

Sequencing

FASTQ

ShortRead, Biostrings, qrc

Alignment

BAM

Rsamtools, GenomicAlignments, Rsubread

Reduction

BiocParallel  
GenomicFiles

Analysis

Counts (.csv)

Base R,  
GenomicAlignments,  
Rsubread

Differential Expression  
(genes, transcripts)

edgeR, DESeq2,  
DEXSeq, SGSeq,

Peaks (.bed, .wig)

rtracklayer

Annotation; Differential  
Binding

ChIPpeakAnno, DiffBind,  
ChIPseeker, csaw

Variants (.vcf)

VariantAnnotation,  
VariantTools, h5vc

Effect Prediciton; GWAS

ensemblVEP,  
VariantFiltering, snpStats

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Integration &  
Visualization

IRanges,  
GenomicRanges,  
GenomicAlignments

AnnotationDbi,  
GenomicFeatures, org.\* ,  
TxDb\*, biomaRt,  
PSICQUIC, KEGGREST

Gvis, ggbio, epivizr,  
rtracklayer (UCSC),  
SRadb (IGV)