(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
16 January 2020 (16.01.2020)

WIPO | PCT

(10) International Publication Number
WO 2020/014048 A1

(51) International Patent Classification:
C12N 15/52 (2006.01)

(21) International Application Number:
PCT/US2019/040369

(22) International Filing Date:
02 July 2019 (02.07.2019)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

62/695,520	09 July 2018 (09.07.2018)	US
62/822,273	22 March 2019 (22.03.2019)	US

(71) Applicant: **CODEXIS, INC.** [US/US]; 200 Penobscot Drive, Redwood City, California 94063 (US).

(72) Inventors: **DUAN, Da**; 200 Penobscot Drive, Redwood City, California 94063 (US). **ALVIZO, Oscar**; 200 Penobscot Drive, Redwood City, California 94063 (US). **NAZOR, Jovana**; 200 Penobscot Drive, Redwood City, California 94063 (US). **MANIAR, Harvinder, Chagger**; 200 Penobscot Drive, Redwood City, California 94063 (US). **RIGGINS, James, Nicholas**; 200 Penobscot Drive, Redwood City, California 94063 (US). **VROOM, Jonathan**; 200 Penobscot Drive, Redwood City, California 94063 (US). **SIVARAMAKRISHNAN, Santhosh**; 200 Penobscot Drive, Redwood City, California 94063 (US). **YANG, Hao**; 126 East Lincoln Avenue, Rahway, New Jersey 07065 (US). **FRYSZKOWSKA, Anna**; 126 East Lincoln Avenue, Rahway, New Jersey 07065 (US). **HUFFMAN, Mark**; 126 East Lincoln Avenue, Rahway, New Jersey 07065 (US). **KOLEV, Joshua**; 126 East Lincoln Avenue, Rahway, New Jersey 07065 (US). **FARASAT, Iman**; 126 East Lincoln Avenue, Rahway, New Jersey 07065 (US). **RODRIGUEZ-GRANILLO, Agustina**; 126 East Lincoln Avenue, Rahway, New Jersey 07065 (US). **VERMA, Deeptak**; 126 East Lincoln Avenue, Rahway, New Jersey 07065 (US).

(74) Agent: **NEELY WILLIS, Melanie** et al.; Codexis, Inc., 200 Penobscot Drive, Redwood City, California 94063 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, 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.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report (Art. 21(3))*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
— *with sequence listing part of description (Rule 5.2(a))*

(54) Title: ENGINEERED DEOXYRIBOSE-PHOSPHATE ALDOLASES

(57) Abstract: The present invention provides engineered deoxyribose-phosphate aldolase polypeptides useful under industrial process conditions for the production of pharmaceutical and fine chemical compounds.

WO 2020/014048 A1