



Name › 4base lab AG
advanced molecular analysis

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Founded (year) › 1995

Type of Laboratory › GMP, S1/L2

Areas of Activity › | Identity/quality assessment of mRNA/
DNA vaccines
| Contamination analysis of residual
DNA/RNA
| Vaccine quality analysis by Nanopore
direct RNA-sequencing
| DNA/cDNA-sequencing by Sanger
| Determination of mRNA poly(A) tail
length
| Sequencing the CDS in mRNA
| Direct colony full-length sequencing
| Contract research/outsourcing
| Viral- and microbial detection

The Experts

For almost three decades, 4base lab has been at the forefront of molecular analysis, maintaining GMP-compliant laboratories that consistently meet the highest industry standards. As a reliable partner of mRNA/DNA vaccine manufacturers including leading pharmaceutical companies, 4base lab offers safety at every stage of the manufacturing process.

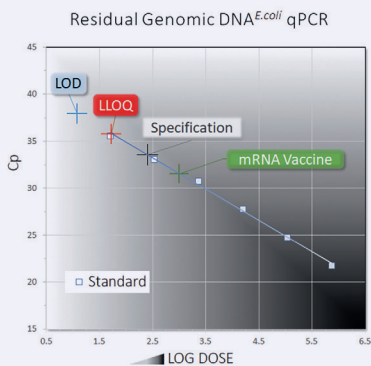
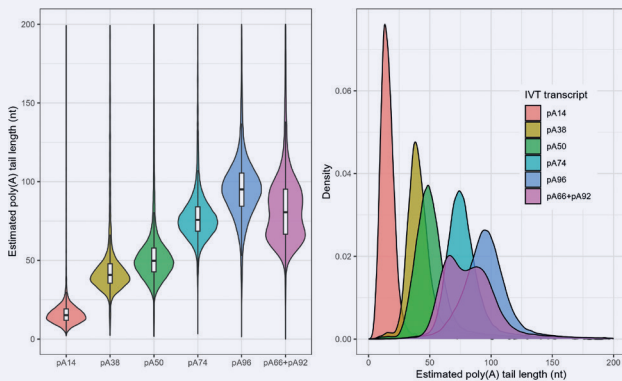
Excellence through collaboration is our guiding principle. Our team of experienced scientists and qualified technicians partners closely with you to comprehend your unique objectives. We leverage this understanding to develop customized assays and validation methods that are tailored to your specific requirements and ensure optimal results.

Customized advice and flexible adaptation of our test systems are our strengths.

The services

DNA sequencing: The confirmation of sequence identity is an essential part of the production of therapeutic nucleic acids. 4base lab offers reliable non-GMP and GMP sequencing services according to Sanger, covering all steps necessary for the determination of complete DNA sequences. Even samples with ultra-low DNA concentrations, limited volume or colonies can be sequenced in full-length using validated Rolling Circle Amplification (RCA) methods.

RNA sequencing: The assessment of therapeutic mRNA vaccines directly, without reliance on intermediate molecules, is increasingly in focus of regulatory quality control requirements regarding the sequence coding identity, modifications, and structural motifs. 4base lab offers a qualified analysis pipeline to address these issues directly on the RNA.



Determination of poly(A) tail length: for determination of poly(A) length of mRNA vaccines, qualified sequencing strategies utilizing Sanger adapter sequencing as well as Oxford Nanopore Technologies (ONT) direct RNA sequencing are available.

Residual nucleic acid analysis: Detection of residual DNA contamination. Safety at every step of your manufacturing process of mRNA vaccines. Various validated qPCR/RT-PCR protocols are established for the detection of residual *E. coli* genomic DNA, RNA and plasmid DNA contaminant in mRNA vaccines.

Development and Validation: New detection systems can be developed at any time according to customer requirements and validated in accordance with ICH Q2.

Viral and microbial detection: Please inquire for available systems.

Quality assurance

4base lab has been maintaining GMP compliant laboratories for molecular analysis for almost three decades. Furthermore, 4base lab is certified according to DIN EN ISO 9001, DIN EN ISO 14001 and accredited according to DIN EN ISO 17025.