










BaseSpace Apps Quick Guide

Biomedical and Basic Research – Genetic Analysis				
App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 BWA Enrichment ¹	<ul style="list-style-type: none"> Targeted Resequencing 	<ul style="list-style-type: none"> Alignment Variant Calling Annotation Batch processing 	Link	Illumina Core Apps
 Isaac Enrichment ¹	<ul style="list-style-type: none"> Targeted Resequencing 	<ul style="list-style-type: none"> Alignment Variant Calling Annotation Batch processing 	Link	Illumina Core Apps
 TruSeq Amplicon ¹	<ul style="list-style-type: none"> Targeted Resequencing 	<ul style="list-style-type: none"> Alignment Variant Calling Somatic Variant Calling Annotation Custom Manifest Files 	Link	Illumina Core Apps
 Amplicon DS ¹	<ul style="list-style-type: none"> Targeted Resequencing (TruSight Tumor Panel) 	<ul style="list-style-type: none"> Alignment Somatic Variant Calling Annotation 	Link	Illumina Core Apps
 BWA Whole Genome Sequencing ¹	<ul style="list-style-type: none"> Whole Genome Sequencing 	<ul style="list-style-type: none"> Alignment Variant Calling SV/CNV Calling Annotation 	Link	Illumina Core Apps
 Isaac Whole Genome Sequencing ¹	<ul style="list-style-type: none"> Whole Genome Sequencing 	<ul style="list-style-type: none"> Alignment Variant Calling SV/CNV Calling Annotation 	Link	Illumina Core Apps
 Tumor Normal ¹	<ul style="list-style-type: none"> Whole Genome Sequencing 	<ul style="list-style-type: none"> Alignment Variant Calling SV/CNV Calling Annotation Tumor Normal Analysis 	Link	Illumina Core Apps

Biomedical and Basic Research – Genetic Analysis (continued)

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 TruSeq Phasing Analysis ¹	<ul style="list-style-type: none"> Genetic Analysis Haplotype Resolution 	<ul style="list-style-type: none"> Phasing Analysis 	Link	Illumina Core Apps
 TruSeq Long-Read Assembly	<ul style="list-style-type: none"> TruSeq Synthetic Long Reads 	<ul style="list-style-type: none"> Assembly of synthetic long reads Phasing Analysis 	Link	Illumina Core Apps
 VariantStudio ¹	<ul style="list-style-type: none"> Whole Genome Sequencing Targeted Resequencing 	<ul style="list-style-type: none"> Variant Analysis Variant Filtering Variant Classification 	Link ³	Illumina Core Apps
 Melanoma Profiler	<ul style="list-style-type: none"> Targeted Resequencing Oncology 	<ul style="list-style-type: none"> Variant Analysis Tumor Normal Analysis 	Not Available	Biomatters
 GeneTalk Variant Analyzer	<ul style="list-style-type: none"> Targeted Resequencing 	<ul style="list-style-type: none"> Variant Annotation Variant Analysis 	Not Available	GeneTalk
 Variant Interpreter	<ul style="list-style-type: none"> Targeted Resequencing Oncology 	<ul style="list-style-type: none"> Variant interpretation 	Not Available	N-of-One Price: 75 iCredits
 LoFreq Rare Variant Caller	<ul style="list-style-type: none"> Targeted Resequencing Oncology 	<ul style="list-style-type: none"> Variant Caller 	Link	Genome Institute of Singapore Price: ~1 iCredit per 10 Gb of input file 4 iCredits for 30-39Gb 5 iCredits 40-49Gb Etc.








Biomedical and Basic Research – Genetic Analysis (continued)

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 EDGC Annotator	<ul style="list-style-type: none"> Targeted Resequencing 	<ul style="list-style-type: none"> Variant Annotation Variant Analysis 	Not Available	EONE Diagnostics
 MyFLq	<ul style="list-style-type: none"> Forensics 	<ul style="list-style-type: none"> STR and SNP query 	Link	Uni of Gent








Gene Expression and Regulation (RNA-Seq, ChIP-Seq, Methyl-Seq)

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 TopHat Alignment ¹	<ul style="list-style-type: none"> Transcriptome Mining Gene Expression 	<ul style="list-style-type: none"> Alignment Gene Counts Transcripts Counts Annotation Variant Calling Fusion Detection Batch Processing 	Link	Illumina Core Apps
 Cufflinks Assembly & DE ¹	<ul style="list-style-type: none"> Transcriptome Mining Gene Expression 	<ul style="list-style-type: none"> Assembly of novel transcripts Differential Expression 	Link	Illumina Core Apps
 RNA Express	<ul style="list-style-type: none"> Transcriptome Mining Gene Expression 	<ul style="list-style-type: none"> Alignment of RNA-Seq reads (STAR) Annotation Differential Expression 	Link	Illumina Core Apps
 Small RNA	<ul style="list-style-type: none"> miRNA Profiling 	<ul style="list-style-type: none"> Alignment Classification of miRNAs, isomiRs, and piRNAs Novel miRNA & pre-miRNA discovery Differential Expression 	Link	Illumina Core Apps





Gene Expression and Regulation (RNA-Seq, ChIP-Seq, Methyl-Seq) (continued)

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 TruSeq Targeted RNA	<ul style="list-style-type: none"> • Gene Expression 	<ul style="list-style-type: none"> • Gene Expression 	Not Available	Illumina Core Apps
 MethylSeq	<ul style="list-style-type: none"> • Methylation Profiling 	<ul style="list-style-type: none"> • Alignment • Methylation Calling 	Link	Illumina Core Apps
 NextBio Annotates RNA-Seq	<ul style="list-style-type: none"> • Transcriptome • Gene Expression 	<ul style="list-style-type: none"> • Gene Annotation 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com
 ChIPSeq	<ul style="list-style-type: none"> • DNA : Protein Interactions • (ChIPSeq) 	<ul style="list-style-type: none"> • Uses MACS for peak identification and HOMER for motif discovery 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com
 iPathwayGuide	<ul style="list-style-type: none"> • Transcriptome 	<ul style="list-style-type: none"> • Pathway Analysis 	Not Available	Advaita Price: 149 iCredit (per report) 1,995 (12 months access)
 miRNAs Analysis	<ul style="list-style-type: none"> • Small RNA sequencing 	<ul style="list-style-type: none"> • miRNA Analysis • Differential Expression 	Link	Uni of Torino
 Genomatix Pathway System (GePS)	<ul style="list-style-type: none"> • Transcriptome • ChIP-Seq • Methyl-Seq • Oncology 	<ul style="list-style-type: none"> • Pathway Analysis 	Link	Genomatix Price: 70 iCredits for 7-day access



Microbial Genomics and Metagenomics

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 16S Metagenomics ¹	<ul style="list-style-type: none"> 16S rRNA Microbial Communities Profiling 	<ul style="list-style-type: none"> Taxonomic classification of microbial communities 	Link	Illumina Core Apps
 Kraken Metagenomics	<ul style="list-style-type: none"> Shotgun Metagenomics 	<ul style="list-style-type: none"> Host DNA Removal Taxonomic classification 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com
 Prokka Genome Annotation	<ul style="list-style-type: none"> Microbial 	<ul style="list-style-type: none"> Prokaryotic Genome Annotation 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com
 SRST2	<ul style="list-style-type: none"> Microbial ID 	<ul style="list-style-type: none"> MLST Typing 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com
 Velvet de novo Assembly	<ul style="list-style-type: none"> Microbial 	<ul style="list-style-type: none"> <i>De novo</i> Assembly 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com
 DeepChek®	<ul style="list-style-type: none"> Viral Typing: <ul style="list-style-type: none"> - HBV - HCV - HIV 	<ul style="list-style-type: none"> Viral Typing Drug Resistance 	Link	ABL Price: HBV – 40 iCredits HCV – 45 iCredits HIV – 65 iCredits
 GENIUS Metagenomics: Know Now	<ul style="list-style-type: none"> Metagenomics 	<ul style="list-style-type: none"> Bacterial ID 	Link	COSMOSID





Microbial Genomics and Metagenomics (continued)

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 PEDANT SequenceAnalyzer	<ul style="list-style-type: none"> • Microbial 	<ul style="list-style-type: none"> • Bacterial Sequence Analysis 	Link	BioMax Price: 2 iCredits per 15Kb of Sequence
 SPAdes Genome Assembler ¹	<ul style="list-style-type: none"> • Microbial 	<ul style="list-style-type: none"> • <i>De novo</i> Assembly 	Link	Algorithmic Biology Lab
 PathSEQ Virome	<ul style="list-style-type: none"> • Microbial Pathogen Detection 	<ul style="list-style-type: none"> • Viral ID 	Link	PathGen Dx
 MetaPhlan	<ul style="list-style-type: none"> • Metagenomics 	<ul style="list-style-type: none"> • Phylogenetic Analysis 	Link	The Huttenhower Lab



Data Handling, Data QC, and Data Visualization

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 FASTQ Toolkit	<ul style="list-style-type: none"> • FASTQ manipulation 	<ul style="list-style-type: none"> • Sub-sampling • Adapter Trimming • Base Trimming • Quality Trimming • Read Filtering 	Not Available	Illumina BaseSpace Labs basespacelabs@illumina.com
 FastQC	<ul style="list-style-type: none"> • Data QC 	<ul style="list-style-type: none"> • Base QV profile 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com




Data Handling, Data QC, and Data Visualization (continued)



App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 Variant Calling Assessment Tool	<ul style="list-style-type: none"> Data QC 	<ul style="list-style-type: none"> Variant Calling Assessment 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com
 NextBio Transporter	<ul style="list-style-type: none"> Data Export RNA-Seq 	<ul style="list-style-type: none"> Data Export to NextBio Research 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com
 PicardSpace	<ul style="list-style-type: none"> Data QC 	<ul style="list-style-type: none"> Calculates alignment metrics 	Link	Illumina BaseSpace Labs basespacelabs@illumina.com Price: Free for .bam <100Mb 1 iCredit for .bam > 100Mb
 SRA Import	<ul style="list-style-type: none"> Data Import General NGS 	<ul style="list-style-type: none"> Imports NGS data from NCBI SRA to BaseSpace using SRA accession number 	Not Applicable	Illumina BaseSpace Labs basespacelabs@illumina.com
 SRA Submission	<ul style="list-style-type: none"> Data Export General NGS 	<ul style="list-style-type: none"> Submission of data to NCBI SRA Archive 	Not Applicable	Illumina BaseSpace Labs basespacelabs@illumina.com
 The Broad's IGV ¹	<ul style="list-style-type: none"> Whole Genome Sequencing Targeted Resequencing ChIP-Seq RNA-Seq 	<ul style="list-style-type: none"> Genome Browser Visualizations 	Not Applicable	Broad Institute
 Elastic Genome Browser	<ul style="list-style-type: none"> Resequencing (human) 	<ul style="list-style-type: none"> Genome Browser Visualizations 	Not Applicable	Strand Life Sciences

Data Handling, Data QC, and Data Visualization (continued)

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 Genome Profiler	<ul style="list-style-type: none"> • Resequencing (human) 	<ul style="list-style-type: none"> • Genome Browser • Visualizations 	Not Applicable	Biomatters
 Novoalign Generic DNA pipeline ¹	<ul style="list-style-type: none"> • Resequencing 	<ul style="list-style-type: none"> • Alignment 	Link	Novocraft

Proteomics

App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 Protein Expression Workflow	<ul style="list-style-type: none"> • Mass Spec • Proteomics 	<ul style="list-style-type: none"> • Protein Analysis 	Not Available	SCIEX
 Protein Expression Assembler	<ul style="list-style-type: none"> • Mass Spec • Proteomics 	<ul style="list-style-type: none"> • Protein Analysis 	Not Available	SCIEX
 Protein Expression Extractor	<ul style="list-style-type: none"> • Mass Spec • Proteomics 	<ul style="list-style-type: none"> • Protein Analysis 	Not Available	SCIEX

Proteomics (continued)				
App Name	Sequencing Application(s)	Key Functionality	Demo Data in BaseSpace	Vendor
 SWATHAtlas Ion Library Generator	<ul style="list-style-type: none"> • Proteomics 	<ul style="list-style-type: none"> • Protein Analysis 	Not Available	ISB
 RNA-Seq Translator	<ul style="list-style-type: none"> • Proteomics • RNA-Seq 	<ul style="list-style-type: none"> • Uses <i>de novo</i> transcriptome assembly to generate protein sequences 	Not Available	Yale University rob.kitchen@yale.edu

Additional Resources:

[BaseSpace Core App User Guides](#)

[Illumina BaseSpace Blog](#)

[Illumina on GitHub](#)

Footnotes:

1. These Apps are supported by BaseSpace Onsite v.2
2. Unless indicated otherwise, all BaseSpace Apps are free of charge. 1 iCredit = 1USD
3. Variant Studio App requires installation when launched for the first time.

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