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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
14 August 2025 (14.08.2025)

WIPO | PCT

(10) International Publication Number
WO 2025/170738 A1

(51) International Patent Classification:
C07K 14/52 (2006.01) *A61P 11/00* (2006.01)
A61K 38/19 (2006.01)

(21) International Application Number:
PCT/US2025/011881

(22) International Filing Date:
16 January 2025 (16.01.2025)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/549,588 05 February 2024 (05.02.2024) US

(71) Applicants: **CCBIOTECH INC.**; 1F., No. 1, Lixing 1st Rd., East Dist., Hsinchu City, Taiwan, 300094 (TW). **HSIEH, Chang-Chi** [US/—]; 1F., No. 1, Lixing 1st Rd., East Dist., Hsinchu City, Taiwan, 300094 (TW).

(72) Inventors: **JIANG, Ching-Chuan**; 1F., No. 1, Lixing 1st Rd., East Dist., Hsinchu City, Taiwan, 300094 (TW). **HSIEH, Chang-Hun**; 1F., No. 1, Lixing 1st Rd., East Dist., Hsinchu City, Taiwan, 300094 (TW).

(74) Agent: **KING, Justin**; WPAT, P.C., 8230 Boone Blvd, Suite 405, Vienna, VA 22182 (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, 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, UY, 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).

(54) **Title:** ANTI-SULFATASE-RELATED ANTIGEN SPECIFIC ANTIBODY, DETECTION KIT COMPRISING ANTI-SULFATASE-RELATED ANTIGEN SPECIFIC ANTIBODY

(57) **Abstract:** The present disclosure provides an anti-sulfatase-related antigen specific antibody, a detection kit including the anti-sulfatase-related antigen specific antibody, and a method for detecting osteoarthritis by using the anti-sulfatase-related antigen specific antibody. The present disclosure achieves the effect of detecting osteoarthritis through various efficacy experiments.

Domain	Amino Acid position
FR1	3-24
CDR1	25-32
FR2	33-44
CDR2	45-61
FR3	67-98
CDR3	99-106
FR4	107-117

Domain	Amino Acid position
FR1	2-26
CDR1	27-32
FR2	33-43
CDR2	44-55
FR3	57-90
CDR3	91-96
FR4	97-106

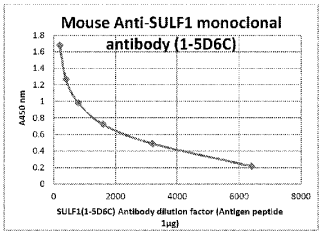


FIG. 1A

WO 2025/170738 A1

[Continued on next page]

Published:
— *with international search report (Art. 21(3))*
— *with sequence listing part of description (Rule 5.2(a))*