MRC Holland Support

Is there a specific DNA extraction method I need to use for (digital)MLPA samples?

No specific extraction method is required for conventional MLPA or digitalMLPA, as long as the DNA is sufficiently pure.

Background

Most standard extraction methods yield DNA of sufficient quality for use in (digital)MLPA experiments. Extraction methods should not leave a high concentration of impurities in the DNA sample (see this article for more information). In addition, DNA should be eluted/resuspended in a solution with sufficient buffering capacity, such as elution buffer or TE, and not in water (to prevent depurination; see this article for more information).

Recommended methods

For conventional MLPA, we can recommend the following methods that have been tested by us:

- QIAGEN Autopure LS (automated) and QIAamp DNA mini/midi/maxi kit (manual).
- Promega Wizard Genomic DNA Purification Kit (manual).
- Salting out (manual).

However, our customers use a wide range of different extraction methods for both conventional MLPA and digitalMLPA without issues.

Automated systems

Many of our customers successfully use automated extraction methods in combination with (digital)MLPA. Some automated systems are not suitable, as too much residual salt is left in the samples (e.g. the QIAGEN M6, M48 and M96 systems). If you are using the QIAGEN EZ1 for DNA extraction, use the QIAGEN Supplementary Protocol to reduce residual salt to an acceptable level.

Magnetic bead-based systems

DNA extracted with magnetic bead-based systems works well with (digital)MLPA. Conventional MLPA could be sensitive to iron ion contamination prior to April 2019, but our reagents have since been modified to address this issue.

Heparinised blood

Heparinised blood can be used, but only when the sample has undergone a purification method to remove the heparin contamination (e.g. Nucleospin gDNA Clean-up XS).

Dried blood spot cards

The use of dried blood spot (DBS) cards has not been approved for in vitro diagnostic use for most (digital)MLPA probemixes. Exceptions are explicitly stated in the intended purpose of the relevant product descriptions.

Tags

digitalMLPA

MLPA

Related Content

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- Is the purity and quality of the sample DNA important for (digital)MLPA?
- What are the sample and buffer requirements for (digital)MLPA?
- QIAGEN EZ1 Supplementary Protocol for MLPA and digitalMLPA