

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
25 May 2023 (25.05.2023)



(10) International Publication Number
WO 2023/087868 A1

- (51) **International Patent Classification:**
C12Q 1/689 (2018.01) C12Q 1/70 (2006.01)
- (21) **International Application Number:**
PCT/CN2022/117972
- (22) **International Filing Date:**
09 September 2022 (09.09.2022)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
202111356118.4 16 November 2021 (16.11.2021) CN
- (71) **Applicant: SANSURE BIOTECH INC.** [CN/CN];
No.680, Lusong Road, Changsha High-Tech Industrial Development Zone, Hunan 410205 (CN).
- (72) **Inventors: DAI, Lizhong;** No.680, Lusong Road, Changsha High-Tech Industrial Development Zone, Hunan 410205 (CN). **CHEN, Xiaoliang;** No.680, Lusong Road, Changsha High-Tech Industrial Development Zone, Hunan 410205 (CN). **REN, Xiaomei;** No.680, Lusong Road, Changsha High-Tech Industrial Development Zone, Hunan 410205 (CN). **DENG, Zhongping;** No.680, Lusong Road, Changsha High-Tech Industrial Development Zone, Hunan 410205 (CN). **LIU, Jia;** No.680, Lusong Road, Changsha High-Tech Industrial Development Zone, Hunan 410205 (CN).
- (74) **Agent: ADVANCE CHINA IP LAW OFFICE;** Room 4501, No. 6 Zhujiang East Road, Tianhe District, Guangzhou, Guangdong 510623 (CN).

(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, 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, 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, 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))
- with sequence listing part of description (Rule 5.2(a))

(54) **Title:** COMPOSITIONS, KITS, METHODS FOR DETECTING AND IDENTIFYING PATHOGENS THAT CAUSE RESPIRATORY TRACT INFECTIONS AND USE THEREOF

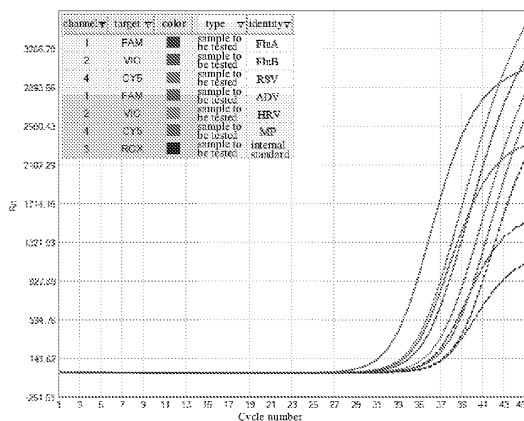


Fig. 1

(57) **Abstract:** The present application relates to the field of molecular biological detection, specifically, to the field of detection of pathogens that cause respiratory tract infections. More specifically, the present application is capable of simultaneously detecting influenza A, influenza B, rhinovirus, respiratory adenovirus, and respiratory syncytial virus and mycoplasma pneumoniae. Using the compositions of the present application, it is possible to detect six pathogens that cause respiratory tract infections at the same time and to identify specifically which pathogen (s) causes the infections. Also, it has a higher detectable rate than that of the existing composition, and is more accurate in detection.

WO 2023/087868 A1