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Project abstract

All steps of diagnostic workflows including pre-analytical, analytical and post-analytical steps can influence final diagnostic results. During the development of NGS tests all workflow steps therefore need to be specified, verified and validated.

In this project we will develop new NGS suited pre-analytical workflows and their optimised links to NGS library preparation including quality control. Steps will include specimen collection, stabilization, storage, transport, processing and isolation of nucleic acids. Specimen types will include blood, tissues and different body fluids. Specimen target analytes will include cellular RNA, genomic DNA, liquid biopsies nucleic acids as well as different cellular features. Multimodality and multisource specimen requirements will be taken into account, being especially important for cancer diagnostics. We will also develop optimised pre-analytical interphase steps to NGS library preparation including library QC.

Newest ISO & CEN Standards and EU IVDR 2017/746 requirements will be followed. Complete NGS workflows will be built with existing and upcoming new sequencing and bioinformatics solutions for judging the quality of our new pre-analytical / library solutions.