Therapeutic efficacy; female mice implanted with MX-1 tumor

Procedure were approved by the appropriate Institutional Animal Care and Use Committee before initiation. Animals used in efficacy studies were allowed to acclimate for at least 72 hours in the respective animal facilities before experimentation. Animals were exposed to a 12-hour light/dark cycle and received food and water ad libitum throughout the studies. Female athymic nude mice (Charles River Laboratories or Taconic; about 6 weeks) were implanted subcutaneously near the right flank with a 30- to 40-mg fragment of MX-1 human mammary tumors from an in vivo passage. Mean tumor weights were about 300 mg 14 days after MX-1 inoculation. Animals were randomized into groups of 10 mice such that the mean tumor weight was similar between groups. Mice were administered 10% sucrose (vehicle control) or DTXL-TNP, sb-DTXL, or DTXL encapsulated in nontargeted NPs. Mice bearing MX-1 tumors received doses of 10 mg/kg every 4 days for a total of three doses. Tumor measurements and body weights were monitored twice weekly beginning on the first day of treatment. Tumor volume was determined by caliper measurements with the formula for an ellipsoid sphere ($L \times W^2/2 = mm^3$), where L and W refer to the larger and smaller perpendicular dimensions collected at each measurement. Tumor volume was converted to tumor weight assuming unit density ($1\ mm^3 = 1\ mg$).