Swift BIOSCIENCES™

ACCEL-AMPLICON™ CUSTOM PANELS

Investigate a Novel Combination of Targets from Challenging Samples with Single-Tube NGS Assays

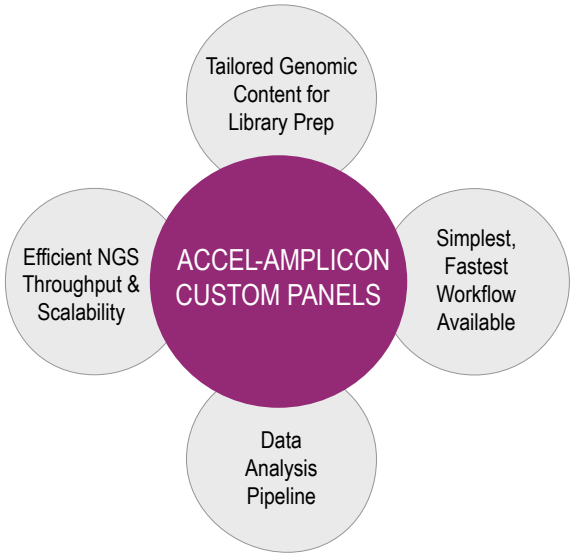
Accel-Amplicon Custom Panels offer a complete, targeted next-generation sequencing (NGS) workflow to rapidly and precisely interrogate genomic targets of your choice. The unique single-tube assay format is compatible with challenging and precious biological samples, including formalin-fixed, paraffin-embedded (FFPE) and circulating, cell-free DNA (cfDNA). Accel-Amplicon Custom Panels generate targeted, highly multiplexed libraries compatible with Illumina® and Ion Torrent™ sequencing platforms.

The Accel-Amplicon Custom Panels provide:

- Collaborative assay design process
- Wet lab optimization and QC performance verification
- Simple, fast, scalable workflow
- Proven performance on difficult and limited samples

A Complete Solution

Accel-Amplicon Custom Panels provide a complete workflow experience to help you, tailoring your content into a reliable and easy-to-use assay that gives you the most important information from your own samples. The single-tube workflow includes two brief incubations to generate the multiplex amplicon targets and add a unique combination of Illumina- or Ion Torrent-compatible indexed adapters, creating up to 96 uniquely-indexed libraries for multiplexing on a single sequencing run.



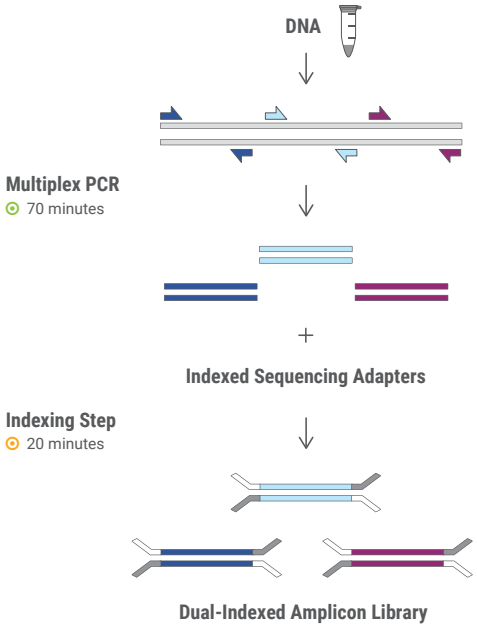
Receive the assay you want, backed by data you can trust, all available as an easy, fast and scalable workflow for limited and challenging samples. The finished product is a complete kit that includes all components necessary for generating ready-to-sequence libraries, including multiplexed primers, indexed sequencing adapters, and a full support package that includes product documentation, QC data obtained with your panel from control DNA, and guidelines for data analysis.

Workflow Advantages

Accel-Amplicon Custom Panels provide a simple and fast single-tube workflow based on two brief incubation steps.

- First, input DNA is interrogated with an optimized target-specific primer pool to generate the multiplex amplicon targets. The amplicon size is intentionally small to ensure robust performance on fragmented or degraded DNA samples, such as FFPE or cfDNA.
- Next, the indexing step uses a unique combination of Illumina- or Ion Torrent-compatible indexed adapters to create up to 96 uniquely-indexed libraries for multiplexing on a single sequencing run.

The total library prep time, from sample input to sequence-ready libraries, is 2 hours with no sample transfers.



One Sample, One Tube

- **More data in one reaction**
  - No need to split your sample across multiple reactions. With as low as 10 ng total DNA input, one primer pool and one PCR reaction means you can analyze up to 1,500 amplicons in parallel.
- **Simplest workflow**
  - Single-tube setup minimizes pipetting steps, pooling errors, and labor costs.
- **Reliable detection of low-frequency somatic variants**
  - All primers are present with all copies of template DNA.

Addressable Applications and Disease Areas

The Accel-Amplicon Custom Panel can support a wide range of human disease research applications, including:

- **Variant discovery and profiling** — Deeply interrogate key genes to identify disease-associated variants and potential biomarkers
- **Carrier screening** — Screen for known or novel germline mutations
- **Liquid biopsy analysis** — Monitor the presence or acquisition of somatic mutations in cfDNA

Custom panels can be designed for many different disease or research areas, including:

- Cardiovascular disease
- Cancers
- Drug metabolism
- Immunology and inflammation
- Musculoskeletal disease
- Neurological disorders
- Metabolic disorders
- Rare diseases

Features and Benefits

- **Flexible, intelligent assay design** — Comprehensive coverage of critical hotspot SNVs, indels (< 15 bp), and contiguous tiled regions in coding sequences and intron-exon boundaries enables discovery, characterization and screening of your targets of interest.
- **Simple and scalable** — Fast, easy workflow with complete libraries in under 2 hours. Design your assay at the size that works best for you — from a small panel of 15 up to 1,500 or more primer pairs in a single-tube multiplexed reaction. Your final panel design is wet-lab optimized and performance verified by QC.
- **Reliable performance** — Highly reproducible performance from only 10-25 ng input DNA, including fragmented or degraded samples, as well as high molecular weight control DNA. High quality data with exceptional coverage.
- **Informative content** — Highly specific with exceptional target coverage uniformity to make your sequencing reads work for you.

Product Specifications

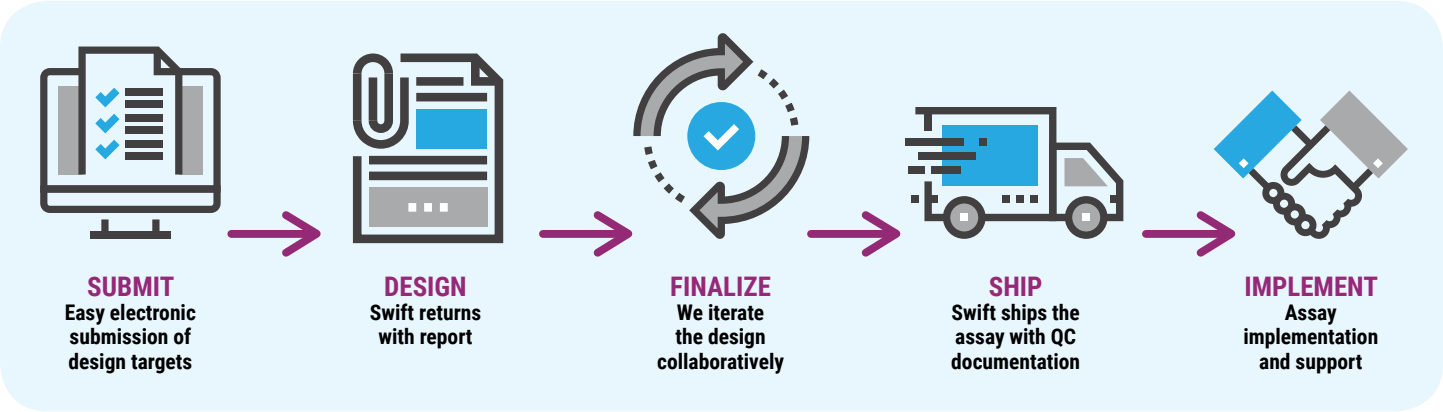
Like Accel-Amplicon standard panels, our custom panels offer high sensitivity variant detection from input amounts of 10-25 ng. The panel utilizes indexed adapter sequences and has been validated on the Illumina and Ion Torrent platforms.

Feature	Specification
Input DNA	10 - 25 ng input DNA*
Amplicon Size	Versatile size (default maximum 150 bp) to maximize compatibility with many sample types: whole blood, cell culture, FFPE, cfDNA
Design Coverage	> 90% of requested bases
Assay Format	Single-tube with 2-hour DNA-to-library workflow
Design Turnaround Time	6-8 weeks from design acceptance to wet lab validation completion and shipment
Components Provided	Custom primer pool, library preparation reagents and indexed sequencing adapters
Limit of Detection/Sensitivity	Limit of Detection and variant calling as low as 1% allele frequency
Panel Size	15 - 1,500 amplicons per panel; other options available upon request
Library Multiplexing Capability	96 samples by indexing default; other options available upon request
Sequencing Performance	> 90% on-target (aligned reads) > 90% coverage uniformity (at > 20% of mean depth)
Compatible Platforms	Illumina, Ion Torrent

** As quantified by qPCR. For sample types with more consistent high quality DNA including whole blood, fresh frozen samples, and cultured cells, quantification by Qubit® is also a reliable indicator of amplifiable content.*

Get Started Now

Design Process



Let's work together to design your assay. There's no need to use a complicated online design tool. Use our convenient Design Guide and Submission Form for guidance, or simply reach out to us and one of our experienced amplicon scientists will contact you for a complimentary design consultation.

Visit **www.swiftbiosci.com/amplicondesign** to begin, or email **custom@swiftbiosci.com.**

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