Intro to the ENCODE portal

Jason Hilton, PhD
Data Wrangler
ENCODE Data Coordination Center

ENCODE Data Coordination Center

encode-help@lists.stanford.edu
@EncodeDCC
https://github.com/ENCODE-DCC


Mike


Idan


Ben


Seth

Data Wrangling


Meenakshi


Jennifer


Yunhai


Jason


Casey


Forrest

Pipelines Development


Jin


Bek


Vanessa


Jennifer


Paul


Zack


Khine


Emma


Phil

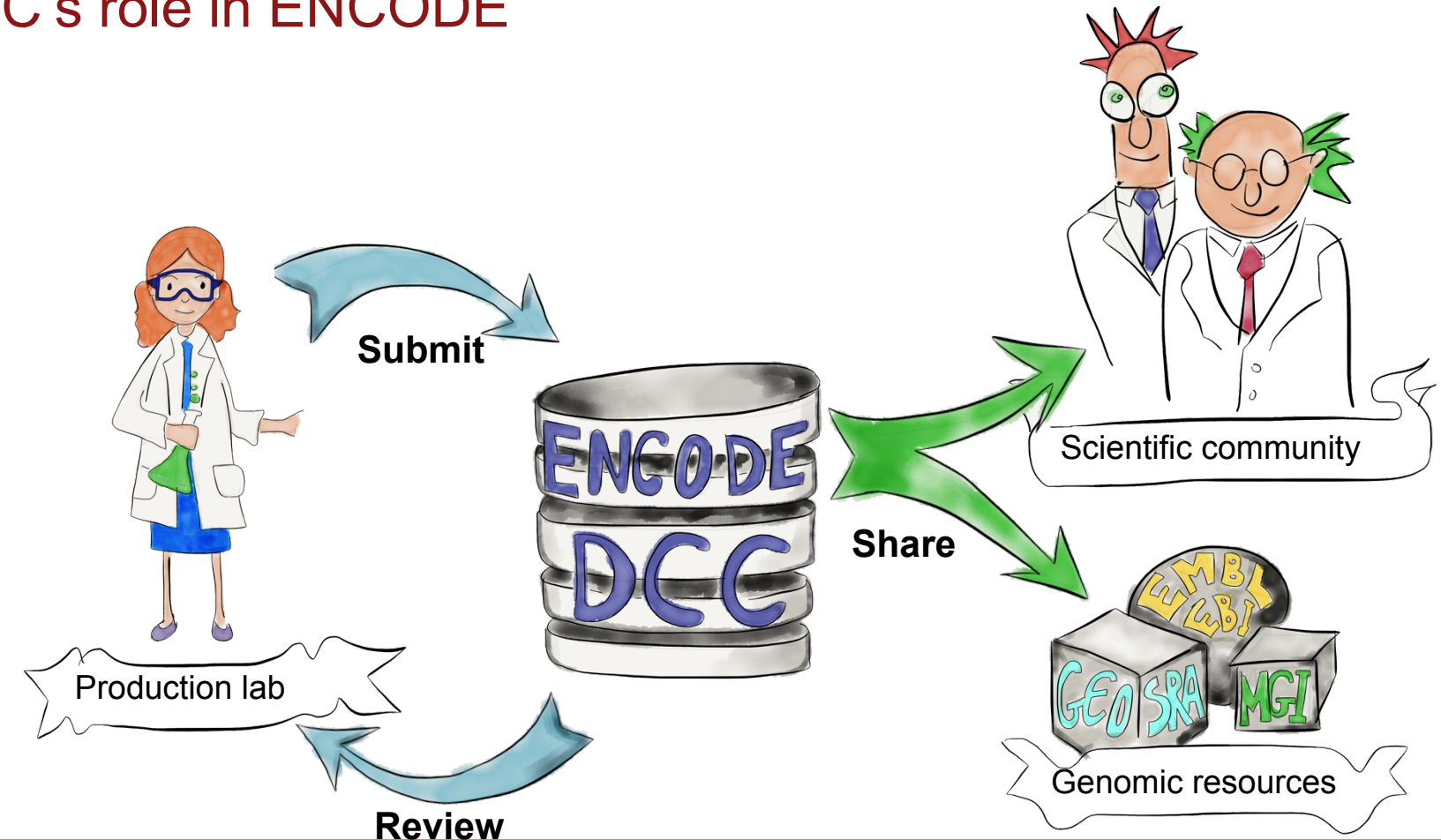

Otto


Keenan

Software

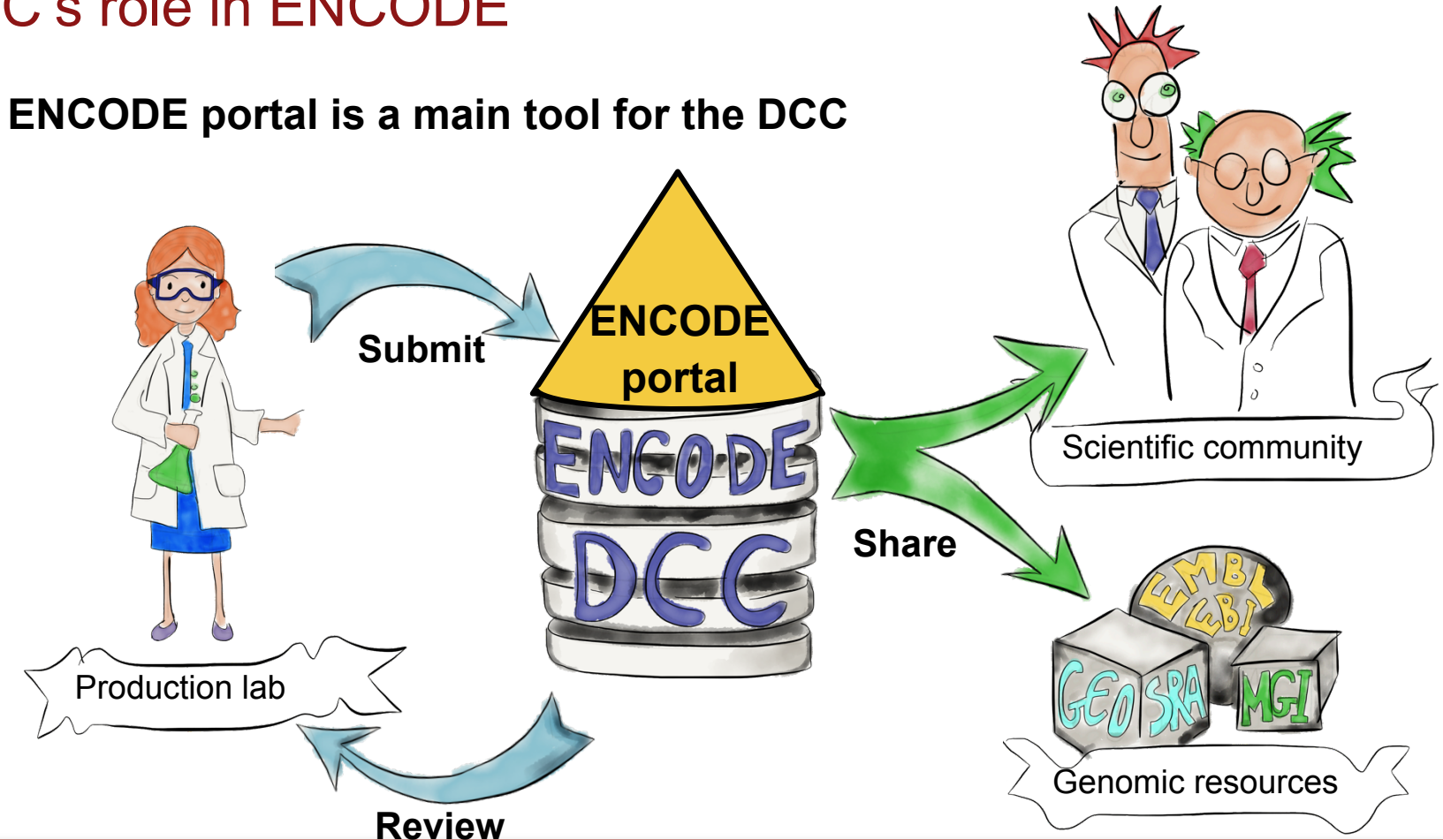
NIH U24 HG009397

DCC's role in ENCODE



DCC's role in ENCODE

The ENCODE portal is a main tool for the DCC



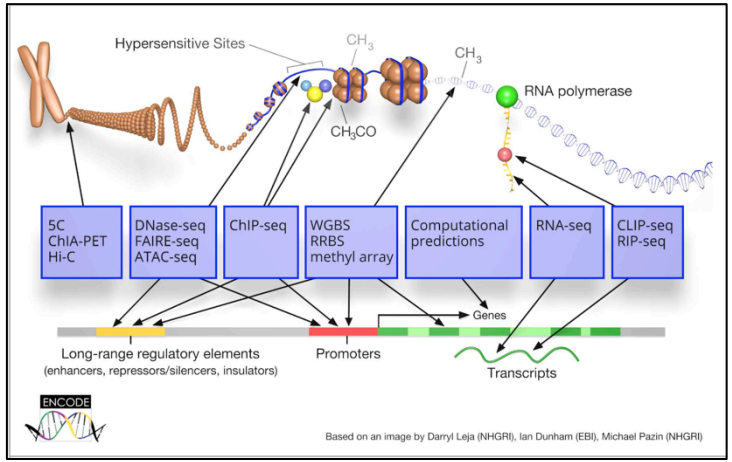
ENCODE portal

encodeproject.org

15K experiments

46 assay “flavors”

600TB data files



Genomics of Gene Regulation | ROADMAP epigenomics PROJECT | modERN | modENCODE

ENCODE portal

encodeproject.org

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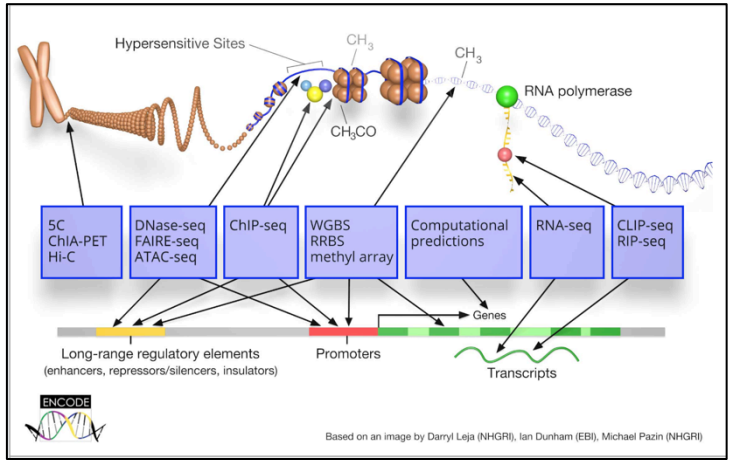
Primary organizational unit on ENCODE portal



Genomics of Gene Regulation | ROADMAP epigenomics PROJECT | modERN | modENCODE

Tutorial Outline

An ENCODE experiment

Browse & Search experiments

Download & Visualize files from many experiments

Access the ENCODE portal programmatically

Data Collections

An ENCODE experiment

https://www.encodeproject.org/ENCSR982QIF

The experiment page

ENCODE Data Encyclopedia Materials & Methods Help Search...

Experiments / ChIP-seq / *Homo sapiens* / ascending aorta

Experiment summary for ENCSR982QIF

Summary

Status:	released
Assay:	ChIP-seq
Target:	H3K27ac
Biosample summary:	*Homo sapiens* ascending aorta female adult (51 year)
Biosample Type:	tissue
Replication type:	unreplicated
Nucleic acid type:	DNA
Size range:	200-600
Fragmentation method:	sonication (generic)
Strand specificity:	Non-strand-specific
Platform:	Illumina HiSeq 2500
Controls:	ENCSR494YJW

Attribution

ENCODE PHASE 3

Lab:	Bradley Bernstein, Broad
Award:	U54HG006991 (Bradley Bernstein, Broad)
Project:	ENCODE
External resources:	GEO:GSE101384
Aliases:	bradley-bernstein:Project Element 2547
Date submitted:	November 13, 2016
Date released:	June 8, 2017
Related datasets:	ENCSR818FUR
Tags:	GTEx

Isogenic replicates

Isogenic replicate	Technical replicate	Summary	Biosample	Antibody	Library
1	1	female adult (51 year) ascending aorta tissue	ENCBS273PSC	ENCAB000AQN	ENCLB626HJU

Files

GRCh38 UCSC Visualize

Association graph File details Include deprecated files

An ENCODE experiment

https://www.encodeproject.org/ENCSR982QIF

What experiment was done

ENCODE Data Encyclopedia Materials & Methods Help

Experiments / ChIP-seq / *Homo sapiens* / ascending aorta

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Experiment grouping

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Biosample

product info, treatments, genetic modifications, donor age & sex, ...

all Experiments on that donor

Antibody

source, product & lot IDs, characterizations

An ENCODE experiment

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Scrolling down...

ENCODE Data Encyclopedia Materials & Methods Help Search...

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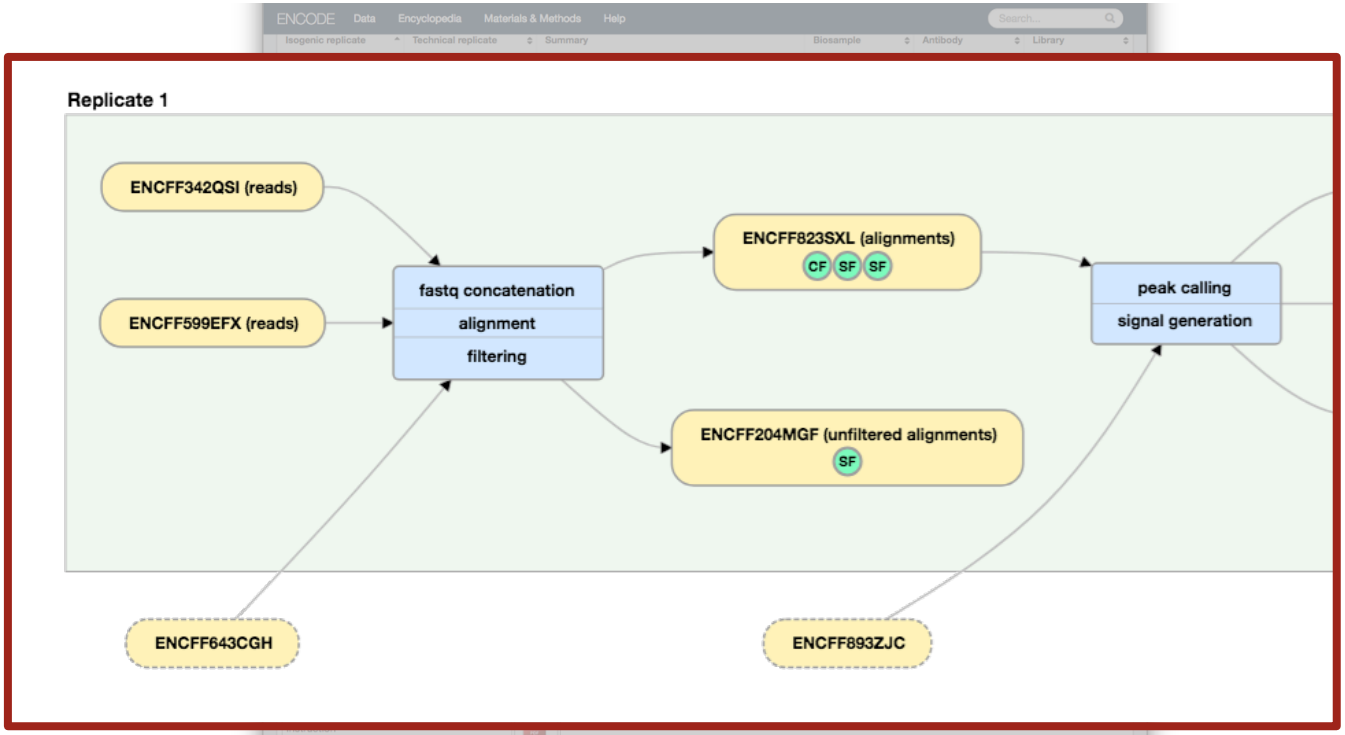
Data provenance



An ENCODE experiment

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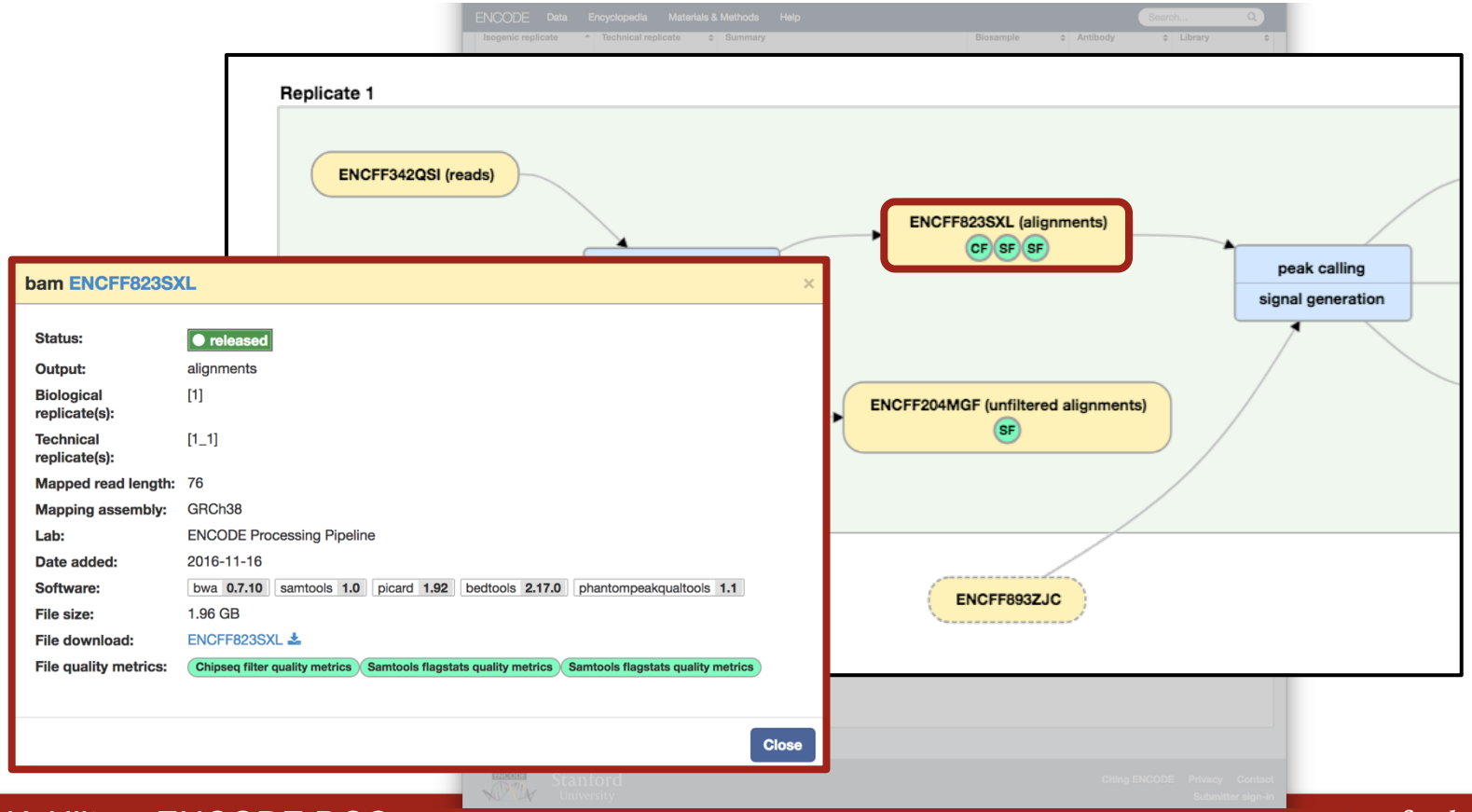
File details



An ENCODE experiment

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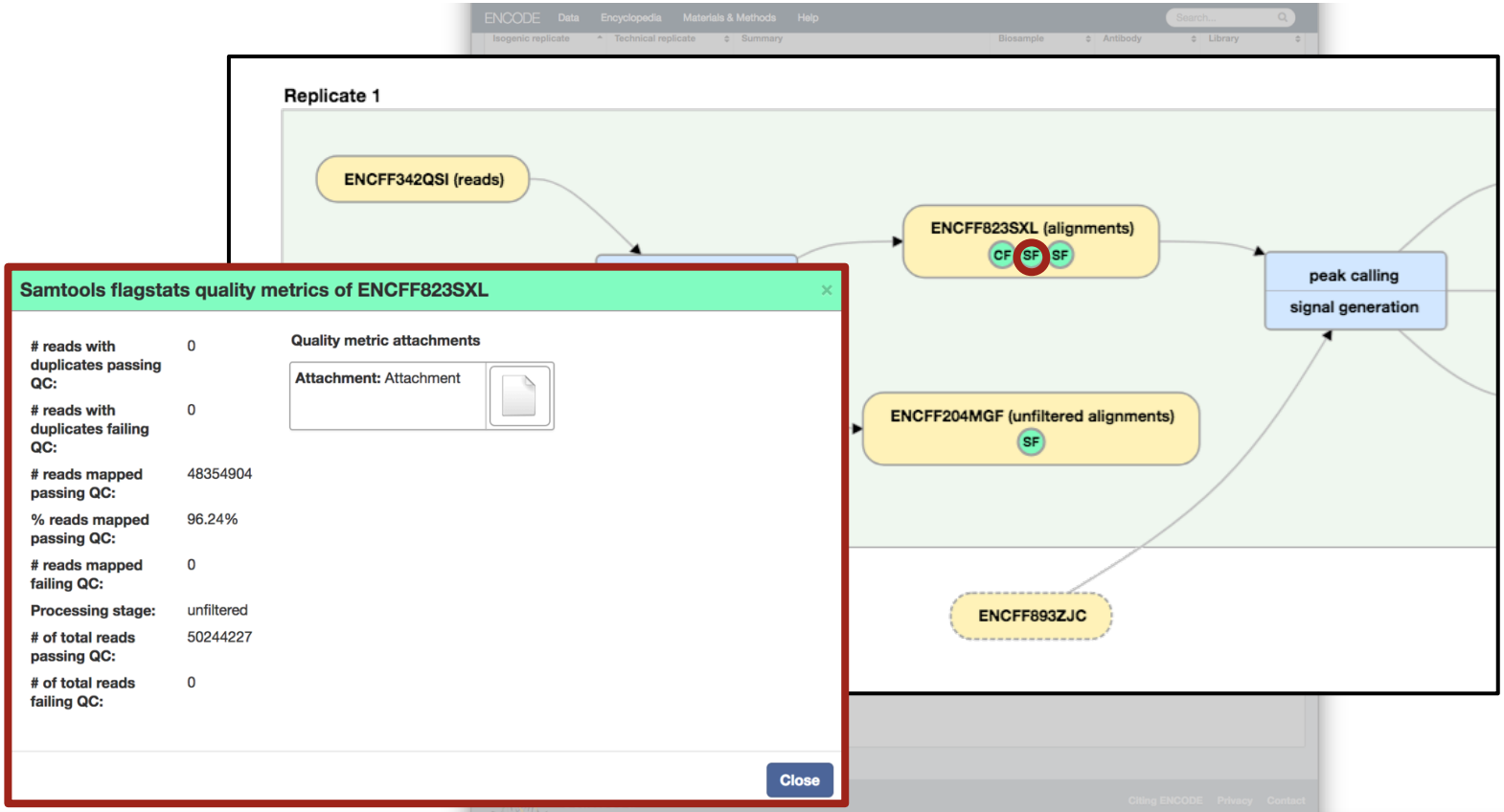
QC metric bubbles



An ENCODE experiment

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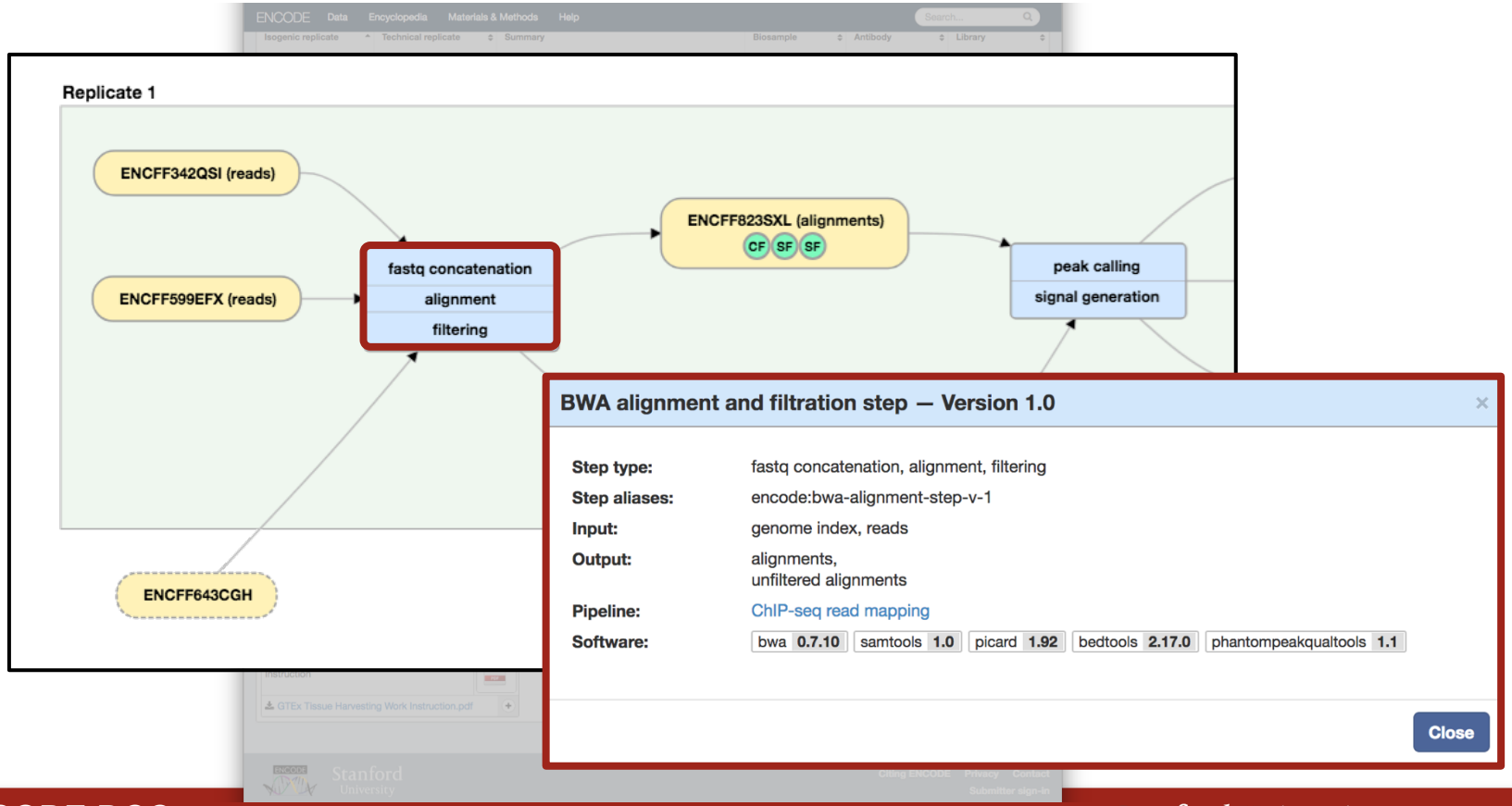
Pipeline step metadata



An ENCODE experiment

https://www.encodeproject.org/ENCSR982QIF

File graph <-> table

ENCODE Data Encyclopedia Materials & Methods Help Search...

Files

GRCh38 UCSC Visualize

Association graph | File details

Include deprecated files

Displaying 1 of 18 files

Raw sequencing data

Isogenic replicate	Library	Accession	File type	Run type	Read	Lab	Date added	File size	Audit status	File status
1	ENCLB626HJU	ENCFF599EFX	fastq	SE76nt		Bradley Bernstein, Broad	2016-11-13	1.34 GB		released
1	ENCLB626HJU	ENCFF342QSI	fastq	SE76nt		Bradley Bernstein, Broad	2016-11-13	1.33 GB		released

Processed data

Visualize	Accession	File type	Output type	Isogenic replicate	Mapped read length	Mapping assembly	Lab	Date added	File size	Audit status	File status
	ENCFF823SXL	bam	alignments	1	76	GRCh38	ENCODE Processing Pipeline	2016-11-16	1.96 GB		released
	ENCFF204MGF	bam	unfiltered alignments	1	76	GRCh38	ENCODE Processing Pipeline	2016-11-16	2.33 GB		released
	ENCFF818NBU	bigBed narrowPeak	stable peaks	1		GRCh38	ENCODE Processing Pipeline	2017-06-07	3.39 MB		released
	ENCFF573UBD	bigWig	signal p-value	1		GRCh38	ENCODE Processing Pipeline	2017-06-07	1.04 GB		released
	ENCFF569JIQ	bigBed narrowPeak	peaks	1		GRCh38	ENCODE Processing Pipeline	2017-06-07	5.19 MB		released
	ENCFF020COG	bed narrowPeak	peaks	1		GRCh38	ENCODE Processing Pipeline	2017-06-07	2 MB		released
	ENCFF109PKU	bigWig	fold change over control	1		GRCh38	ENCODE Processing Pipeline	2017-06-07	953 MB		released
	ENCFF291LEP	bed narrowPeak	stable peaks	1		GRCh38	ENCODE Processing Pipeline	2017-06-07	1.8 MB		released

Documents

An ENCODE experiment

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ENCODE IS ALL OPEN ACCESS!!!!

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Files

GRCh38 | UCSC | Visualize

Association graph | File details | Include deprecated files

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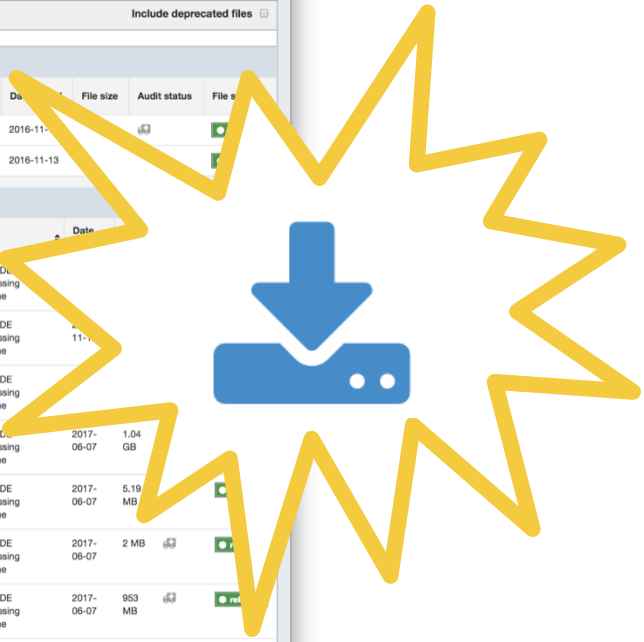
Documents



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Assembly drop-down

ENCODE Data Encyclopedia Materials & Methods Help Search...

All Assemblies and Annotations

✓ GRCh38

hg19

UCSC Visualize

Include deprecated files

Displaying 10 of 18 files

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Documents

An ENCODE experiment

https://www.encodeproject.org/ENCSR982QIF

Visualize options

ENCODE Data Encyclopedia Materials & Methods Help Search...

Files

GRCh38

✓ UCSC
Quick View
Ensembl

Visualize

Association graph | File details

ated files

Displaying 10 of 18 files

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Documents

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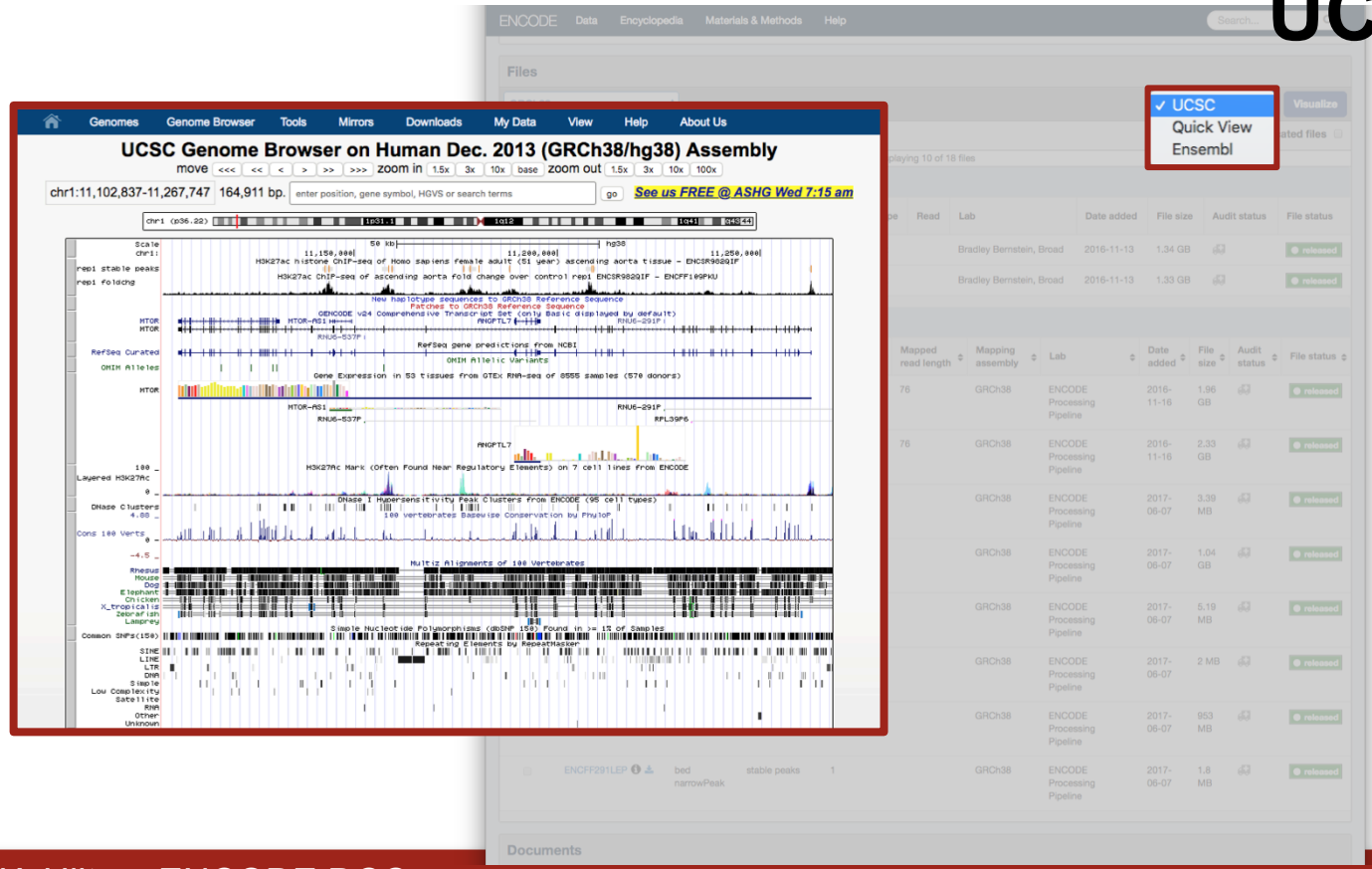
Visualize at UCSC/Ensembl



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https://www.encodeproject.org/ENCSR982QIF

Quick View on ENCODE portal

ENCODE Data Encyclopedia Materials & Methods Help

Search...

Data file search

Clear Filters

File status

released 4

Content category

annotation 2
signal 2

Content type

fold change over control 1
peaks 1
signal p-value 1
stable peaks 1

File format

bigBed 2
bigWig 2

Specific file format type

narrowPeak 2

File type

bigBed narrowPeak 2
bigWig 2

Project

ENCODE 4

Mapping assembly

Selected filters: GRCh38

GRCh38 4
hg19 4

Showing 4 of 4 results

List | Quick View BETA

22:29,890,000..30,050,000

100bp 2kb 50kb 500kb

Genome

29,920,000 29,940,000 29,960,000 29,980,000 30,000,000 30,020,000 30,040,000

GENCODE

<RNU6-331P >AC003681.1 <RP3-394A18.1 >MIR6818 <HORMAD2-AS1

Repeats

rep1 stable peaks

rep1 foldchg 29 0

rep1 pval sig 175 0

rep1 peaks

UCSC
✓ Quick View
Ensembl

Visualize

Date added | File size | Audit status | File status

Bernstein, Broad 2016-11-13 1.34 GB released

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Supplementary docs

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Replicate 1

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Growth, library prep, analysis protocols, etc.

ENCODE Data Encyclopedia Materials & Methods Help

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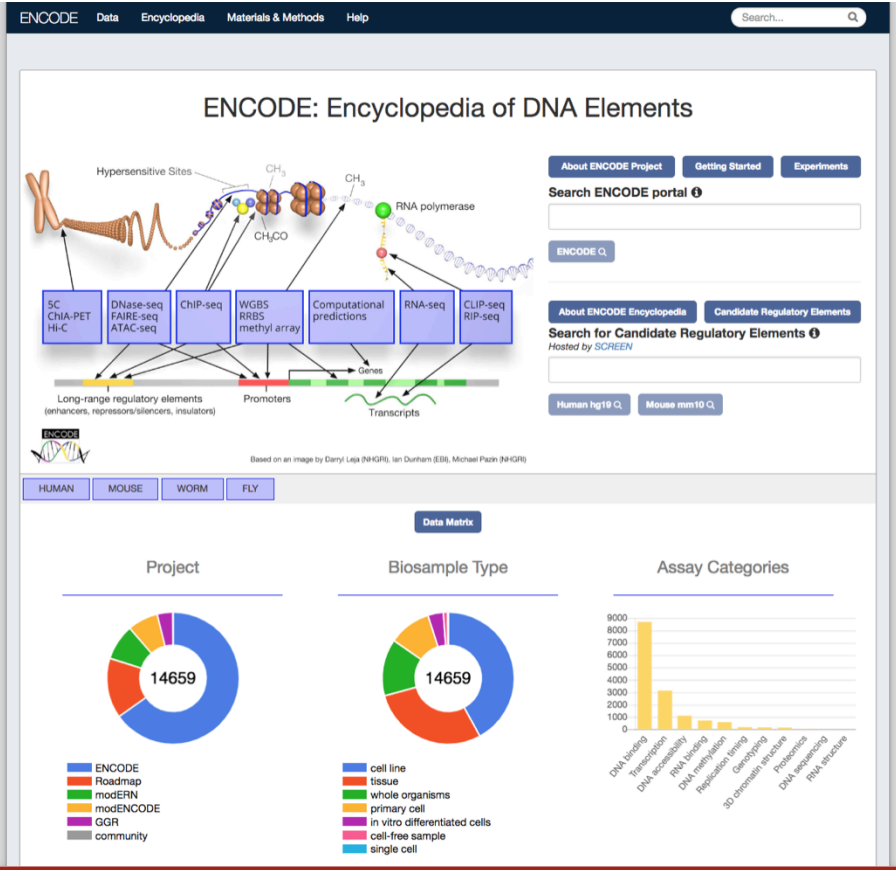
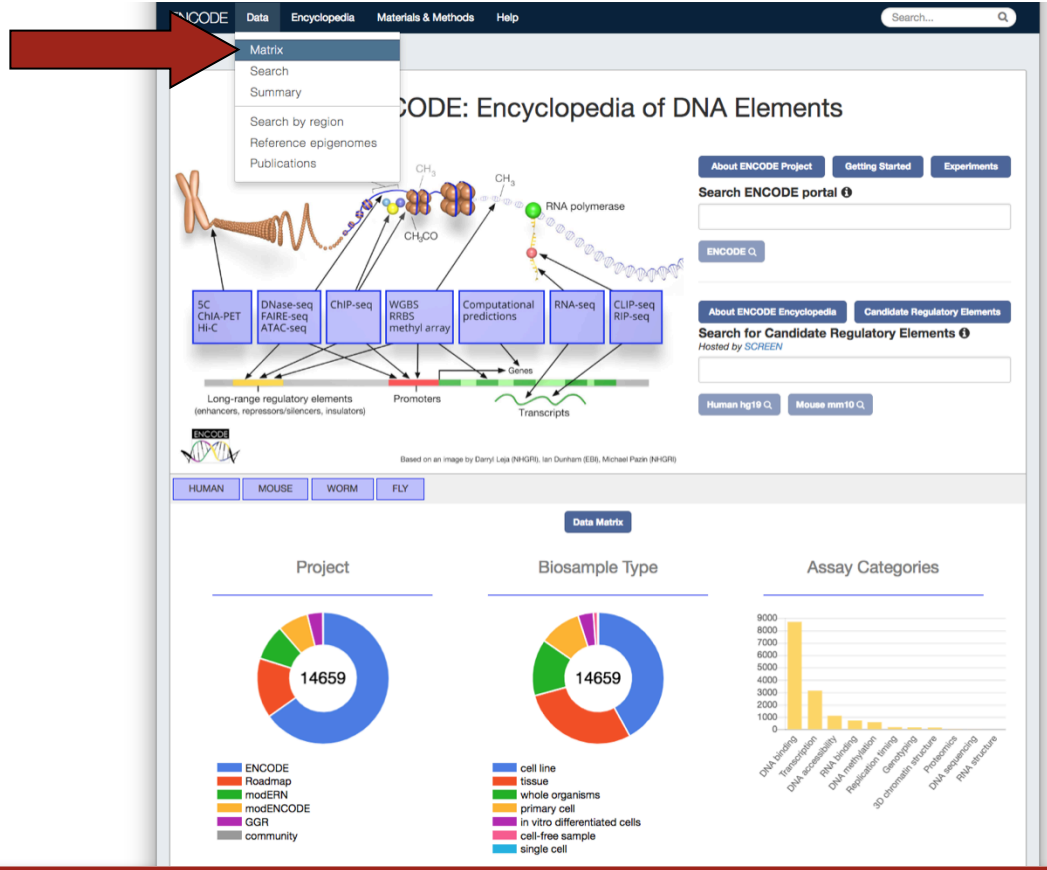


Browsing the ENCODE portal

Jumping in: matrix

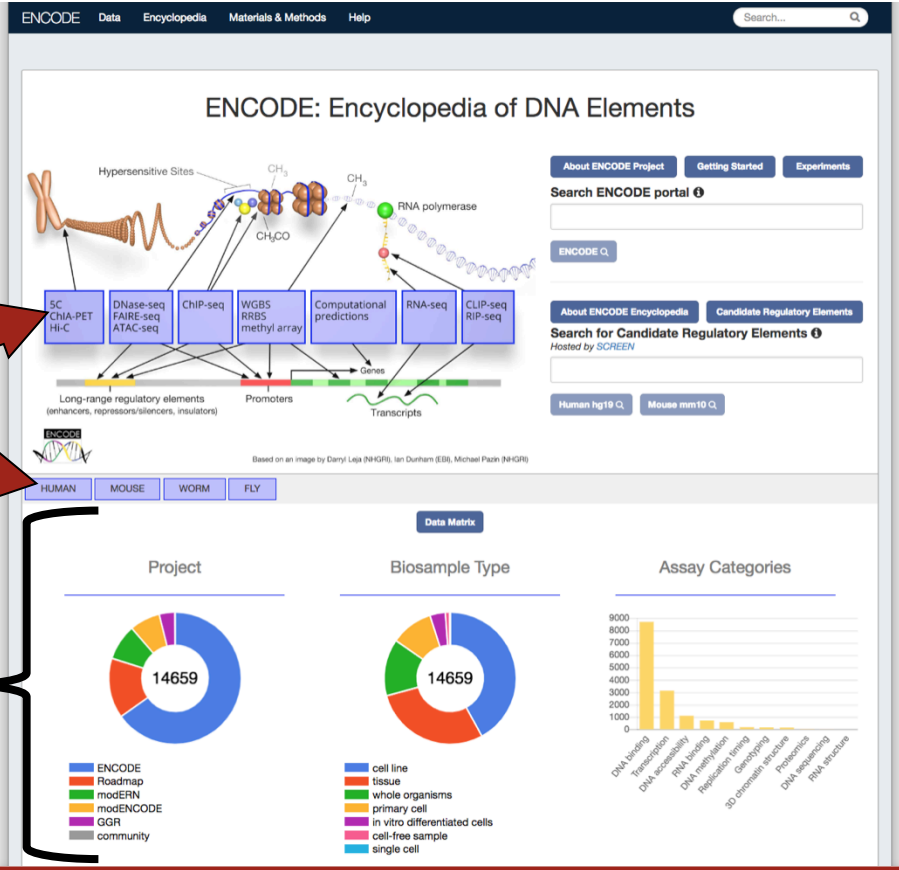


Browsing the ENCODE portal

Jumping in: matrix

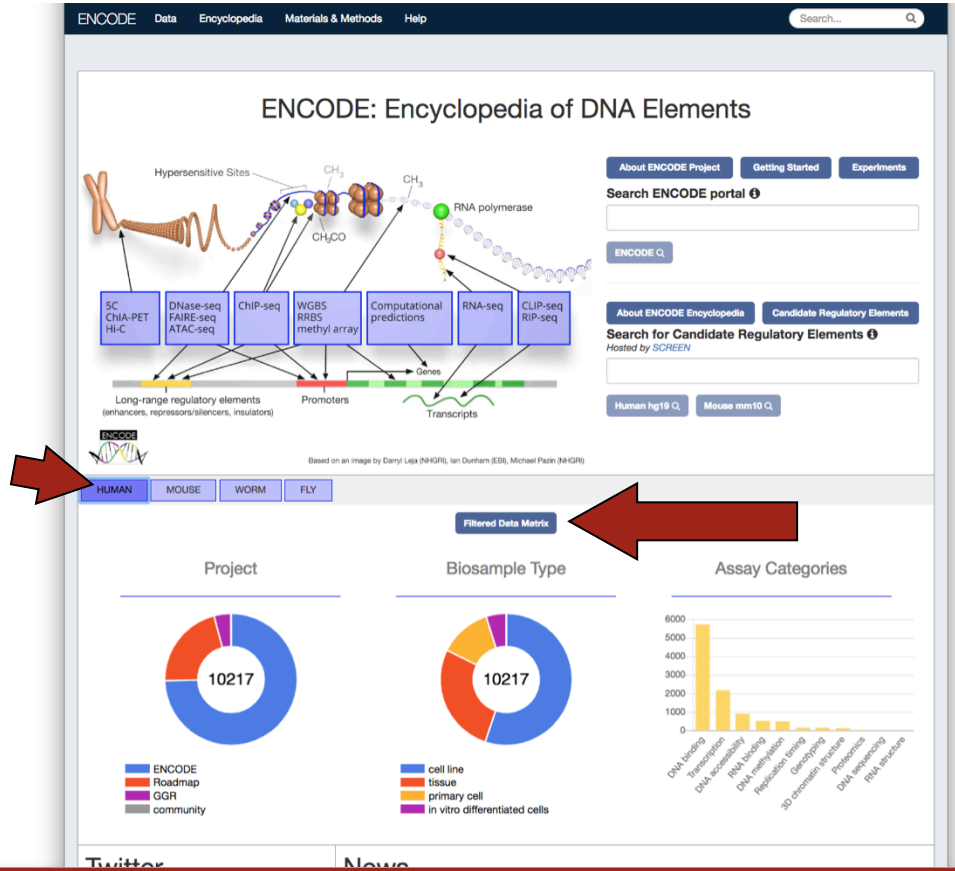
Filter by assay category & organism

Jump to filtered matrix



Browsing the ENCODE portal

Jumping in: matrix



Browsing the ENCODE portal

Experiment matrix

ENCODE Data Encyclopedia Materials & Methods Help Search...

Experiment matrix

Enter search terms to filter the experiments included in the matrix.

Enter search term(s)

Assay category

DNA binding	5733
Transcription	2160
DNA accessibility	902
RNA binding	511
DNA methylation	481

Assay

Search

ChIP-seq	5733
DNase-seq	727
shRNA RNA-seq	523
eCLIP	459
polyA RNA-seq	392

Experiment status

Selected filters: released

released	10217
archived	728
revoked	241

Project

ENCODE	7637
Roadmap	2156
GGR	418
community	6

Genome assembly

hg19	9036
GRCh38	8853
GRCh38-minimal	1

Target category

narrow histone mark	895
recombinant protein	393
chromatin remodeller	182
other post-translational modification	66
other context	51

Target of assay

Search

10217 results

Clear Filters

ASSAY

BIOSAMPLE

	ChIP-seq	DNase-seq	shRNA RNA-seq	eCLIP	polyA RNA-seq	DNAme array	total RNA-seq	small RNA-seq	RNA microarray	RAMPAGE	genotyping array	WGBS	microRNA-seq	Repli-seq	RRBS	ATAC-seq	CAGE	CRISPRi RNA-seq	ChIA-PET	siRNA RNA-seq	...and 21 more
cell line																					
K562	369	10	268	245	19	3	11	7	10	1	2	1	2	6	1		9	77	9	50	
HepG2	357	3	255	210	11	3	5	3	6		2	2		6	2		6		1		
A549	374	14			27	2		9	2		2	1		2	1	5	3				
GM12878	226	2			13	3	3	6	7	1	2	1	1	6	2		6		2		
HEK293	257					2			1		2				2						
+ See 199 more...																					
tissue																					
stomach	65	20			10	3	5	4		5		6			1	2					
adrenal gland	52	11		4	8	5	4	2		4		5	2		1	3					
transverse colon	48	4				4	4	4		4	4	2				4					
sigmoid colon	59	2			4	4	4	4		4		2				4					
liver	73	2			3	1	2	1		2		1			1						
+ See 127 more...																					
primary cell																					
foreskin keratinocyte	37	2			5		3			13			3			13					
endothelial cell of umbilical vein	35	2			5	1		1	2		1			6			5				
common myeloid progenitor, CD34-positive	42	12			1							1									
keratinocyte	23	2			5			3	6					6			5				
B cell	35	5			2			1	1			1					1				
+ See 123 more...																					
in vitro differentiated cells																					
dendritic cell	11						20									24					
neural stem progenitor cell	32	1			2			1				2									
mesenchymal stem cell	29	1			2			1				1									
neural cell	24				1			3		1									1		
trophoblast cell	27	1			1			1				1									
+ See 31 more...																					

See all biosamples

Download | Filter to 500 to visualize

Browsing the ENCODE portal

Experiment matrix

ASSAY

BIOSAMPLES

10217 results

Clear Filters

	ChIP-seq	DNase-seq	shRNA RNA-seq	eCLIP	polyA RNA-seq	DNAme array	total RNA-seq	small RNA-seq	RNA microarray	RAMPAGE	genotyping arr	WGBS
cell line												
K562	669	10	268	245	19	3	11	7	10	1	2	1	2
HepG2	357	3	255	210	11	3	5	3	6		2	2	
A549	374	14			27	2		9	2		2	1	
GM12878	226	2			13	3	3	6	7	1	2	1	1
HEK293	257					2			1		2		
+ See 199 more...													
tissue													
stomach	65	20			10	3	5	4		5		6	
adrenal gland	52	11		4	8	5	4	2		4		5	2
transverse colon	48	4				4	4	4		4	4	2	
sigmoid colon	59	2			4	4	4	4		4		2	
liver	73	2			3	1	2	1		2		1	
+ See 127 more...													
primary cell													
foreskin keratinocyte	37	2			5		3			13			3
endothelial cell of umbilical vein	35	2			5	1		1	2		1		
common myeloid progenitor, CD34-positive	42	12			1							1	
keratinocyte	23	2			5			3	6				

Browsing the ENCODE portal

Filter results using facets

ENCODE Data Encyclopedia Materials & Methods Help

Experiment matrix

Enter search terms to filter the experiments included in the matrix.

Enter search term(s)

10217 results

Clear Filters

Assay category

DNA binding	5733
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DNA accessibility	902
RNA binding	511
DNA methylation	481

Assay

Search

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GRCh38	8853
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narrow histone mark	895
recombinant protein	393
chromatin remodeller	182
other post-translational modification	66

Target of assay

Search

ASSAY

BIOSAMPLE

	ChIP-seq	Dnase-seq	shRNA RNA-seq	eCLIP	polyA RNA-seq	DNAme array	total RNA-seq	small RNA-seq	RNA microarray	RAMPAGE	genotyping array	WGBS	microRNA-seq	Repli-seq	RRBS	ATAC-seq	CAGE	CRISPRi RNA-seq	ChIA-PET	siRNA RNA-seq	...and 21 more
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K562	600	10	268	245	19	3	11	7	10	1	2	1	2	6	1		9	77	9	50	
HepG2	587	3	255	210	11	3	5	3	6		2	2		6	2		6		1		
A549	577	14			27	2		9	2		2	1		2	1	5	3				
GM12878	226	2			13	3	3	6	7	1	2	1	1	6	2		6		2		
HEK293	257					2			1		2				2						
+ See 199 more...																					
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keratinocyte	23	2			5			3	6					6			5				
B cell	35	5			2			1	1			1					1				
+ See 123 more...																					
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mesenchymal stem cell	29	1			2			1				1									
neural cell	24				1			3		1									1		
trophoblast cell	27	1			1			1				1									
+ See 31 more...																					

See all biosamples

Download Filter to 500 to visualize

Browsing the ENCODE portal

Filter results using facets

Assay category

DNA binding	8699
Transcription	3132
DNA accessibility	1100
RNA binding	699
DNA methylation	569

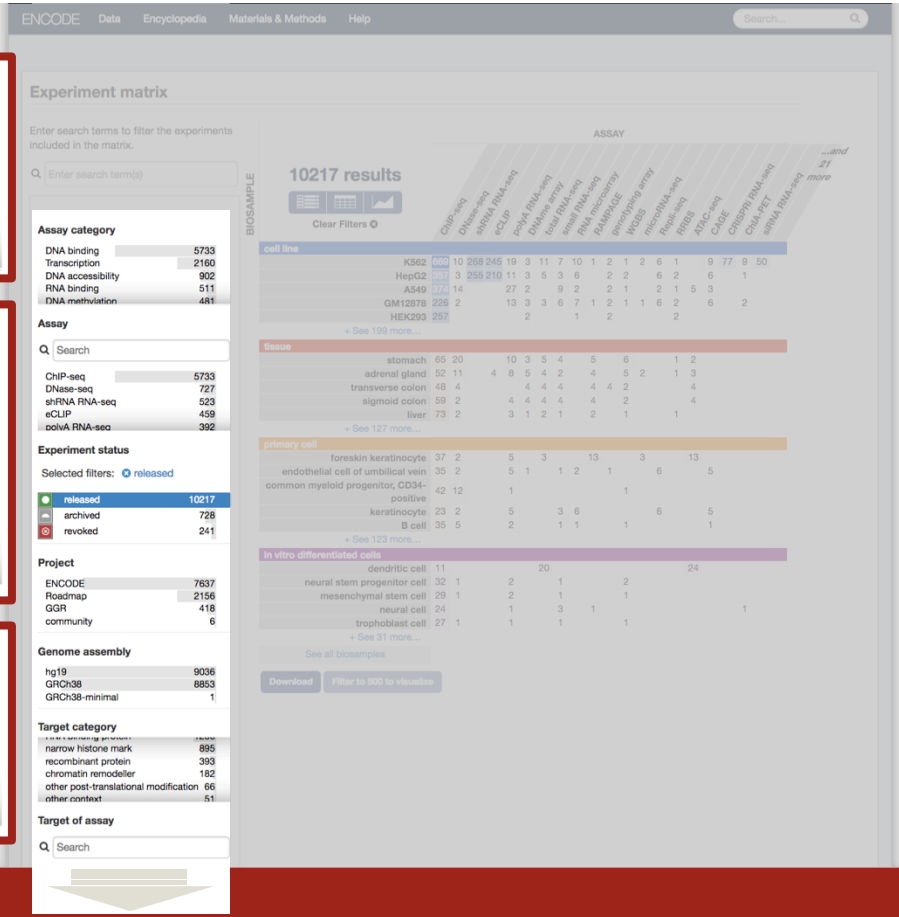
Assay

Search

ChIP-seq	8699
DNase-seq	835
polyA RNA-seq	770
shRNA RNA-seq	523
total RNA-seq	486

Target category

transcription factor	3817
histone	3034
control	2599
broad histone mark	1690
RNA binding protein	1450



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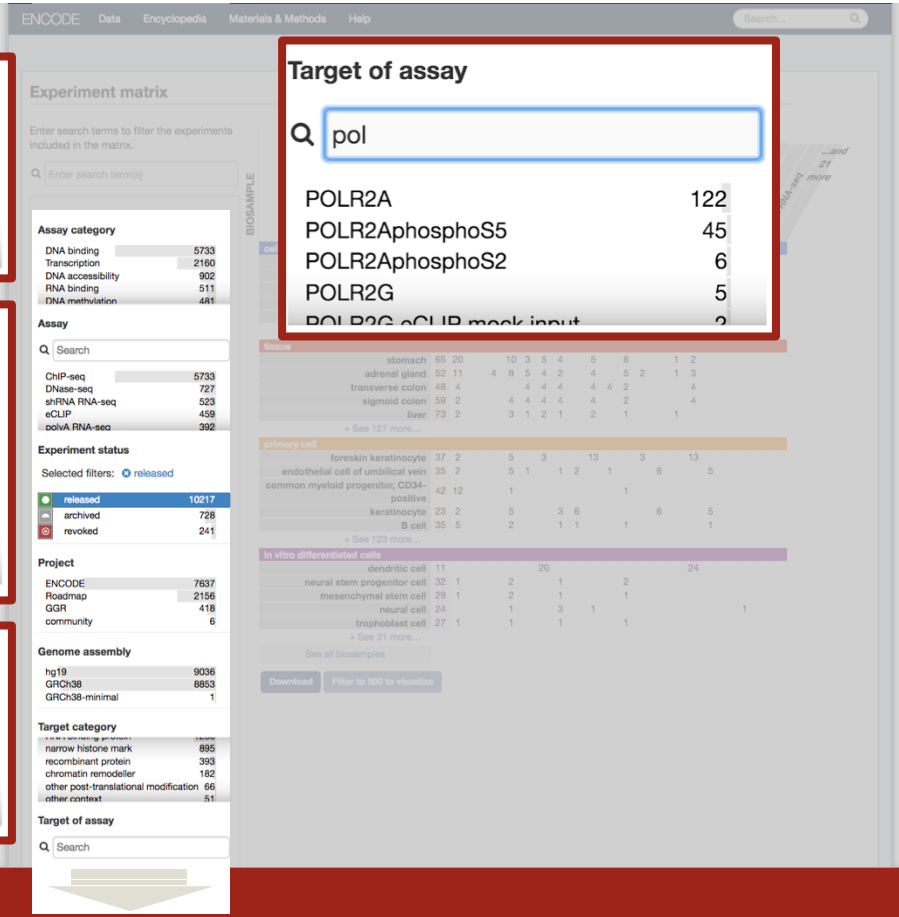

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ENCODE Data Encyclopedia Materials & Methods Help

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other context	51

Target of assay

Search

Target of assay

pol

POLR2A	122
POLR2AphosphoS5	45
POLR2AphosphoS2	6
POLR2G	5
POLR2G eCLIP mock input	2

Organism

Selected filters: Homo sapiens

Homo sapiens	10217
Mus musculus	1896
Drosophila melanogaster	1422
Caenorhabditis elegans	957
Drosophila pseudoobscura	4

Biosample type

cell line	5637
tissue	2775
primary cell	1303
in vitro differentiated cells	502

Cell

Search

cancer cell	3985
epithelial cell	2105
hematopoietic cell	656
stem cell	645
leukocyte	519

Organ

Search

blood	2492
bodily fluid	2492
liver	1204
lung	902
embryo	850

Browsing the ENCODE portal

Filter results using facets

Assay category

DNA binding	8699
Transcription	3132
DNA accessibility	1100
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Organ

Search

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embryo	850

and many more...

Browsing the ENCODE portal

Filter results using facets

Organism

Selected filters: Homo sapiens

Mus musculus	93
Homo sapiens	79

Assay category

Selected filters: Transcription

DNA binding	233
Transcription	79
DNA accessibility	48
DNA methylation	27
Genotyping	14

Organ

Selected filters: brain

Search

connective tissue	122
musculature of body	113
brain	79
embryo	65
vasculature	65

Browsing the ENCODE portal

Experiment matrix

Organism

Selected filters: Homo sapiens

Mus musculus	93
Homo sapiens	79

Assay category

Selected filters: Transcription

DNA binding	233
Transcription	79
DNA accessibility	48
DNA methylation	27
Genotyping	14

Organ

Selected filters: brain

Search

connective tissue	122
musculature of body	113
brain	79
embryo	65
vasculature	65

79 results

Clear Filters

ASSAY

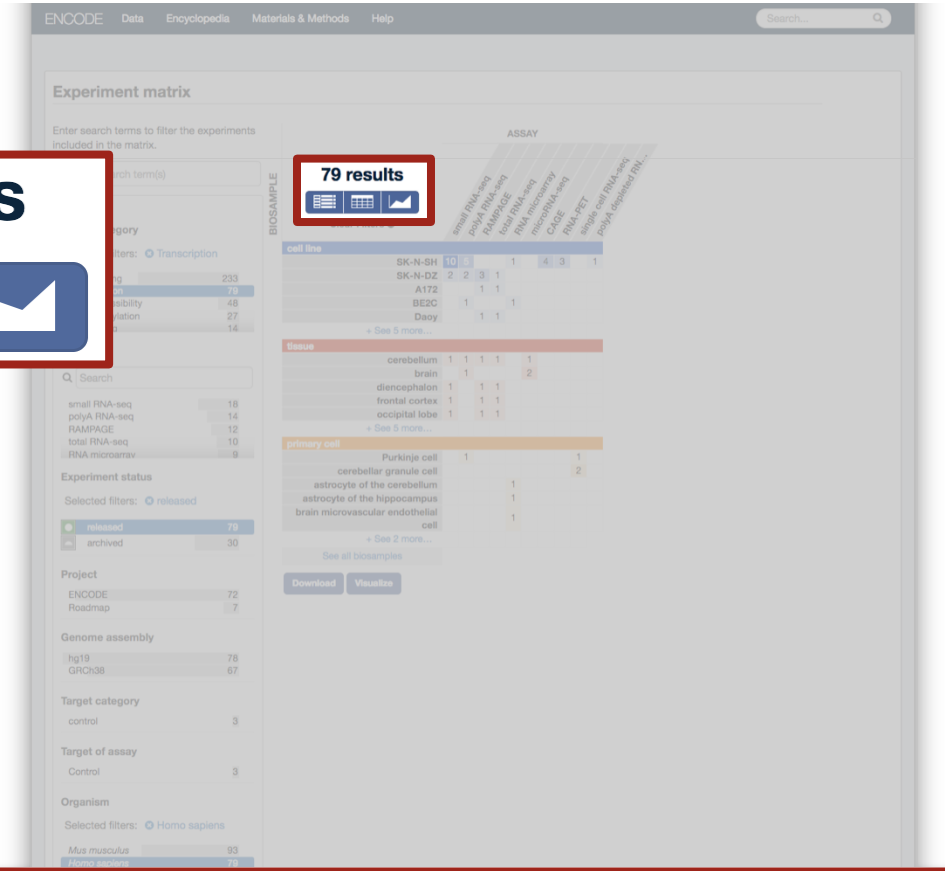
BIOSAMPLE

	small RNA-seq	polyA RNA-seq	RAMPAGE	total RNA-seq	RNA microarray	microRNA-seq	CAGE	RNA-PET	single cell RNA-seq	polyA depleted RN...
cell line										
SK-N-SH	10	5			1		4	3		1
SK-N-DZ	2	2	3	1						
A172			1	1						
BE2C		1			1					
Daoy			1	1						
+ See 5 more...										
tissue										
cerebellum	1	1	1	1		1				
brain		1				2				
diencephalon	1		1	1						
frontal cortex	1		1	1						
occipital lobe	1		1	1						
+ See 5 more...										
primary cell										
Purkinje cell		1						1		
cerebellar granule cell								2		
astrocyte of the cerebellum					1					
astrocyte of the hippocampus					1					
brain microvascular endothelial cell					1					
+ See 2 more...										

See all biosamples

Browsing the ENCODE portal

Different views



Browsing the ENCODE portal

Search view

ENCODE Data Encyclopedia Materials & Methods Help Search...

Experiment search

Clear Filters

Assay category

Selected filters: Transcription

DNA binding	233
Transcription	79
DNA accessibility	48
DNA methylation	27
Genotyping	14

Assay

Search

small RNA-seq	18
polyA RNA-seq	14
RAMPAGE	12
total RNA-seq	10
RNA microarray	9

Experiment status

Selected filters: released

released	79
archived	30

Project

ENCODE	72
Roadmap	7

RFA

ENCODE3	36
ENCODE2	35
Roadmap	7
ENCODE2-Mouse	1

Genome assembly

hg19	78
GRCh38	67

Target category

control	3

Target of assay

Control	3

Organism

Selected filters: Homo sapiens

Mus musculus	93
Homo sapiens	79

Showing 25 of 79 results

View All Download Visualize {;}

Add all items to cart

microRNA-seq of area 11 of Brodmann
Homo sapiens area 11 of Brodmann male adult (53 years)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR366DOV released

microRNA-seq of cerebellum
Homo sapiens cerebellum male embryo (20 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR584XHX released

polyA RNA-seq of cerebellum
Homo sapiens cerebellum male embryo (20 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR470JHE released

microRNA-seq of insula
Homo sapiens insula male adult (53 years)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR559RCR released

microRNA-seq of brain
Homo sapiens brain female embryo (17 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR776HXH released

microRNA-seq of brain
Homo sapiens brain female embryo (17 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR325SAK released

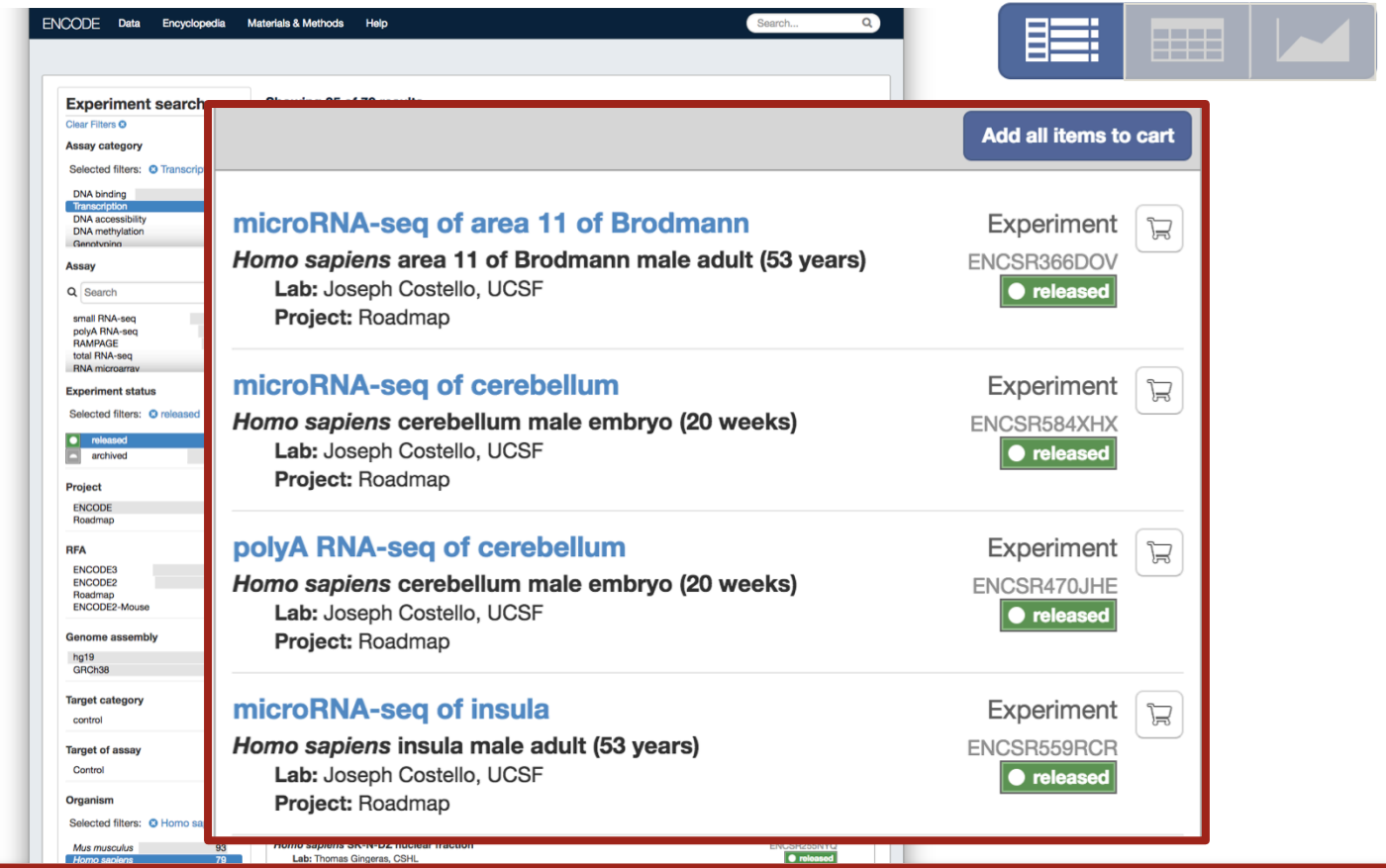
polyA RNA-seq of layer of hippocampus
Homo sapiens layer of hippocampus male adult (81 year)
Lab: Bradley Bernstein, Broad
Project: Roadmap
Experiment ENCSR239GFM released

polyA RNA-seq of brain
Homo sapiens brain female adult (66 years)
Lab: Michael Snyder, Stanford
Project: ENCODE
Experiment ENCSR274JRR released
1 1

polyA RNA-seq of SK-N-DZ
Homo sapiens SK-N-DZ nuclear fraction
Lab: Thomas Gingeras, CSHL
Experiment ENCSR255NYQ released

Browsing the ENCODE portal

Search view



Browsing the ENCODE portal

Search view

Add experiments to Cart

(revisit later for file downloads)

ENCODE Data Encyclopedia Materials & Methods Help

Experiment search

Clear Filters

Assay category

Selected filters: Transcrip

DNA binding
Transcription
DNA accessibility
DNA methylation
Genotyping

Assay

Search

small RNA-seq
polyA RNA-seq
RAMPAGE
total RNA-seq
RNA microarray

Experiment status

Selected filters: released

released
archived

Project

ENCODE
Roadmap

RFA

ENCODE3
ENCODE2
Roadmap
ENCODE2-Mouse

Genome assembly

hg19
GRCh38

Target category

control

Target of assay

Control

Organism

Selected filters: Homo sa

Mus musculus 93
Homo sapiens 79

Add all items to cart

microRNA-seq of area 11 of Brodmann
***Homo sapiens* area 11 of Brodmann male adult (53 years)**
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment
ENCSR366DOV
released

microRNA-seq of cerebellum
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Experiment
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microRNA-seq of insula
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Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment
ENCSR559RCR
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Homo sapiens SK-N-DZ nuclear fraction
Lab: Thomas Gingeras, CSHL
released

Browsing the ENCODE portal

Report view

ENCODE Data Encyclopedia Materials & Methods Help Search...

Experiment report

Clear Filters

Assay category

Selected filters: Transcription

DNA binding	233
Transcription	79
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Target category

control	3

Target of assay

Control	3

Organism

Selected filters: Homo sapiens

Mus musculus	93
Homo sapiens	79

Showing results 1 to 25 of 79

Columns Download TSV

ID	Accession	Assay Type	Assay Nickname	Target label	Target gene	Biosample summary	Biosample	Description
ENCSR366DOV	ENCSR366DOV	microRNA-seq	microRNA-seq			area 11 of Brodmann male adult (53 years)	area 11 of Brodmann	
ENCSR584XHX	ENCSR584XHX	microRNA-seq	microRNA-seq			cerebellum male embryo (20 weeks)	cerebellum	
ENCSR470JHE	ENCSR470JHE	RNA-seq	polyA RNA-seq			cerebellum male embryo (20 weeks)	cerebellum	
ENCSR559RCR	ENCSR559RCR	microRNA-	microRNA-			insula male	insula	

Browsing the ENCODE portal

Report view

ENCODE Data Encyclopedia Materials & Methods Help Search...

Experiment report

Clear Filters

Assay category

Selected filters: Transcription

Showing results 1 to 25 of 79

Columns | Download TSV

	Accession	Assay Type	Assay Nickname	Target label	Target gene	Biosample summary	Biosample	Description
V	ENCSR366DOV	microRNA-seq	microRNA-seq			area 11 of Brodmann male adult (53 years)	area 11 of Brodmann	
K	ENCSR584XHX	microRNA-seq	microRNA-seq			cerebellum male embryo (20 weeks)	cerebellum	
E	ENCSR470JHE	RNA-seq	polyA RNA-seq			cerebellum male embryo (20 weeks)	cerebellum	
	ENCSR559RCR	microRNA-	microRNA-			insula male	insula	

Select columns to view

Select all | Select ID only | Default sort

- [x] ID
- [x] Assay Nickname
- [x] Biosample summary
- [x] Lab
- [x] Biosample accession
- [x] Linked Antibody
- [x] Age
- [x] Term ID
- [x] Duration
- [x] Post-synchronization time
- [ ] Submitter comment
- [ ] Documents
- [ ] External identifiers
- [ ] Schema Version
- [ ] Submitted by
- [ ] Lab aliases
- [ ] Experiment classification
- [ ] Additional data files
- [ ] Assay type
- [ ] Superseded by
- [ ] Developmental slims
- [ ] Revoked files
- [ ] Biosample synonyms
- [ ] Replication type
- [ ] System slims
- [x] Accession
- [x] Target label
- [x] Biosample
- [x] Project
- [x] Biological replicate
- [x] Species
- [x] Age Units
- [x] Concentration
- [x] Duration units
- [x] Post-synchronization time units
- [ ] Ontology ID
- [ ] References
- [ ] Date released
- [ ] Notes
- [ ] Lab
- [ ] Date submitted
- [ ] Controls
- [ ] Internal status
- [ ] Assay synonyms
- [ ] Assay category
- [ ] Assay ID
- [ ] Assay type
- [ ] Organ slims
- [ ] Assay objective
- [ ] Assembly
- [x] Assay Type
- [x] Target gene
- [x] Description
- [x] Status
- [x] Technical replicate
- [x] Life stage
- [x] Treatment
- [x] Concentration units
- [x] Synchronization
- [x] Replicates
- [ ] Biosample type
- [ ] Alternate accessions
- [ ] Internal tags
- [ ] Date created
- [ ] Grant
- [ ] Target
- [ ] Supersedes
- [ ] Pipeline error message
- [ ] Hub
- [ ] Month released
- [ ] Contributing files
- [ ] Original files
- [ ] Files
- [ ] Related series

Cancel | View selected columns

Mus musculus 93
Homo sapiens 79

Browsing the ENCODE portal

Report view

ENCODE Data Encyclopedia Materials & Methods Help Search...

Experiment report

Clear Filters

Assay category

Selected filters: Transcription

Showing results 1 to 25 of 79

Columns | Download TSV

	Accession	Assay Type	Assay Nickname	Target label	Target gene	Biosample summary	
V	ENCSR366DOV	microRNA-seq	microRNA-seq			area 11 of Brodmann male adult (53 years)	a E
K	ENCSR584XHX	microRNA-seq	microRNA-seq			cerebellum male embryo (20 weeks)	cerebellum
E	ENCSR470JHE	RNA-seq	polyA RNA-seq			cerebellum male embryo (20 weeks)	cerebellum
	ENCSR559RCR	ENCSR559RCR	microRNA-	microRNA-		insula male	insula

Mus musculus 93
Homo sapiens 79

Select columns to view

Select all | Select ID only | Default sort

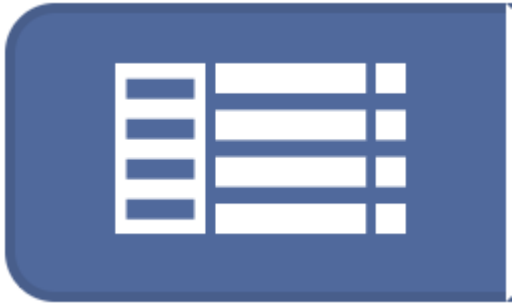
- [x] ID
- [x] Assay Nickname
- [x] Biosample summary
- [x] Lab
- [x] Biosample accession
- [x] Linked Antibody
- [x] Age
- [x] Term ID
- [x] Duration
- [x] Post-synchronization time
- [ ] Submitter comment
- [ ] Documents
- [ ] External identifiers
- [ ] Schema Version
- [ ] Submitted by
- [ ] Lab aliases
- [ ] Experiment classification
- [ ] Additional data files
- [ ] Assay type
- [ ] Superseded by
- [ ] Developmental slims
- [ ] Revoked files
- [ ] Biosample synonyms
- [ ] Replication type
- [ ] System slims
- [x] Accession
- [x] Target label
- [x] Biosample
- [x] Project
- [x] Biological replicate
- [x] Species
- [x] Age Units
- [x] Concentration
- [x] Duration units
- [x] Post-synchronization time units
- [ ] Ontology ID
- [ ] References
- [ ] Date released
- [ ] Notes
- [ ] Lab
- [ ] Date submitted
- [ ] Controls
- [ ] Internal status
- [ ] Assay synonyms
- [ ] Assay category
- [ ] Assay ID
- [ ] Assay type
- [ ] Organ slims
- [ ] Assay objective
- [ ] Assembly
- [x] Assay Type
- [x] Target gene
- [x] Description
- [x] Status
- [x] Technical replicate
- [x] Life stage
- [x] Treatment
- [x] Concentration units
- [x] Synchronization
- [x] Replicates
- [ ] Biosample type
- [ ] Alternate accessions
- [ ] Internal tags
- [ ] Date created
- [ ] Grant
- [ ] Target
- [ ] Supersedes
- [ ] Pipeline error message
- [ ] Hub
- [ ] Month released
- [ ] Contributing files
- [ ] Original files
- [ ] Files
- [ ] Related series

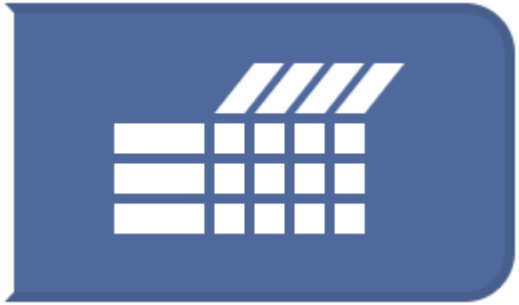
Cancel | View selected columns

Download TSV

Batch file download & visualization

From search or matrix view





Batch file download

ENCODE Data Encyclopedia Materials & Methods Help Search...

Experiment matrix

Enter search terms to filter the experiments included in the matrix.

Enter search term(s)

Assay category

Selected filters: Transcription

DNA binding	233
Transcription	79
DNA accessibility	48
DNA methylation	27
Genotyping	14

Assay

Search

small RNA-seq	18
polyA RNA-seq	14
RAMPAGE	12
total RNA-seq	10
RNA microarray	9

Experiment status

Selected filters: released

released	79
archived	30

Project

ENCODE	72
Roadmap	7

Genome assembly

hg19	78
GRCh38	67

Target category

control	3

Target of assay

Control	3

Organism

Selected filters: Homo sapiens

Mus musculus	93
Homo sapiens	79

79 results

Clear Filters

BIOSAMPLE	small RNA-seq	polyA RNA-seq	RAMPAGE	total RNA-seq	RNA microarray	microRNA-seq	CAGE	RNA-PET	single cell RNA-seq	polyA depleted RN...
cell line										
SK-N-SH	10	5		1		4	3		1	
SK-N-DZ	2	2	3	1						
A172			1	1						
BE2C		1			1					
Daoy			1	1						
+ See 5 more...										
tissue										
cerebellum	1	1	1	1		1				
brain		1				2				
diencephalon	1		1	1						
frontal cortex	1		1	1						
occipital lobe	1		1	1						
+ See 5 more...										
primary cell										
Purkinje cell		1							1	
cerebellar granule cell									2	
astrocyte of the cerebellum					1					
astrocyte of the hippocampus					1					
brain microvascular endothelial cell					1					
+ See 2 more...										

See all biosamples

Download Visualize

Download

Batch file download

Using batch download

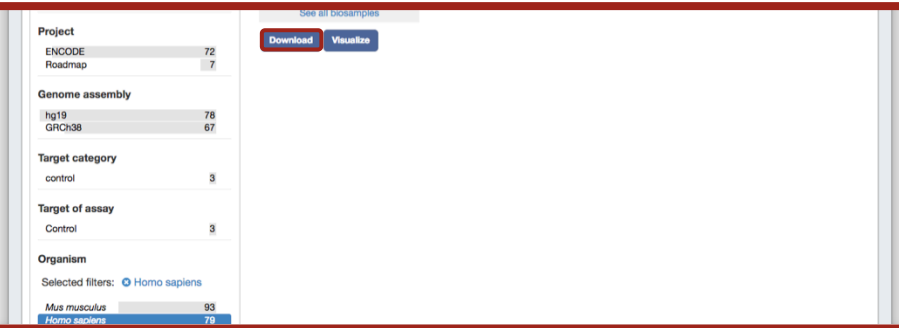
Click the “Download” button below to download a “files.txt” file that contains a list of URLs to a file containing all the experimental metadata and links to download the file. The first line of the file has the URL or command line to download the metadata file.

Further description of the contents of the metadata file are described in the Batch Download help doc.

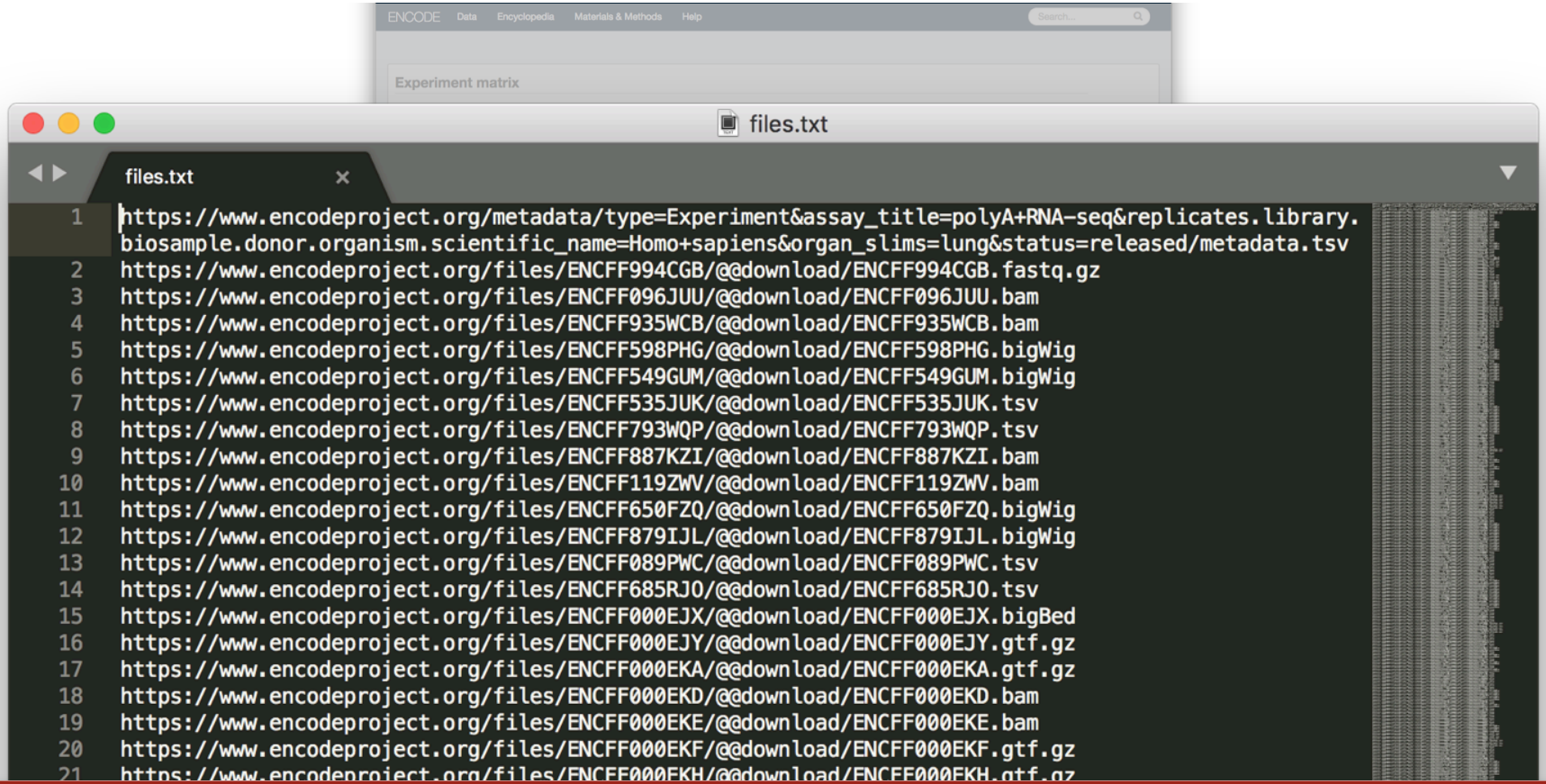
The “files.txt” file can be copied to any server.
The following command using cURL can be used to download all the files in the list:

```
xargs -L 1 curl -O -L < files.txt
```

Close Download



Batch file download



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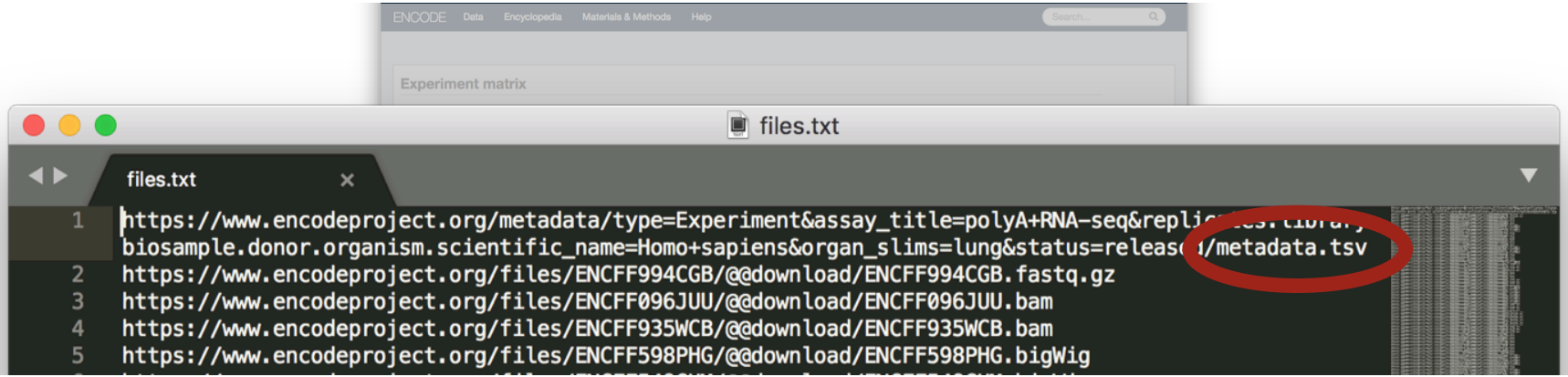

metadata.tsv

one line for each data file in files.txt

file format, output type, read info, assembly

also assay, biosample, library specifics

Batch file download

To download all files, run command...

```
xargs -n 1 curl -O -L < files.txt
```

Batch file download

To download all files, run command...

```
xargs -n 1 curl -O -L < files.txt
```

Download a subset of files (e.g. only hg19 alignments)

Or copy/paste metadata.tsv link into browser, filter metadata.tsv (assembly, file format, …), collect download links (column AK in metadata.tsv), put in new file to run command

```
xargs -n 1 curl -O -L < filtered_files.txt
```

Batch file download

Using your Cart

ENCODE Data Encyclopedia Materials & Methods Help Search...

Experiment search

Clear Filters

Assay category

Selected filters: Transcription

DNA binding	233
Transcription	79
DNA accessibility	48
DNA methylation	27
Genotyping	14

Assay

Search

small RNA-seq	18
polyA RNA-seq	14
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RNA microarray	9

Experiment status

Selected filters: released

released	79
archived	30

Project

ENCODE	72
Roadmap	7

RFA

ENCODE3	36
ENCODE2	35
Roadmap	7
ENCODE2-Mouse	1

Genome assembly

hg19	78
GRCh38	67

Target category

control	3

Target of assay

Control	3

Organism

Selected filters: Homo sapiens

Mus musculus	93
Homo sapiens	79

Showing 25 of 79 results

View All Download Visualize {;}

Add all items to cart

microRNA-seq of area 11 of Brodmann
Homo sapiens area 11 of Brodmann male adult (53 years)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR366DOV released

microRNA-seq of cerebellum
Homo sapiens cerebellum male embryo (20 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR584XHX released

polyA RNA-seq of cerebellum
Homo sapiens cerebellum male embryo (20 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR470JHE released

microRNA-seq of insula
Homo sapiens insula male adult (53 years)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR559RCR released

microRNA-seq of brain
Homo sapiens brain female embryo (17 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR776HXH released

microRNA-seq of brain
Homo sapiens brain female embryo (17 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR325SAK released

polyA RNA-seq of layer of hippocampus
Homo sapiens layer of hippocampus male adult (81 year)
Lab: Bradley Bernstein, Broad
Project: Roadmap
Experiment ENCSR239GFM released

polyA RNA-seq of brain
Homo sapiens brain female adult (66 years)
Lab: Michael Snyder, Stanford
Project: ENCODE
Experiment ENCSR274JRR released
1 1

polyA RNA-seq of SK-N-DZ
Homo sapiens SK-N-DZ nuclear fraction
Lab: Thomas Gingeras, CSHL
Experiment ENCSR255NYQ released

Add experiments to Cart

Batch file download

Using your Cart

ENCODE Data Encyclopedia Materials & Methods Help 19 Search...

Experiment search

Clear Filters

Assay category

Selected filters: Transcription

DNA binding	233
Transcription	79
DNA accessibility	48
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Genotyping	14

Assay

Search

small RNA-seq	18
polyA RNA-seq	14
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Experiment status

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ENCODE3	36
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hg19	78
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Target category

control	3

Target of assay

Control	3

Organism

Selected filters: Homo sapiens

Mus musculus	93
Homo sapiens	79

Showing 25 of 79 results

View All Download Visualize

microRNA-seq of area 11 of Brodmann
Homo sapiens area 11 of Brodmann male adult (53 years)
Lab: Joseph Costello, UCSF
Project: Roadmap

microRNA-seq of cerebellum
Homo sapiens cerebellum male embryo (20 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap

polyA RNA-seq of cerebellum
Homo sapiens cerebellum male embryo (20 weeks)
Lab: Joseph Costello, UCSF
Project: Roadmap
ENCSR470JHE released

microRNA-seq of insula
Homo sapiens insula male adult (53 years)
Lab: Joseph Costello, UCSF
Project: Roadmap
Experiment ENCSR559RCR released

microRNA-seq of brain
Homo sapiens brain female embryo (17 weeks)
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Experiment ENCSR776HXH released

microRNA-seq of brain
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1 1

polyA RNA-seq of SK-N-DZ
Homo sapiens SK-N-DZ nuclear fraction
Lab: Thomas Gingeras, CSHL
Experiment ENCSR255NYQ released

19

View cart

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756 files selected for download

File type

fastq	630
bigWig	42
bam	32
tsv	16
bed narrowPeak	15
bigBed narrowPeak	15
bed bed3+	2
bed broadPeak	2
bigBed broadPeak	2

ENCODE Data Encyclopedia Materials & Methods Help 19 Search... Jason Hilton

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19 datasets in cart

756 files selected for download

File type

fastq	630
bigWig	42
bam	32
tsv	16
bed narrowPeak	15
bigBed narrowPeak	15
bed bed3+	2
bed broadPeak	2
bigBed broadPeak	2

total RNA-seq of IMR-90
Homo sapiens IMR-90
Lab: Joe Ecker, Salk
Project: Roadmap
Experiment ENCSR424FAZ released 2 2

single cell RNA-seq of forelimb
Mus musculus C57BL/6 forelimb embryo (15.5 days)
Lab: Barbara Wold, Caltech
Project: ENCODE
Experiment ENCSR430OIC released 3

single cell RNA-seq of forelimb
Mus musculus C57BL/6 forelimb embryo (13 days)
Lab: Barbara Wold, Caltech
Project: ENCODE
Experiment ENCSR182WHH released 3

single cell RNA-seq of forelimb
Mus musculus C57BL/6 forelimb embryo (14.5 days)
Lab: Barbara Wold, Caltech
Project: ENCODE
Experiment ENCSR546KIB released 3

WGBS of heart left ventricle
Homo sapiens heart left ventricle female adult (51 year)
Lab: Richard Myers, HAIB
Project: ENCODE
Experiment ENCSR307KDA released 2

DNase-seq of liver
Mus musculus C57BL/6 liver adult (8-10 weeks) treated with darkness for 70 days
Lab: John Stamatoyannopoulos, UW
Project: ENCODE
Experiment ENCSR802MKV released 1 2

Hi-C of mature B cell
Mus musculus C57BL/6 mature B cell treated with 50 µg/mL lipopolysaccharide for 24 hours, 5 ng/mL Interleukin-4 for 24 hours, 500 ng/mL anti-CD180 for 24 hours, 99.7 ng/mL oligomycin for 2 hours, 820.8 µg/mL 2-Deoxy-D-glucose for 2 hours
Lab: Erez Lieberman-Aiden, Baylor
Project: ENCODE
Experiment ENCSR847UWT released 1 1

Hi-C of mature B cell
Mus musculus C57BL/6 mature B cell treated with 50 µg/mL lipopolysaccharide for 72 hours, 5 ng/mL Interleukin-4 for 72 hours, 500 ng/mL anti-CD180 for 72 hours
Lab: Erez Lieberman-Aiden, Baylor
Project: ENCODE
Experiment ENCSR471ZWB released 1

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Using your Cart

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Cart

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19 datasets in cart

756 files selected for download

File type

fastq	630
bigWig	42
bam	32
tsv	16
bed narrowPeak	15
bigBed narrowPeak	15
bed bed3+	2
bed broadPeak	2
bigBed broadPeak	2

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Homo sapiens IMR-90
Lab: Joe Ecker, Salk
Project: Roadmap
Experiment ENCSR424FAZ released 2 2

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Project: ENCODE
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DNase-seq of liver
Mus musculus C57BL/6 liver adult (8-10 weeks) treated with darkness for 70 days
Lab: John Stamatoyannopoulos, UW
Project: ENCODE
Experiment ENCSR802MKV released 1 2

Future Cart developments:
multiple Carts, naming Carts, sharing Carts...

Visualizing data

ENCODE Data Encyclopedia Materials & Methods Help

Experiment matrix

Enter search terms to filter the experiments included in the matrix.

79 results

Clear Filters

Assay category: Transcription

Assay: small RNA-seq, polyA RNA-seq, RAMPAGE, total RNA-seq, RNA microarray, microRNA-seq, CAGE, RNA-PET

Experiment status: released

Project: ENCODE, Roadmap

Genome assembly: hg19, GRCh38

Target category: control

Target of assay: Control

Organism: Homo sapiens

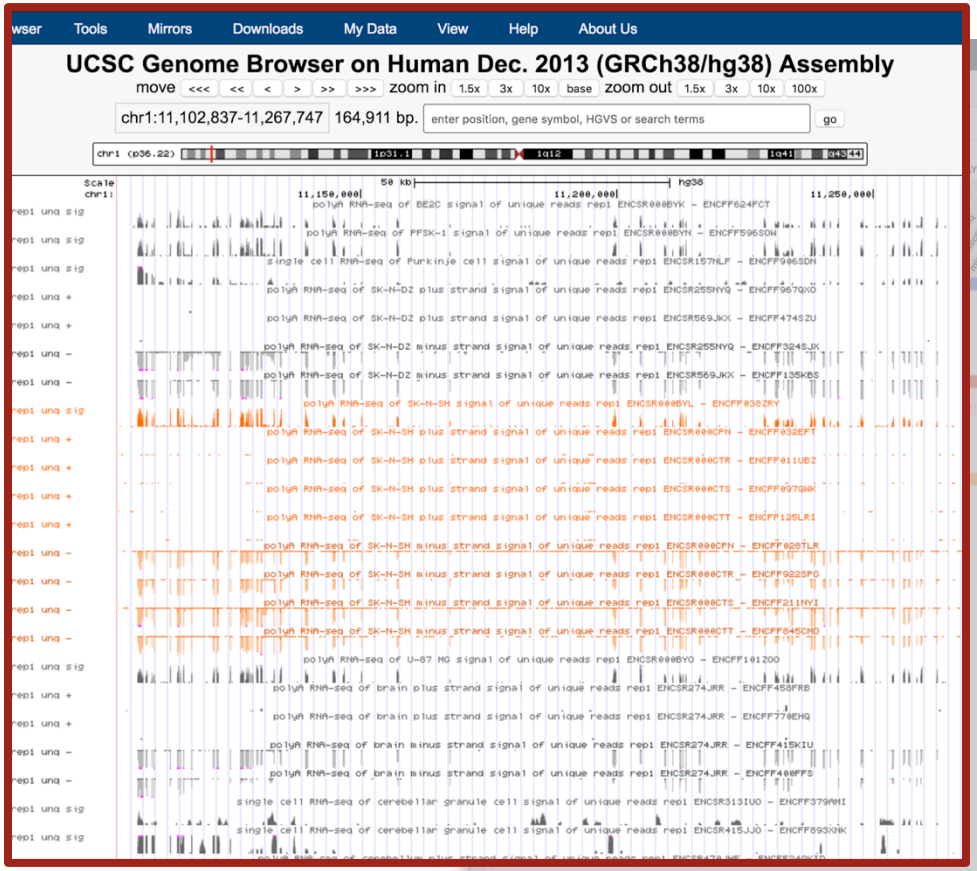
Download Visualize

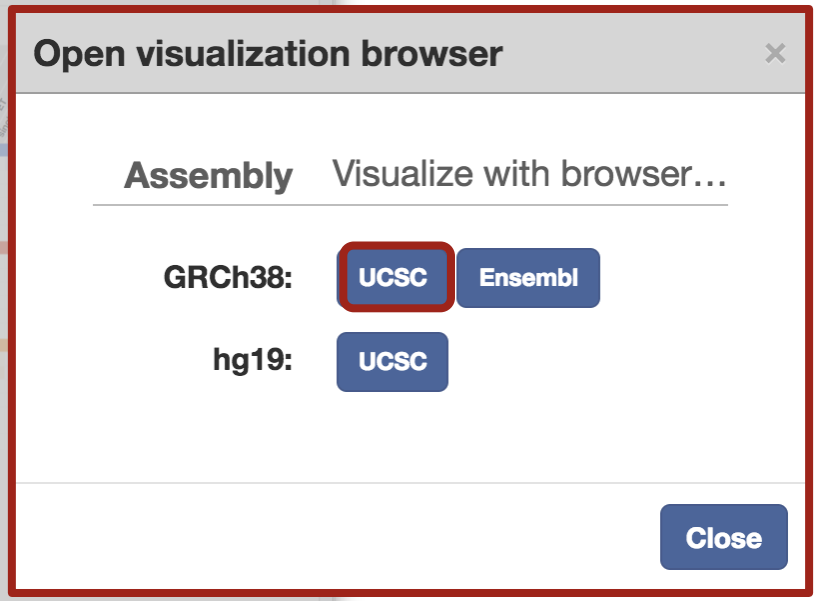
Open visualization browser

Assembly	Visualize with browser…
GRCh38:	UCSC Ensembl
hg19:	UCSC

Close

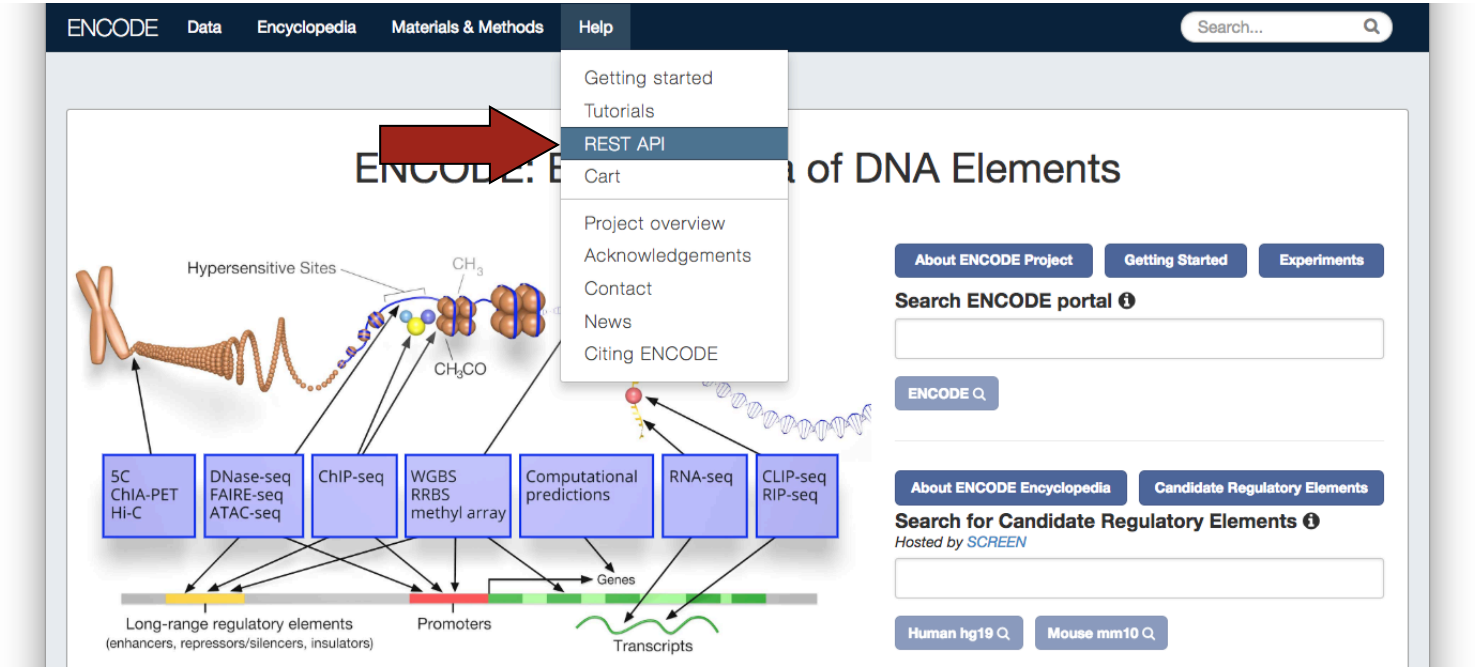
Visualizing data





Programmatic access

API walk-through

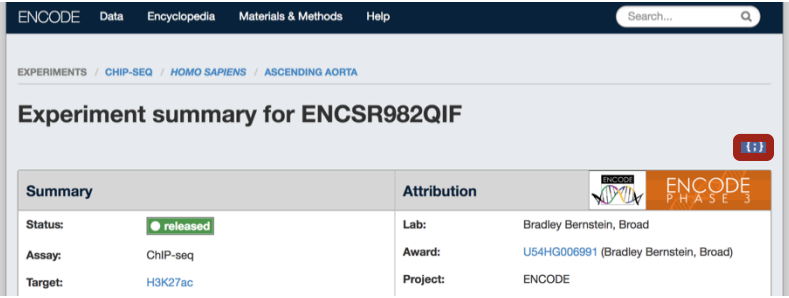


Programmatic access

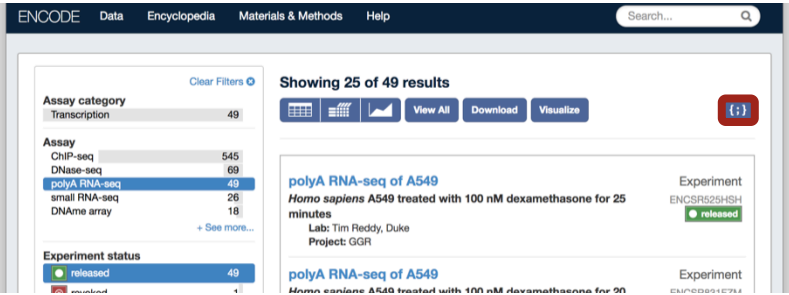
JSON objects

to view json (w/ a json plug-in)

Object pages



Search pages

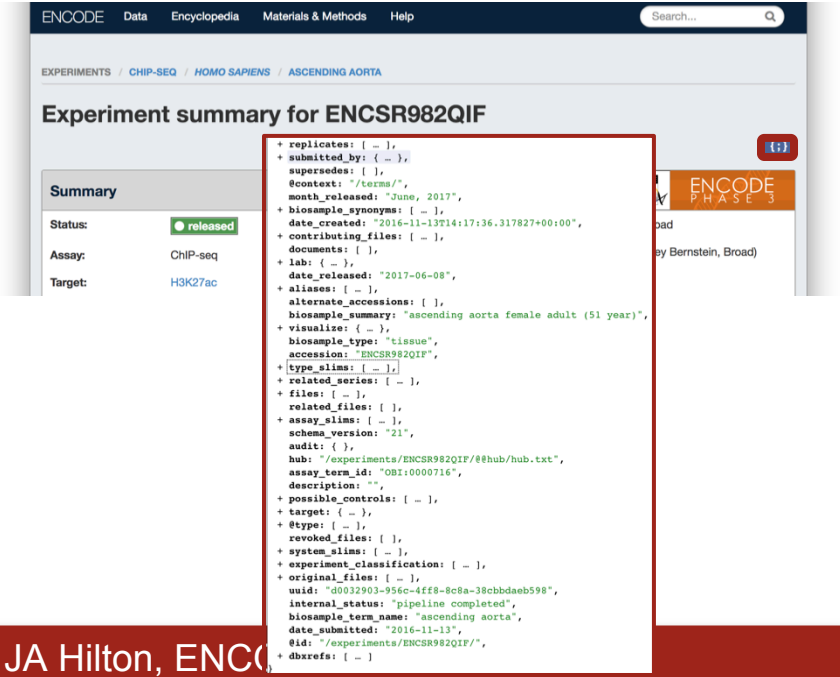


Programmatic access

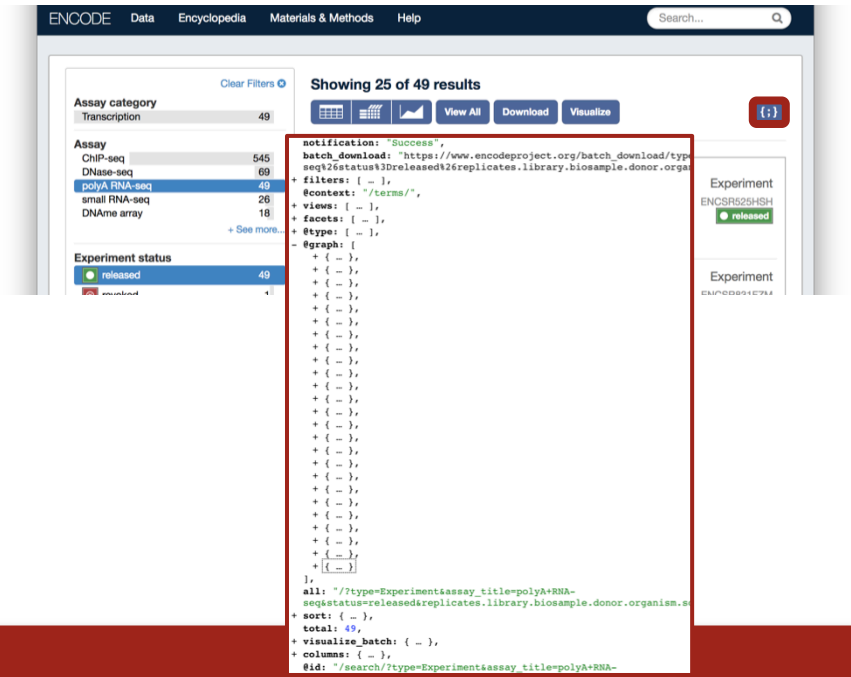
JSON objects

to view json (w/ a json plug-in)

Object pages

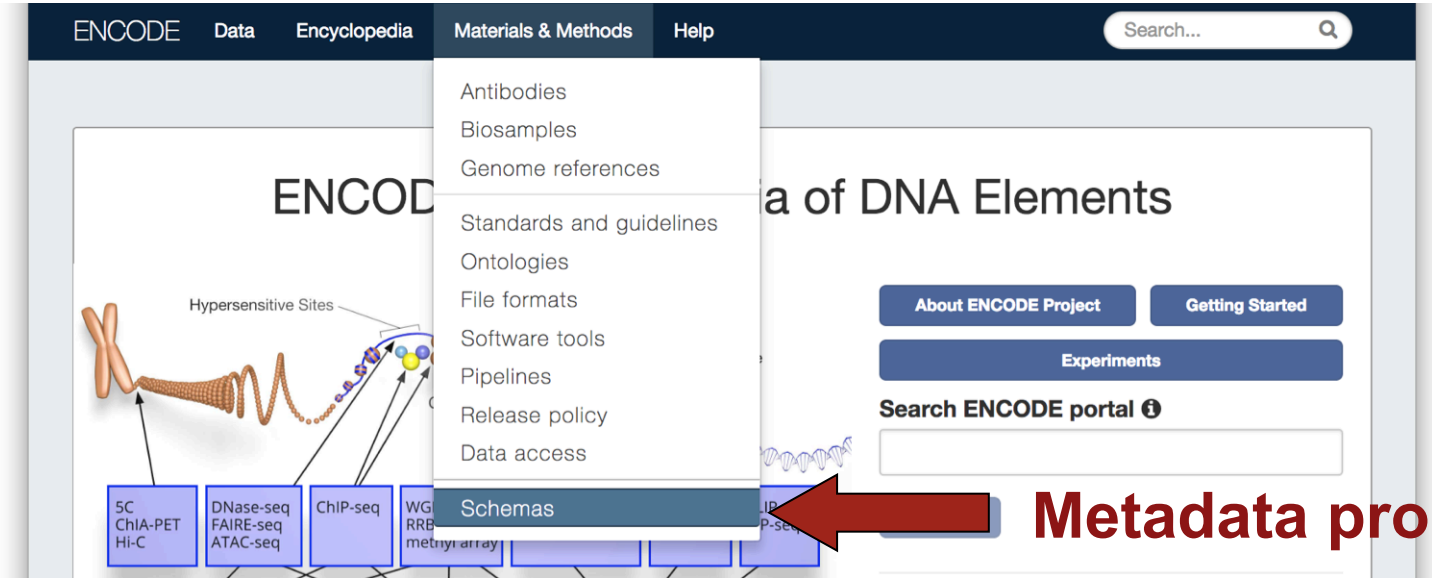


Search pages



Programmatic access

JSON objects



Metadata properties

Data collections

Poster #2003

ENTEx (ENCODE + Gtex)

31 tissue types from 4 donors

Mouse development series

13 tissues across 9 developmental time points

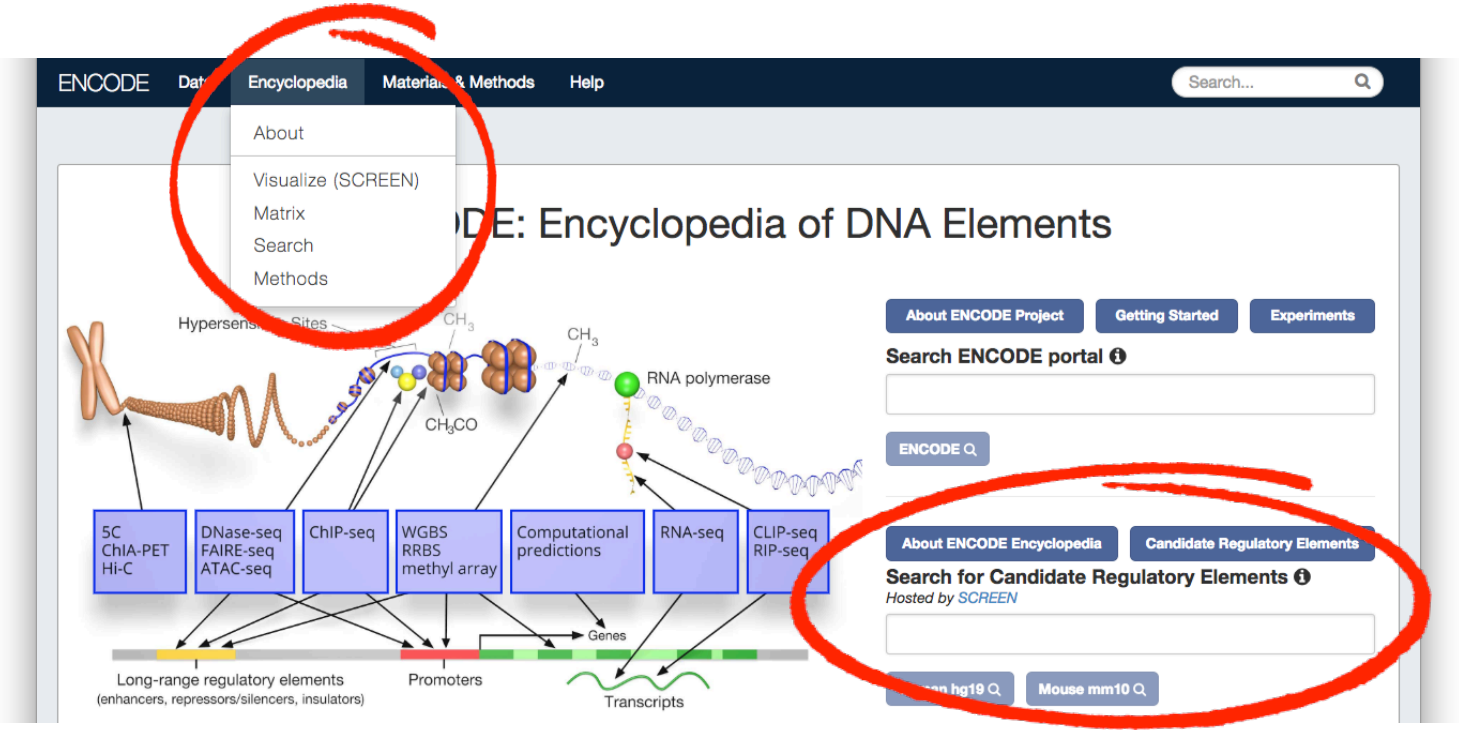
ENCORE: Encyclopedia of RNA Elements

>250 RNA-Binding Proteins in HepG2 & K562

Reference Epigenomes

Methylation, transcription, & ‘core’ histone marks on the same cell/tissue type

Encyclopedia resources



THANK YOU!!!

encode-help@lists.stanford.edu
@EncodeDCC
https://github.com/ENCODE-DCC


Mike


Idan


Ben


Seth


Meenakshi


Jennifer


Yunhai


Jason


Casey


Forrest


Jin


Bek


Vanessa


Jennifer


Paul


Zack


Khine


Emma


Phil


Otto


Keenan

NIH U24 HG009397