

Guidelines for sample submission to IMG M Laboratories GmbH

DNA analyses by microarray, qPCR and NGS

V2017.1

Option 1: DNA isolation at IMG M Laboratories GmbH

IMG M use sample source specific and state-of-the art procedures to extract DNA from your sample. In accordance with our quality management system, all experimental steps are extensively documented.

A DNA quality check using the NanoDrop (VWR), the Qubit (ThermoFisher), the 2100 Bioanalyzer (Agilent Technologies) and/or agarose gel documentation will be performed at IMG M Laboratories by default in accordance to sample requirements.

Note: DNA isolation from particularly demanding starting materials is also available, e.g. from FFPE (formalin-fixed paraffin-embedded) tissues. Please inquire to obtain further information.

The prerequisite for obtaining high-quality DNA suitable for analysis is the appropriate sample collection, storage and shipment of starting materials. Recommendations for sample collection, storage and shipment of different starting materials will be provided upon request.

Sample volume requirements for standard DNA analyses at IMG M Laboratories GmbH

	Microarray	qPCR ^{*1)}	NGS ^{*2)}
Tissue	1 – 25 mg	≥ 1 mg	1 – 25 mg
Cultured cells	5x10 ⁵ – 5x10 ⁶ cells	≥ 1x10 ⁵ cells	5x10 ⁵ – 5x10 ⁶ cells
Whole blood	2 EDTA Blood tubes per human donor; ≥ 1 ml animal blood stored in RNAlater	1 EDTA or PAXgene Blood tube per human donor; ≥ 100 µl anticoagulated blood per animal	2 EDTA Blood tubes per human donor; ≥ 1 ml animal blood stored in RNAlater
White blood cells	0.5x10 ⁶ – 3.5x10 ⁶ cells	n.d.	0.5x10 ⁶ – 3.5x10 ⁶ cells

*1) The required amount of starting material for qPCR analysis depends both on the DNA yield and on the number of targets (genes, SNPs) selected for analysis. The given amounts are generally sufficient for the analysis of one target gene/SNP (if more genes/SNPs are to be analyzed, please increase the amount accordingly).

*2) For metagenomics samples DNA isolation is not provided by IMG M Laboratories GmbH.

Note: If required, smaller amounts of starting material can also be analyzed. Please inquire further information. All samples to be compared in a study must be processed according to the same protocol.

Option 2: DNA isolation by the customer

Customers may provide their (genomic) DNA samples to IMG M Laboratories for DNA analysis.

A DNA quality check using the NanoDrop (VWR), the Qubit (ThermoFisher), the 2100 Bioanalyzer (Agilent Technologies) and/or agarose gel documentation will be performed at IMG M Laboratories by default.

The prerequisite for obtaining high-quality DNA suitable for analysis is the appropriate sample collection, storage and shipment of starting materials. IMG M generally recommend Qiagen/Gentra kits for DNA isolation. For guidelines on kit selection, please inquire at IMG M Laboratories or contact the kit vendor. Recommendations for sample collection, storage and shipment of different starting materials will be provided upon request.

Sample volume requirements for standard analysis at IMGM Laboratories GmbH

	aCGH	DMET	qPCR ^{*3)}	NGS ^{*4)}	MGx ^{*4) *5) *6)}
Sample type	genomic DNA	genomic DNA	genomic DNA	genomic DNA PCR products ^{*4)}	genomic DNA; PCR products ^{*4)}
Diluted in	water; low salt TE	water; low salt TE	water; low salt TE	water; low salt TE	water; Tris buffer (10mM pH8.5)
Amount	≥ 2.0 µg	≥ 1.5 µg	≥ 600 ng	≥ 1.0 µg	≥ 100 ng
Normalized Conc.	50 – 200 ng/µl	50 – 200 ng/µl	50 – 200 ng/µl	50 – 200 ng/µl	10 – 20 ng/µl
Volume	≥ 10 µl	≥ 10 µl	≥ 10 µl	≥ 10 µl	≥ 10 µl
Container	1.5 ml tubes	1.5 ml tubes; 96-well plates	1.5 ml tubes; 96-well plates	1.5 ml tubes; 96-well plates	1.5 ml tubes ^{*6)} ; 96-well plates

*3) The required amount of DNA for qPCR analysis depends on the number of targets (genes, SNPs) selected for analysis. The given amounts are generally sufficient for the analysis of one target gene/SNP (if more genes/SNPs are to be analyzed, please increase the amount accordingly).

*4) If PCR amplicons are provided, please purify them before shipment.

*5) MGx = metagenomics analysis for conserved regions (e.g. 16S, ITS etc.) by amplicon analysis

*6) If more than 25 samples are sent in 1.5 ml tubes, an additional handling fee of 5.00 € is charged per sample.

If samples are not sent in a normalized concentration range, an additional handling fee of 5.00 € is charged per sample.

Note: If required, smaller amounts of starting material can also be analyzed. Please inquire further information. All samples to be compared in a study must be processed according to the same protocol.

Sample shipment information

Starting material should be shipped on dry ice, DNA samples can also be shipped at room temperature or at 2 – 8°C.

The following information about sample material is required at IMGM Laboratories GmbH (eg. electronic sample information sheet). For MGx projects, a 96-well formatted custom IMGM electronic sample submission form will be provided upon receipt of relating purchase order:

- Nature of the material (e.g. brain tissue, cells, genomic DNA, soil, water, ...)
- Sample collection / isolation method
- Type of dilution buffer
- Approximate amount (e.g. weight, volume, concentration, ...)
- Sample IDs, labels on tubes
- Sequence information of used indices, barcodes, adaptors, tags etc. (for NGS and MGx)

Please send your samples to the following address:

IMGM Laboratories GmbH
 Probenannahme / Sample receipt
 Bunsenstr. 7a
 82152 Planegg/Martinsried
 Germany