SOLIS BIODYNE

INNOVATION POWERED BY NATURE

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Simplify your assay design with one universal reagent

SOLIScript® Fast 1-step RT-qPCR Mix with UNG enables effortless detection of RNA, DNA or both simultaneously

Sensitive 5-plex detection | 1-tube format | With UNG | Fast cycling | Inhibitor tolerance

Pathogens exist in various forms, with some carrying genetic information in RNA and others in DNA. The symptoms they cause can often be similar or even indistinguishable.

Identifying the pathogens responsible for certain symptoms quickly and accurately can be a **challenging task for diagnostic assay developers**. Providing **accurate diagnoses** is always of utmost importance for healthcare practitioners to ensure the implementation of the right treatment.

Running separate tests for RNA and DNA pathogens can be time-consuming and labor-intensive.

An opportunity for diagnostic assay developers to resolve this is to design kits that enable **co-detection of RNA and DNA targets from a single reaction** to streamline workflows and provide accurate diagnoses faster. Giving laboratory specialists the possibility to work with the same thermal protocols with different types of nucleic acid can also simplify their procedures. What is more, it is a common practice to employ DNA targets as positive controls in kits that are primarily intended for detecting RNA pathogens.

A flexible RT-qPCR reagent that maintains **high specificity and efficiency** in such complex test systems is crucial in these cases.

Whether you're developing a new diagnostic kit or upgrading an existing one, if you need to detect RNA or DNA targets or both simultaneously, **SOLIScript® Fast 1-step RT-qPCR Mix with UNG** delivers reliable results in exactly these conditions. This enables development of assays where **RNA viruses, DNA viruses and bacterial targets can be co-detected effectively from just one RT-qPCR reaction**.

Detect either RNA, DNA or both together from one reaction with an universal and flexible RT-qPCR reagent.

A. Simultaneous detection of RNA and DNA targets

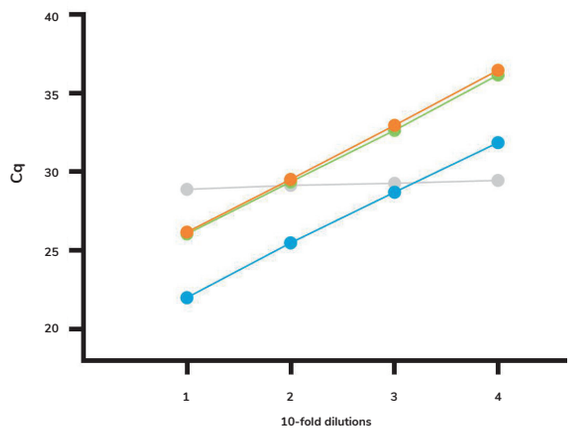

Figure A. A test system for simultaneous detection of RNA and DNA targets was created. Four 10-fold dilutions of plasmid DNA and synthetic SARS-CoV-2 ssRNA were used while human total RNA was kept at a constant concentration in all reactions. All targets were amplified with good sensitivity and linearity (efficiencies from 95% to 101%, R2>0,99). The following thermal protocol was used: 50°C 5 min, 95°C 10 min, 45 cycles of 95°C 3 sec and 62°C 20 sec.

- Plasmid DNA (FAM)
- SARS-CoV-2 RNA (E gene, SUN)
- SARS-CoV-2 RNA (RdRP gene, ROX)
- Human total RNA (RNase P, Cy5)

B. Multiplex detection of RNA targets

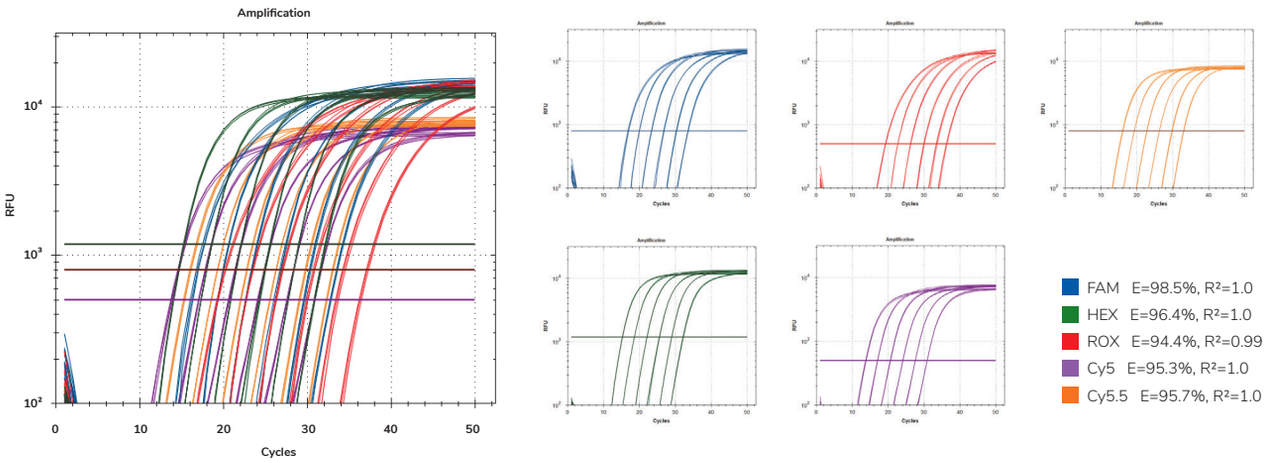

Figure B. Five-plex RT-qPCR reactions (FAM, blue HEX, green; ROX, red; Cy5, puprle; Cy5.5, orange) with SOLIScript® Fast 1-step RT-qPCR Mix with UNG show strong amplification and consistent efficiencies across all five RNA targets. Reactions were performed on Bio-Rad CFX96 platform with six 10-fold dilutions of reference human total RNA (from 1000 ng/µl to 0.01 ng/µl). Following thermal protocol was used: 50°C 5 min, 95°C 10 min, 45 cycles of 95°C 3 sec and 62°C 20 sec.

C. Multiplex detection of DNA targets

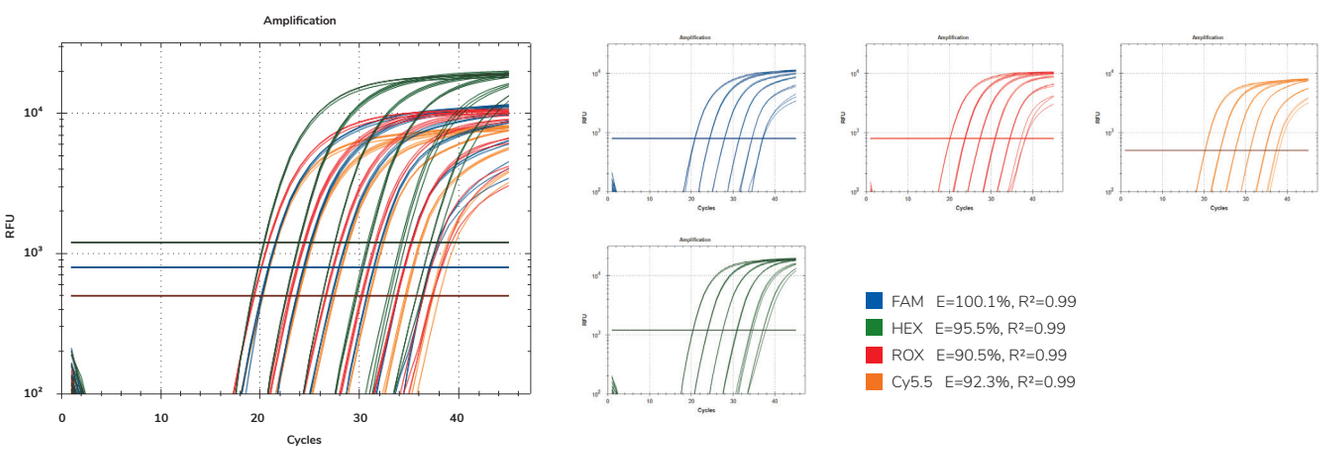

Figure C. Four-plex amplification of DNA targets (FAM, blue; HEX, green; ROX, red; Cy5.5, yellow) using the SOLIScript® Fast 1-step RT-qPCR Mix with UNG and human gDNA (Novagen) over six 10-fold dilutions from 700 ng/rxn to 7 pg/rxn. Reactions were ran on Bio-Rad CFX96 platform using the following protocol: 50°C 5 min, 95°C 10 min, 45 cycles of 95°C 3 sec and 62°C 20 sec. The reverse transcription step does not impair amplification of gDNA.

Streamline workflows with an universal reagent - effortlessly detect RNA, DNA, or both in one reaction!

Ordering information

solisbiodyne.com

Product	CAT. NO.	Size (20 µl rxn)
SOLIScript® Fast 1-step RT-qPCR Mix with UNG	08-87-0000S (sample) 08-87-00200 08-87-00200-5 08-87-05000	50 rxn 200 rxn 5x 200 rxn 5000 rxn

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For further details and ordering please contact **info@solisbiodyne.com** or call **+372 740 9960**

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