

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
19 September 2024 (19.09.2024)



(10) International Publication Number
WO 2024/188994 A1

(51) International Patent Classification:

C07D 401/04 (2006.01) C07D 487/04 (2006.01)
C07D 403/04 (2006.01) C07D 491/107 (2006.01)
C07D 413/04 (2006.01) C07D 498/04 (2006.01)
C07D 417/04 (2006.01) C07D 498/10 (2006.01)
C07D 471/04 (2006.01) A61P 25/28 (2006.01)
C07D 471/08 (2006.01) A61K 31/4155 (2006.01)
C07D 471/10 (2006.01) A61K 31/416 (2006.01)

(21) International Application Number:

PCT/EP2024/056475

(22) International Filing Date:

12 March 2024 (12.03.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

23305345.3 14 March 2023 (14.03.2023) EP
23306724.8 06 October 2023 (06.10.2023) EP

(71) Applicant: **SANOFI** [FR/FR]; 46 avenue de la Grande Armée, 75017 PARIS (FR).

(72) Inventors: **LETALLEC, Jean-Philippe**; c/o Sanofi, Patent Department, 46 avenue de la Grande Armée, 75017 PARIS (FR). **MARGUET, Franck**; c/o Sanofi, Patent Department, 46 avenue de la Grande Armée, 75017 PARIS (FR). **PETIT, Frédéric**; c/o Sanofi, Patent Department, 46 avenue de la Grande Armée, 75017 PARIS (FR). **RONAN, Baptiste**; c/o Sanofi, Patent Department, 46 avenue de la Grande Armée, 75017 PARIS (FR). **TERRIER, Corinne**; c/o Sanofi, Patent Department, 46 avenue de la Grande Armée, 75017 PARIS (FR).

(74) Agent: **CABINET NONY**; 11 rue Saint-Georges, 75009 PARIS (FR).

(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, MU, 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, SC, 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))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE

(54) Title: PYRIDAZINE COMPOUNDS, THEIR PREPARATION, AND THEIR THERAPEUTIC USES

(57) Abstract: The present invention relates to a compound of formula (I) wherein n is 1 or 2, R1 is halogen, (C1-C4)alkyl, halo(C1-C4)alkyl, (C1-C4)alkoxy, halo(C1-C4)alkoxy, ethynyl, propargyl, or (C3-C6)cycloalkyl, or two R1 form a cyclopentane ring fused to the phenol; R2 and R3 represent H, cyano, ethynyl, propargyl, (C1-C4)alkyl, hydroxy(C1-C4)alkyl or a halo(C1-C4)alkyl, or R2 and R3 form together with the atoms connecting them a (C5-C6)carbocyclic ring fused to the pyridazine ring; R4 and R5 form together with N to which they are attached an optionally substituted 3-7 membered monocyclic heterocycloalkyl ring, 8-11 membered bicyclic heterocycloalkyl ring or 7-12 membered bicyclic heterocyclic spiro ring. The present invention also relates to a medicament and a pharmaceutical composition comprising said compound of formula (I), as well as their therapeutic uses, in particular as inhibitor of NOD-like receptor protein 3 inflammasome for treating for example Parkinson's disease or frontotemporal Dementia.

WO 2024/188994 A1