MagIC Beads

RNA affinity purification protocol

This protocol describes how to perform RNA affinity capture with Magnetic Instant Capture (MagIC) Beads of SARS-CoV-2 RNA from saliva.

Product description:

The MagIC Beads RNA affinity purification kit contains:

Beads:

MagIC Beads supplied as a 5 mg/ml suspension in storage buffer.
The provided beads carry a pool of DNA hybridization probes covalently attached to the surface of the beads through their 5' ends. The probes are designed to hybridize specifically to the sequence of SARS-CoV-2 RNA.

Beads information summary:

	Number of reactions	Bead stock concentration	Probes/mg of beads	Recommended amount of beads per reaction
MagIC Beads SARS-CoV-2	48	5mg/ml	163 pmol	50 µg carrying ~8pmol of capture probes (10µl of stock bead suspension)

Buffers:

MagIC Lysis Buffer is provided with the kit.
The buffer can be kept at room temperature continuously for months without loss of its properties. For long term storage, however, the buffer should be kept at 4°C. The components of the buffer precipitate readily at low temperatures. They should not precipitate at room temperature unless exposed to direct flow of cold air (air conditioning, open windows). If any precipitation of the buffer is observed the buffer components should be re-dissolved by incubating the bottle at 37°C with occasional shaking until no more precipitated components are observed visually.

Other required materials (not provided):

- Centrifuge
- Magnetic rack
- Deionized, sterile water

Protocol:

Preparation of magnetic beads for the enrichment

1. Place the container with magnetic beads on the bench and allow the content to equilibrate to room temperature.
2. Resuspend the particles thoroughly.

Preparation of the sample for the capture

1. Add MagIC Lysis Buffer in 1:1 volumes ratio to pure saliva sample and mix well.
2. Centrifuge the sample for 5 min at 12 000g – 16 000g to pellet the insoluble debris from the sample.
3. Transfer 100-2000 µl of the sample to a fresh tube.

Capture of the target RNA

1. Add 10 µl of well resuspended bead suspension to the cleared sample and mix well by pipetting.
2. Incubate the sample for 10 min at room temperature.
3. Concentrate the beads on a magnetic rack and discard the liquid.
4. Resuspend the beads in 1 ml of deionized, sterile water (MiliQ) by gentle pipetting.
5. Concentrate the beads on the magnet and discard the liquid.
6. Assemble the Reverse Transcription/direct, one step RT-qPCR/SHERLOCK/RT-LAMP reaction with all reaction components directly with the beads and proceed with performing the detection reaction.

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