

(51) International Patent Classification:
C12Q 1/6818 (2018.01)(21) International Application Number:
PCT/KR2022/008659(22) International Filing Date:
17 June 2022 (17.06.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2021-0078463 17 June 2021 (17.06.2021) KR(71) Applicant: SEEGENE, INC. [KR/KR]; B1F, 3F, 4F, 5F,
6F, 7F, 8F, 9F, 10F, 11F, 12F, 91, Ogeum-ro, Songpa-gu,
Seoul 05548 (KR).(72) Inventors: LEE, Han Bit; Taewon Bldg., 91, Ogeum-ro,
Songpa-gu, Seoul 05548 (KR). KIM, Jeong Woo; Taewon
Bldg., 91, Ogeum-ro, Songpa-gu, Seoul 05548 (KR). KIM,
Hyeon Be; Taewon Bldg., 91, Ogeum-ro, Songpa-gu, Seoul
05548 (KR).(74) Agent: FIRSTLAW P.C.; 60 Mabang-Ro, Seocho-Ku,
Seoul 06775 (KR).(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, 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:**

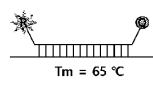
- with international search report (Art. 21(3))
- with sequence listing part of description (Rule 5.2(a))

(54) Title: DETECTION OF MULTIPLE TARGET NUCLEIC ACID USING MULTIPLE DETECTION TEMPERATURES

(1) Molecular beacon

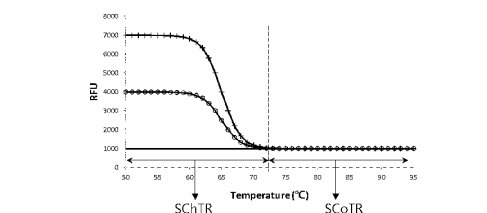
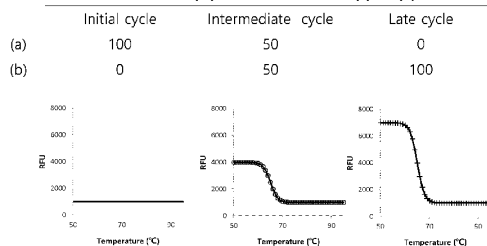


(b)



(2) Melt curve

The ratio (%) of the amounts of (a) to (b)



R : Reporter dye Q : Quencher

(57) Abstract: The present disclosure pertains to a method for detecting multiple target nucleic acids by a single type of label alone in a single reaction vessel by using multiple detection temperatures, which is characterized by providing a signal change dependent on the presence of a corresponding target nucleic acid at a corresponding detection temperature of each of the target nucleic acids. The conventional techniques using a single type of label is subjected to melting analysis after target amplification so as to detect multiple target nucleic acids. In contrast, the present method does not require melting curve analysis after target amplification, even using a single type of label, and thus can remarkably reduce the analysis time.