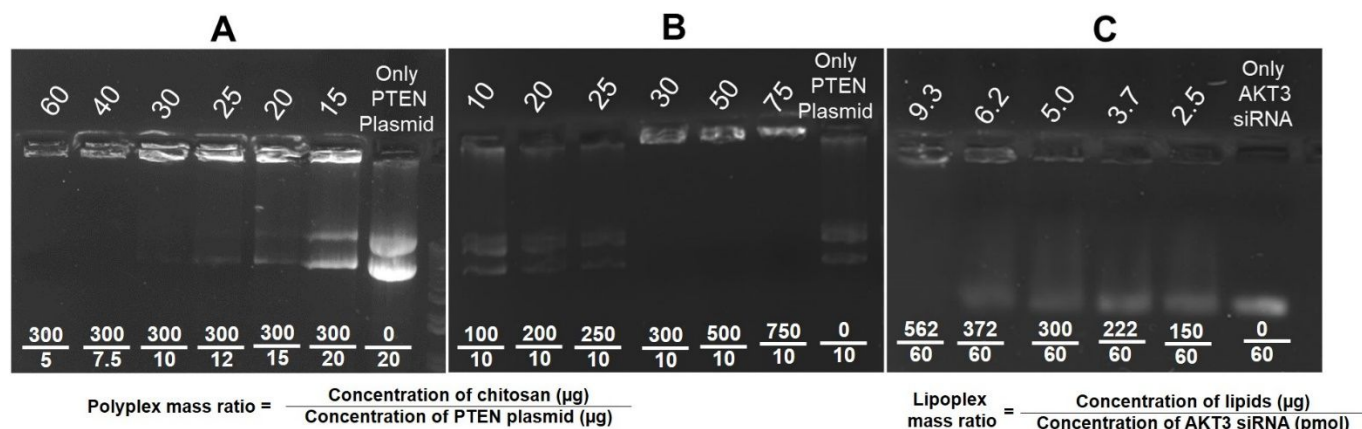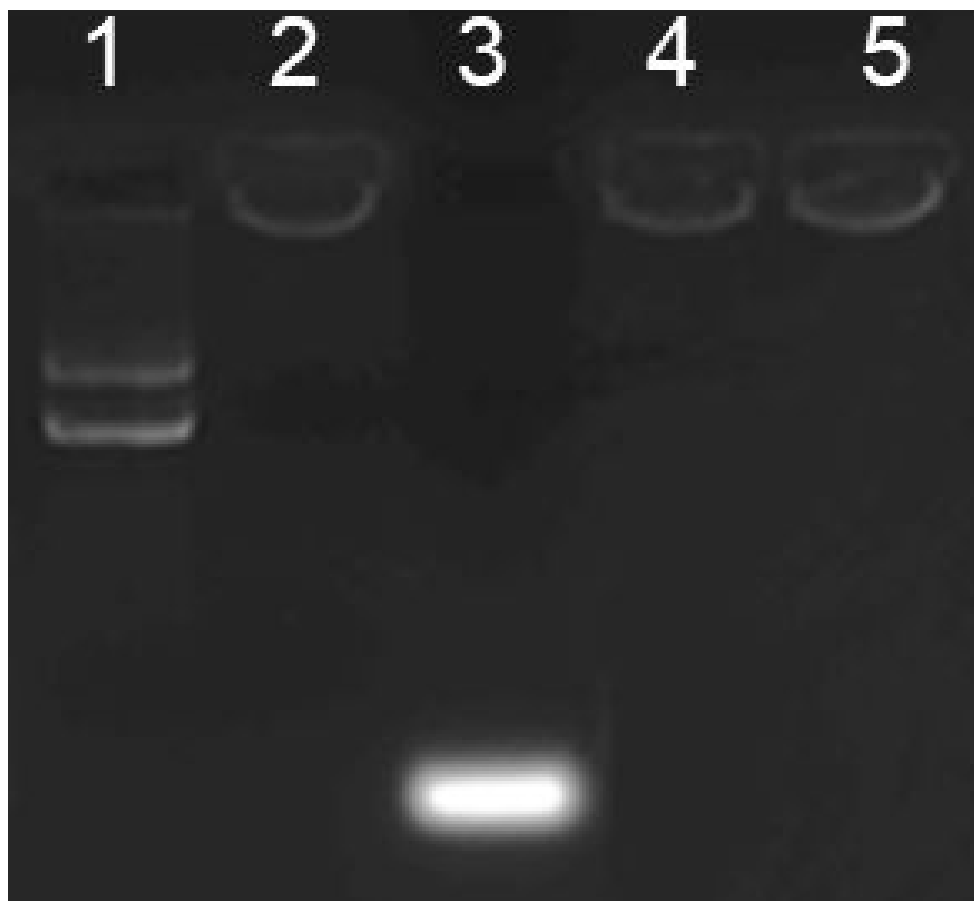Phone: +91-079-61911270. Email: sanjay.singh@ahduni.edu.in

Figure S1: Gel retardation assay of siAKT3- PTEN plasmid binding to nanoliposomes. Decreasing (A) and increasing (B) molar ratio of chitosan:PTEN plasmid. Binding efficiency of AKT3 siRNA with MN5 (C).

Figure S2: Gel retardation assay of AKT3 siRNA- PTEN pDNA binding to nanoliposomes. Lane 1, 2, 3 and 4, respectively represent the movement of GFP plasmids, MN5 (containing PTEN plasmid), Free AKT3 siRNA, and MN6 containing 30 and 60 pmol AKT3 siRNA-PTEN plasmid.
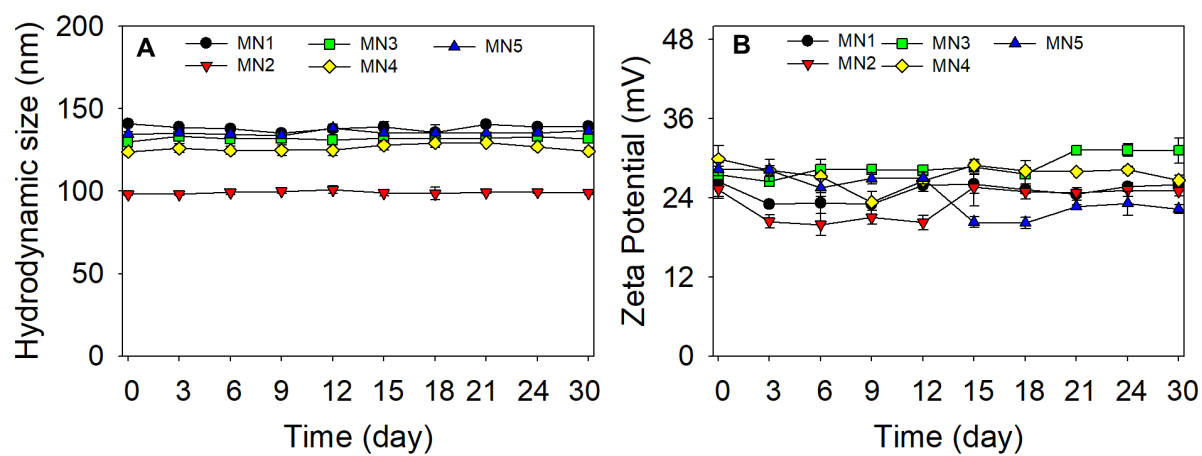
Figure S3: Stability of nanoliposomes (MN1, MN2, MN3, MN4 and MN5) stored at 4 ℃ was assessed by monitoring the hydrodynamic diameter (A) and Zeta potential (B) for up to 4 weeks and stored at 4 ℃. Data expressed as standard deviation (SD) calculated from triplicate samples (n=3).
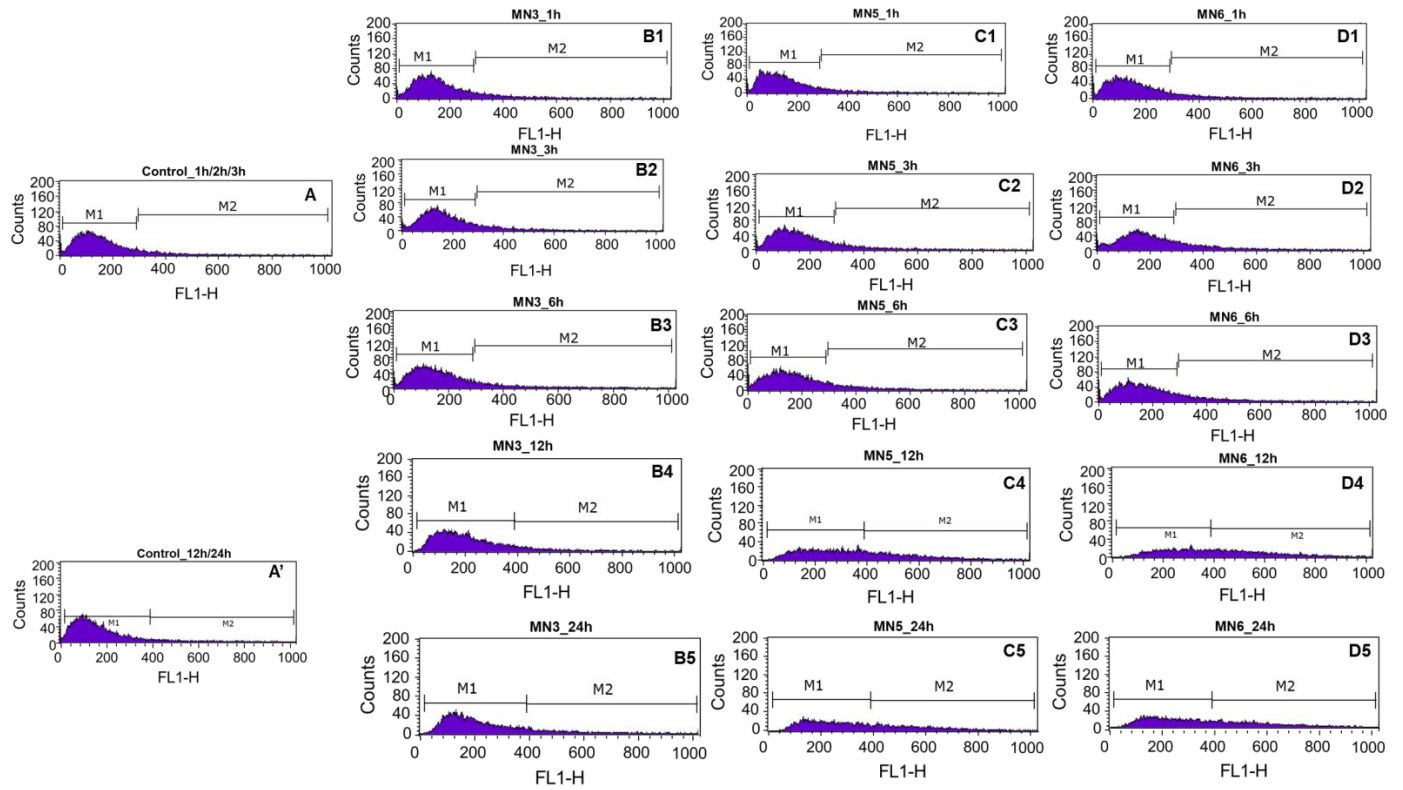
Figure S4: Internalization of AKT3 siRNA-PTEN plasmid containing multifunctional nanoliposome in PC-3 cells. Histogram shows the pattern of uptake of GFP-PTEN plasmid of control (A& A'), MN3 (B), MN5 (C) and MN6 (D) at different time point 1 h (1), 3 h (2), 6h (3), 12 h (4) and 24 h (5).

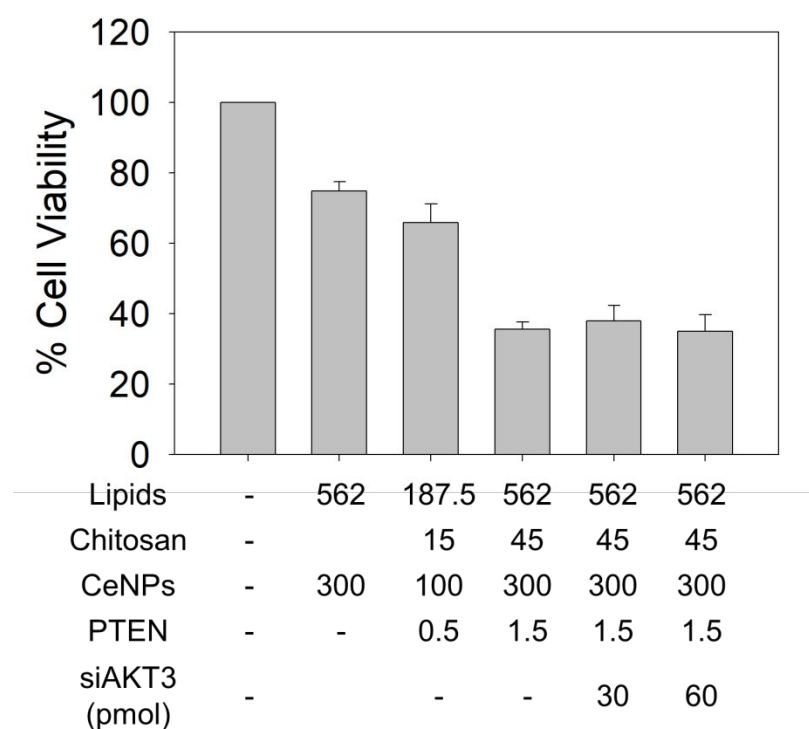|					
Lipids	-	562	187.5	562	562	562
Chitosan	-		15	45	45	45
CeNPs	-	300	100	300	300	300
PTEN	-	-	0.5	1.5	1.5	1.5
siAKT3 (pmol)	-		-	-	30	60

Figure S5: PC-3 cells were exposed to nanoliposome encapsulated PTEN plasmid and coated with AKT3 siRNA for 48 hrs and the cell viability was measure by trypan blue dye exclusion assay. Control cells viability was considered 100%. Data expressed as standard deviation (SD) calculated from 2 independent (n = 2) experiments.
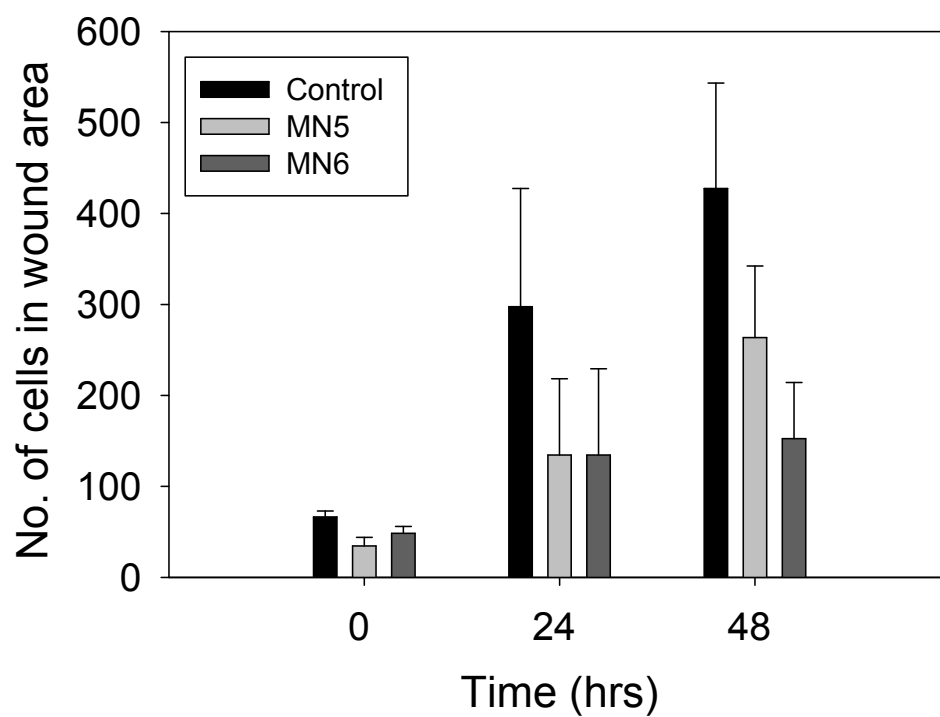
Figure S6:- Bar graphs shows PC-3 cell number in the rectangle box of wound area. The wound healing ability of PC-3 cells, exposed to different MNs, was estimated by counting the number of migrated cells from non-wound area of wound area. Data expressed as standard error (SE) calculated from 2 independent (n = 2) experiments.
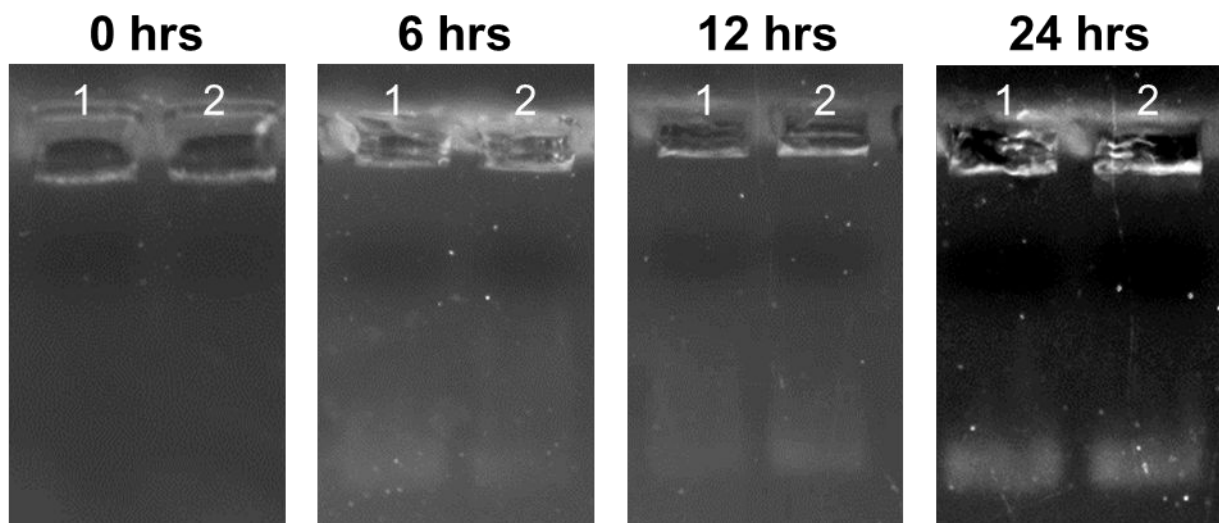
Figure S7:- AKT3 siRNA gene release form MN6 was studied by using gel electrophoresis technique. MN6 (lane 1) incubated with glutathione (lane 2) was studied for different time point: 0, 6, 12, and 24 hrs.