

MRC Holland Support

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What can I do about impurities in my DNA sample?

This article was retrieved from support.mrcholland.com on Friday, 26th April 2024.

To reduce the effect of impurities in a DNA sample on a conventional MLPA or digitalMLPA reaction, you can use less sample DNA or perform an extra DNA purification step.

Background

Impurities in extracted DNA can affect all or some (digital)MLPA probes in a probemix, which can lead to unexpected results. This is mainly a problem when impurities are present in high concentrations, or when the concentrations of impurities differ between samples within an experiment.

If your sample DNA is sufficiently concentrated, you can reduce the amount of sample DNA that you add to the reaction to a minimum of 50 ng DNA for conventional MLPA reactions or 20 ng for digitalMLPA reactions. This reduces the concentration of impurities carried over from the DNA sample into the reaction, which often helps improve results.

Note

Methods to determine DNA concentrations may over- or underestimate the concentration. To ensure that you used enough DNA for reliable results, evaluate the control fragments included in the probemix. For conventional MLPA, the median peak height of the four [Q-fragments](#) at 64, 70, 76 and 82 nt should stay below 33% of the height of the 92-nt benchmark fragment, unless noted otherwise in the product description. Coffalyser.Net will provide a warning when too little DNA was used. Coffalyser digitalMLPA will also provide a warning when too little DNA was used in a digitalMLPA experiment.

If using less DNA is not an option, or does not improve results, you can perform an extra DNA purification step. Examples of methods that you can use include [ethanol precipitation](#) or silica-based columns.

Tags

digitalMLPA

MLPA

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Disclaimer

The information provided in this material is correct for the majority of our products. However, for certain applications, the instructions for use may differ. In the event of conflicting information, the relevant instructions for use take precedence.