



**ПЕТЛЕВАЯ LAMP АМПЛИФИКАЦИЯ НУКЛЕИНОВЫХ КИСЛОТ.  
II. ДЕТЕКЦИЯ КОРОНАВИРУСА SARS-COV-2 С ПОМОЩЬЮ РАЗЛИЧНЫХ  
ВАРИАНТОВ ОБРАТНО-ТРАНСКРИПЦИОННОЙ ПЕТЛЕВОЙ АМПЛИФИКАЦИИ**

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**Резюме**

Несмотря на то, что «золотым стандартом» для диагностики нового коронавируса SARS-CoV-2 остается ОТ-ПЦР, все активнее начинает применяться обратнo-транскрипционная петлевая изотермическая амплификация (RT-LAMP). Она имеет определенные преимущества ввиду изотермичности процесса и относительной простоты детекции лампликонов. Это позволяет позиционировать эту реакцию как проводимую по месту лечения, в том числе применительно к выявлению SARS-CoV-2. Способы детекции результатов любой разновидности LAMP можно подразделить на специфичные (прямые), рассчитанные на использование гибридизационных зондов, и косвенные, при которых контролируется общее накопление лампликонов или побочных продуктов реакции (пирофосфата и протонов). Для обнаружения генетического материала SARS-CoV-2 в клинических образцах с помощью RT-LAMP предложено большое количество вариантов, основанных на разных способах детекции. Важным является обеспечение высокой специфичности любых вариантов LAMP, которая зависит от качества подбора праймеров, осуществляемого с помощью компьютерных программ.

**Ключевые слова:** коронавирус, SARS-CoV-2, РНК, RT-LAMP, лампликон, , изотермическая амплификация, обратнo-транскрипционная петлевая амплификация, детекция, программа дизайна праймеров

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**LAMP AMPLIFICATION OF NUCLEIC ACIDS. II. DETECTION OF THE SARS-COV-2 CORONAVIRUS USING VARIOUS VARIANTS OF REVERSE-TRANSCRIPTION LOOP AMPLIFICATION**

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**Resume**

Despite the fact that RT-PCR remains the “gold standard” for diagnostics of SARS-CoV-2 coronavirus, reverse transcription loop isothermal amplification (RT-LAMP) is increasingly being used. It has certain advantages due to the isothermal nature of the process and the relative simplicity of lamplicons detection. This allows this reaction to be positioned as point-of-care testing, including in relation to the detection of SARS-CoV-2. Methods for the results detection of any type of LAMP can be divided into specific (direct), designed to use hybridization probes, and indirect,



























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