Certificate of Analysis

Verified by: Jessie Ho

Quality Release Date: June 17, 2020

Product Name:	**Coronavirus Environmental Test Kit**
Catalog Num:	T1401S
Lot Num:	9787882
Analysis Date:	June 17, 2020
Expiration Date:	June 12, 2021
Storage:	Store at -20 °C

Chai Inc.
Santa Clara, CA 95050
Phone: (650) 779-5577

Kit Components

Sahara One-Step RT-qPCR Master Mix with UNG
One-Step DNA/RNA Extraction Buffer
Coronavirus Environmental Oligo Mix
Cofactor Buffer
DNase/RNase-Free Distilled Water
SARS-CoV-2 N Positive Control
Environmental swabs, sterile

Quality Control Data

Sahara One-Step RT-qPCR Master Mix with UNG

RT-qPCR Functional Assay	**Result**
A quantitative detection of log-fold serial dilutions of a control RNA as template. Linear regression analysis of quantification cycle (C_q) versus log input quantity must give an amplification efficiency of between 90–110% and coefficient of determination (R^2) ⩾0.99.	PASS

PCR Carry-Over Digestion Functional Assay	**Result**
A quantitative detection of log-fold serial dilutions of a control amplicon as template in presence and absence of Uracil-DNA Glycosylase (UNG). Absolute value of C_q with and without UNG was monitored. UNG must result in a significant shift in C_q (⩾10), or no amplification.	PASS

One-Step DNA/RNA Extraction Buffer

Physical Appearance	**Result**
One-Step DNA/RNA Extraction Buffer must have a clear, colorless appearance.	PASS
pH	**Result**
One-Step DNA/RNA Extraction Buffer must have a pH between 5.6–6.4.	PASS
Quantification of Extracted RNA	**Result**
A quantitative detection of extracted viral RNA from *Escherichia coli* bacteriophage MS2 (ATCC 15597-B1) as control. A quantitative detection of the extracted viral RNA reading the absorbance at OD260 and RT-qPCR must confirm high yield extraction of viral RNA.	PASS

Coronavirus Environmental Oligo Mix

Functional Assay	**Result**
A quantitative detection of log-fold serial dilutions of SARS-CoV-2 gRNA as template. Linear regression analysis of C_q versus log input quantity must give an amplification efficiency of between 90–110% and coefficient of determination (R^2) ≥0.99. Internal Control (IC) must give similar C_q for all dilutions of SARS-CoV-2 gRNA (<2 C_q difference).	PASS

Cofactor Buffer

Physical Appearance	Result
Cofactor Buffer must have a clear, colorless to slightly pink appearance.	PASS

Performance	Result
Performance of the Cofactor Buffer is evaluated through RT-qPCR amplification of a control RNA template. The Cofactor Buffer must show similar performance and result in similar C_q (<1 C_q difference) compared to control Cofactor Buffer.	PASS

SARS-CoV-2 Positive Control

Sequence Verification	Result
The sequence of the SARS-CoV-2 N Positive Control is verified with a quantitative detection of log-fold serial dilutions. The SARS-CoV-2 N Positive Control must give amplification using the Coronavirus Environmental Oligo Mix.	PASS