



ACE2 Swift Normalase® Amplicon Panel (SNAP)

An Expanded SARS-CoV-2 Research Tool for Susceptibility and Transmission.

Highlights

- **Increased multiplexing capacity**
Sequence up to 384-plexed libraries.
- **Improved target enrichment solutions**
Efficient single tube workflow with overlapping amplicons for full coverage.
- **Superior quality from the low sample input**
Achieve full ACE2 coding region coverage from as little as 10ng of DNA.



Introduction

The ACE2 Swift Normalase Amplicon Panel (SNAP) contains 41 amplicons with an average size of 150 bp that provides comprehensive coverage of all coding regions of ACE2.

The ACE2 SNAP Panel utilizes multiple overlapping amplicons in a single tube, using a rapid, 2-hour workflow to prepare ready-to-sequence libraries. The PCR1+PCR2 workflow generates robust libraries, even from low input quantities. The libraries may be quantified with conventional methods, including Qubit® or Agilent Bioanalyzer and normalized by manual pooling or normalized enzymatically with the included Swift Normalase reagents.

Human ACE2 has been identified as a key receptor for SARS-CoV-2 host cell entry. Although SARS-CoV also utilizes ACE2 as a receptor, SARS-CoV-2 has acquired several mutations that increase its binding affinity to ACE2 relative to SARS-CoV. Variation in ACE2 sequences and expression levels can impact the ability of SARS-CoV-2 to successfully bind and enter host cells. In fact, numerous ACE2 variants have recently been implicated in disease susceptibility and severity. Sequencing ACE2 has the potential to provide insight into disease outcomes and facilitate further epidemiological investigations.

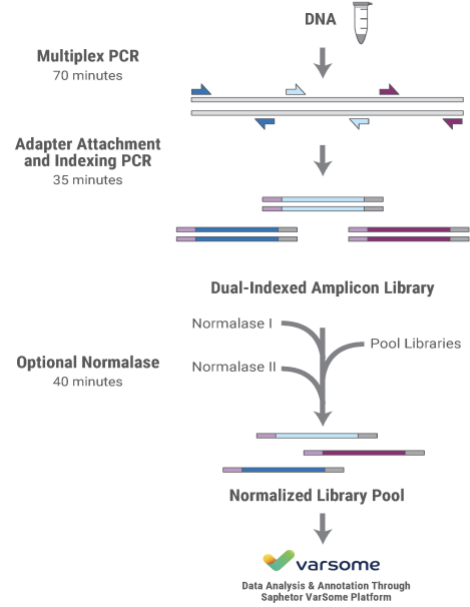
Single-Tube, 2-Hour Workflow

Fast, Easy, Standardized Workflow

The ACE2 Swift Normalase Amplicon Panel uses an easy, fast single-tube approach consisting of a 70-minute target enrichment step and a 35-minute indexing step, yielding a 2-hour start-to-finish procedure. It enables simultaneous amplification of overlapping amplicons in a single-tube reaction, minimizing hands-on time and sample processing errors.

Superior Quality with Low Input Samples

The ACE2 Amplicon Panel requires sample input as low as 10 ng per sample and is compatible with a wide variety of sample types, including genomic DNA from reference DNA, whole blood, dried blood spots (DBS/Guthrie cards), saliva, and buccal swabs. The panel is optimized to generate high quality data with > 95% on-target specificity and coverage uniformity.

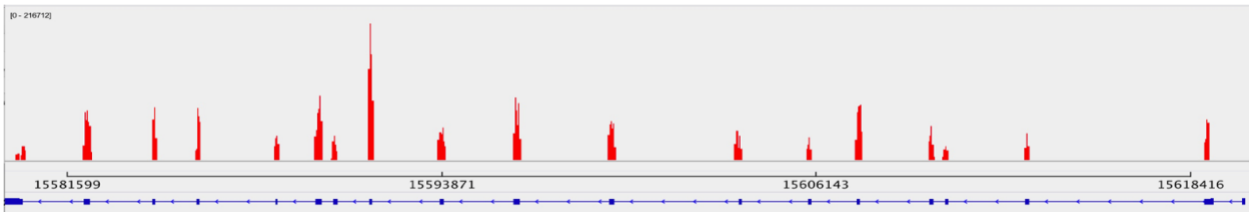


ACE2 Swift Normalase Supported Applications and Sample Types

- Applications: Genome/Host Detection, Variant Calling, Epidemiological Studies, Public Health Surveillance. *Please inquire for custom targets.*
- Sample Types: High quality DNA, gDNA, whole blood, dried blood spots (DBS/Guthrie cards), saliva, buccal swabs are some examples.

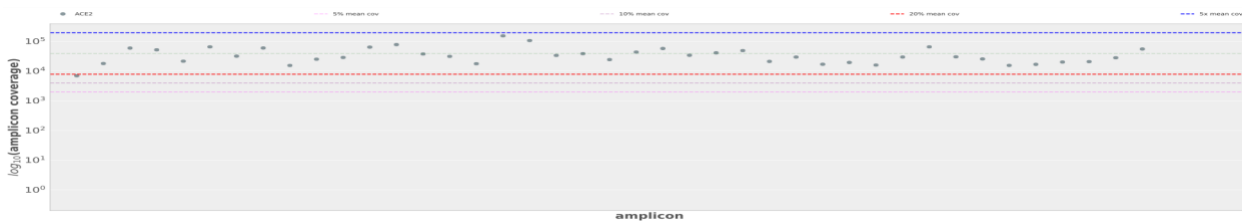
High Quality Data

Figure 1: Comprehensive Coverage Over ACE2



Coverage of all coding regions of ACE2 by the ACE2 SNAP panel is represented in a Sashimi Plot (IGV: Broad Institute).

Figure 2: ACE2 Gene Amplicon Read Depth



The panel was used to prepare libraries using 10ng input of high quality Coriell NA12878 gDNA into Swift SNAP workflow and sequenced on a MiniSeq® instrument. Representative plot demonstrates coverage for each amplicon. Red and blue dashed lines represent 5x of the mean coverage and 20% of the mean coverage, respectively.

Specifications

Feature	Specification
Panel Information	41 amplicons, sized 140 – 235 bp (average 150 bp)
Panel Target Size	4.0 kb
On Target Percentage	>95%
Coverage Uniformity	>95%
Input Material	10 – 25 ng of DNA
Time	2 hours DNA-to Library
	3 hours DNA-to-Normalized Library Pool
Components Provided	Target-specific multiplex primer pool • PCR and library prep reagents Swift Normalase • Combinatorial Dual indexing Primers Note: kits do not include magnetic beads
Multiplexing Capability	Up to 384 CDI

Ordering Information

Workflow Component	Product Name	Catalog Number
Primer Pools	ACE2 Gene Panel (96 rxns)	ACE2G1-96
SNAP Core	Swift Normalase Amplicon Panels (SNAP) Core Kit (96 rxns)	SN-5X296
	Swift Normalase Amplicon Panels (SNAP) Core Kit (4x96 rxns Bundle)	SN-5X384
CD Indexing Primers*	SNAP Set 1A Combinatorial Dual Indexing Primers (96-plex, 96 rxns)	SN-5S1A96
	SNAP Set 1B Combinatorial Dual Indexing Primers (96-plex, 96 rxns)	SN-5S1B96
	SNAP Set 2A Combinatorial Dual Indexing Primers (96-plex, 96 rxns)	SN-5S2A96
	SNAP Set 2B Combinatorial Dual Indexing Primers (96-plex, 96 rxns)	SN-5S2B96
	SNAP Set S1AB-S2AB Combinatorial Dual Indexing Primers (384-plex, 4x96 rxns Bundle)	SN-5S0384
UD Indexing Primers*	SNAP Unique Duals Indexing Primer Plate (96-plex, 96 rxns SU001-SU096)	SN91096-1-PLATE
	SNAP Unique Duals Indexing Primer Plate (96-plex, 96 rxns SU097-SU192)	SN91096-2-PLATE
	SNAP Unique Duals Indexing Primer Plate (96-plex, 96 rxns SU193-SU288)	SN91096-3-PLATE
	SNAP Unique Duals Indexing Primer Plate (96-plex, 96 rxns SU289-SU384)	SN91096-4-PLATE
	SNAP Unique Duals Indexing Primer Plate (384-plex, 4x96 rxns Bundle)	SN91384-PLATES
VarSome	VarSome Data Analysis Token (48 rxns)	AL-VS48

*Please inquire for custom index primer compatibility (UDIs, etc.).

📄 Visit www.swiftbiosci.com for easy ordering.



Swift Biosciences, Inc.

674 S. Wagner Road • Ann Arbor, MI 48103 • 734.330.2568 • www.swiftbiosci.com

© 2020, Swift Biosciences, Inc. The Swift logo and Swift Amplicon are trademarks of Swift Biosciences.

This product is for Research Use Only. Not for use in diagnostic procedures. MiniSeq® is a registered trademark of Illumina, Inc. DTS-032 Rev 2.