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(54) Title: TARGETED SELF-ASSEMBLY OF FUNCTIONALIZED CARBON NANOTUBES ON TUMORS

(57) Abstract: Provided herein are methods for delivering a molecule in situ to a cell and for treating a cancer via the in situ delivery. The methods comprise contacting or administering to the cell, as two separate components, a morpholino oligonucleotide comprising a targeting moiety followed by a single wall nanotube construct comprising second morpholino oligonucleotides complementary to the first morpholino oligonucleotides and one or both of a therapeutic or diagnostic payload molecule linked to the single wall nanotube construct. Upon self-assembly of a single wall nanotube complex via hybridization of the first morpholino and second complementary morpholino oligonucleotides at the cell, the payload molecule is delivered. Also provided is the two component self-assembly single wall nanotube system and the single wall nanotube construct comprising the second component.



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<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2007/089607 A2 (UNIVERSITY OF MASSACHUSETTS et al.) 09.08.2007, p. 27, line 15 - p. 28, line 7, p. 53, lines 17-20, p. 73, lines 14-26, claims 1, 6, 12-13, 22, 51-53, 70-73	1-37
Y	US 2009/0304581 A1 (DAVID A. SCHEINBERG et al.) 10.12.2009, p. 1, par. [0010], p. 2, par. [0015], p. 4, par. [0050], p. 15, par. [0161], p. 18, par. [0189] - [0191], claims 1, 14, 51-53, 57-69	1-46
Y	LIU, Guozheng et al. An experimental and theoretical evaluation of the influence of pretargeting antibody on the tumor accumulation of effector. Mol. Cancer. Ther., 2008, 7(5): 1025-1032, abstract, p. 4, par. 3, p. 5, par. 2	1-46
<div style="display: flex; justify-content: space-between;"> <span><input type="checkbox"/> Further documents are listed in the continuation of Box C.</span> <span><input type="checkbox"/> See patent family annex.</span> </div>		
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