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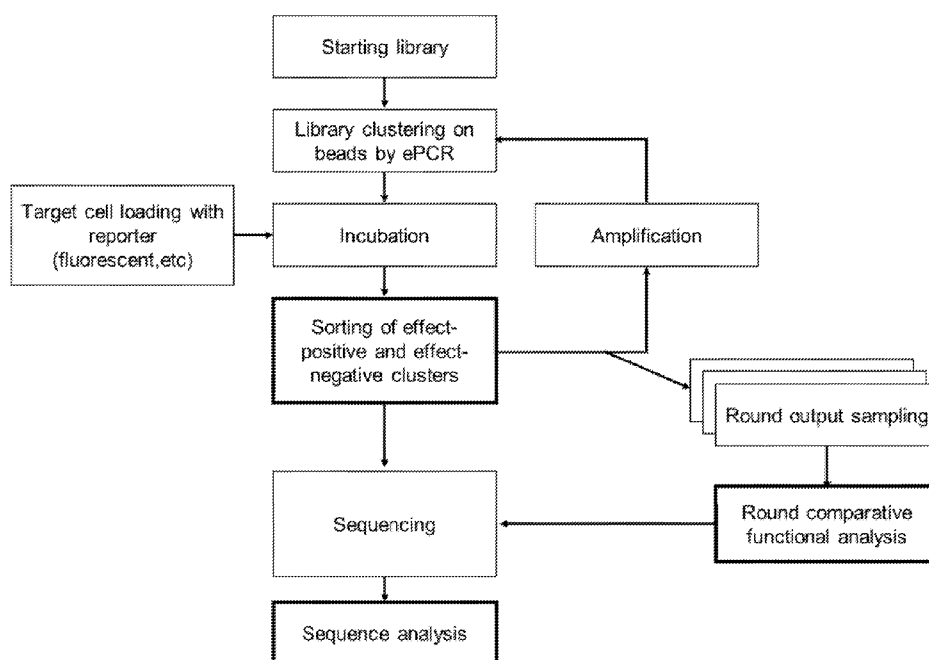
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62/738,235 28 September 2018 (28.09.2018) US(71) Applicants: **AUGMANITY NANO LTD** [IL/IL]; 8 Hamada Street, 7670322 Rehovot (IL). **AUMMUNE LTD.** [IL/IL]; Weizmann St 6, 6423906 Tel Aviv-Yafo (IL).(72) Inventors: **AMIR, Yaniv**; 5 HaShoftim Street, Apt. 12, 6435506 Tel Aviv-Yafo (IL). **ABU-HOROWITZ, Almog-**

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(54) Title: METHODS AND COMPOSITIONS FOR SELECTION OF FUNCTIONAL APTAMERS

Figure 1



(57) **Abstract:** The present disclosure describes compositions and methods for selection functional aptamers. In certain embodiments, provided herein are methods of using aptamer cluster- containing particles to identify functional aptamers from an aptamer library. In certain embodiments, provided herein are functionally enriched populations of aptamers. In certain embodiments, provided herein are methods for selecting an aptamer for use in personalized cancer treatment and methods for preparing a tumor delivery system. In certain embodiments, provide herein are compositions comprise the aptamer cluster-containing particles, target cells (e.g., cancer cells, immune cells, etc.) and/or a detectable indicator of cellular function (e.g., a fluorescent indicator of apoptosis, cell proliferation, gene or protein expression, etc.).





DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2015/077441 A2 (UNIV FLORIDA [US]) 28 May 2015 (2015-05-28) the whole document	1-110
A	----- O. S. KOLOVSKAYA ET AL: "DNA-aptamer/protein interaction as a cause of apoptosis and arrest of proliferation in Ehrlich ascites adenocarcinoma cells", BIOCHEMISTRY (MOSCOW) SUPPLEMENT SERIES A: MEMBRANE AND CELL BIOLOGY, vol. 8, no. 1, 1 January 2014 (2014-01-01) , pages 60-72, XP055504175, Moscow ISSN: 1990-7478, DOI: 10.1134/S1990747813050061 the whole document ----- -/-	1-110

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2014/088830 A2 (UNIV CALIFORNIA [US]) 12 June 2014 (2014-06-12) the whole document -----	1-110
X,P	WO 2018/178770 A2 (AUGMANITY NANO LTD [IL]) 4 October 2018 (2018-10-04) the whole document -----	1-110
T	NOAM MAMET ET AL: "Discovery of tumoricidal DNA oligonucleotides by response-directed in vitro evolution", COMMUNICATIONS BIOLOGY, vol. 3, no. 1, 15 January 2020 (2020-01-15), XP055675369, DOI: 10.1038/s42003-020-0756-0 the whole document -----	

INTERNATIONAL SEARCH REPORT

Information on patent family members

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