

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
15 June 2023 (15.06.2023)



(10) International Publication Number
WO 2023/108126 A1

(51) International Patent Classification:

A61K 47/00 (2006.01) A61K 47/65 (2017.01)
A61K 47/64 (2017.01) A61K 48/00 (2006.01)

(21) International Application Number:

PCT/US2022/081277

(22) International Filing Date:

09 December 2022 (09.12.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

63/288,579 11 December 2021 (11.12.2021) US

(71) Applicant: **IMAGINE PHARMA LLC** [US/US]; 1401
Forbes Avenue, Suite 312, Pittsburgh, PA 15219 (US).

(72) Inventors: **THAI, Ngoc**; 5025 Fifth Avenue, No. 2A, Pitts-
burgh, PA 15232 (US). **POLLETT, Jonathan**; 624 Royce
Avenue, Pittsburgh, PA 15243 (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, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE,
KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU,
LY, MA, MD, 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, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, CV,
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, ME, 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))

(54) Title: COMPOSITIONS AND METHODS FOR ORAL ADMINISTRATION

(57) Abstract: Compositions and methods for the targeted delivery of therapeutic polypeptides and protein-based therapeutics across the gastrointestinal lining are disclosed. In one aspect, provided is a polypeptide construct comprising (a) a first polypeptide comprising an amino acid sequence that is at least 80% identical to an amino acid sequence selected from any one of SEQ ID NO: 1-40; and (b) a second polypeptide, wherein the second polypeptide is heterologous to the first polypeptide. In one aspect, the heterologous polypeptide is a therapeutic polypeptide.



WO 2023/108126 A1