

# Viewing Human ENCODE CHIP-seq Data

(Updated October 2013)

ENCODE has a wide variety of ChIP-seq data available for a wide assortment of cell types. The ChIP-seq Matrix provides access to, and a visual summary of, what is available.

## 1) Navigate to the Human Experiment Matrix from the ENCODE portal:

Go to <http://encodeproject.org/> or the UCSC browser. Directly select the Human Experiment Matrix link (bottom arrow).

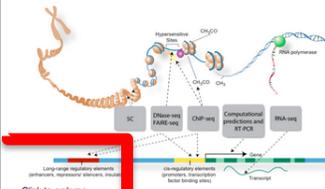
Alternatively visit the Resources & FAQ page link (top arrow) first. Notice other useful links (such as to Tutorials, Cell Types, Antibodies, Publications, and Track and File Search). Click the link to the Human Experiment Matrix.



- General Resources & FAQ
- Publications
- Software Tools
- Data Standards
- Human Downloads
- Experiment Matrix
- Search
- Genome Browser (hg19)

### About ENCODE Data

The [Encyclopedia of DNA Elements](#) (ENCODE) Consortium is an international Research Institute (NHGRI). The goal of ENCODE is to build a catalog that act at the protein and RNA levels, and regulatory elements that con



ENCODE data are n  
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- Search for disp
- Download of di
- Visualization ir
- Data mining wi

To search for ENCODE data related to your area of interest and set up a features). The [Experiment List \(Human\)](#) and [Experiment List \(Mouse\)](#) lir

Home - Downloads - Data Policy - Data Standards

## ENCODE Resources and Frequently Asked Questions

Helpful ENCODE Resources:

- Tutorials and User's Guide
- Track and File Search
- Human: Experiment Matrix, Experiment List, Downloads and Cell Types
- Mouse: Experiment Matrix, Experiment List, Downloads and Cell Types
- ENCODE Antibodies and ENCODE Registered Experiment Variables
- File Formats and Data Standards and Software Tools
- Publications and Nature ENCODE Explorer and Galaxy Biomedical Tools
- ENCODE Project Portal (encodeproject.org)
- ENCODE Project at NHGRI (genome.gov)
- ENCODE Data at GEO
- ENCODE Data at Ensembl
- UCSC Genome Browser FAQ Page and Searchable Google Groups Mailing List

Search the entire ENCODE website:

Search the entire UCSC Genome Browser website:

Home - Downloads - Data Policy - Data Standards - Experiment Summary - ChIP-seq Matrix

## Experiment Matrix hg19

search for:  tracks  files

| Assays        | DNA Methylation | Methyl Array | Methyl RRBS | Open Chromatin | DNase-DGF | DNase-seq | FAIRE-seq | RNA Binding Proteins | RIP Gene ST | RIP Tiling Array | RIP Validation | RIP-seq | RNA Profiling | CAGE | Exon Array | RNA-chip | RNA-PET | RNA-seq | Small RNA-seq | TFBS & Histones | ChIP-seq | Other | SC | Other |
|---------------|-----------------|--------------|-------------|----------------|-----------|-----------|-----------|----------------------|-------------|------------------|----------------|---------|---------------|------|------------|----------|---------|---------|---------------|-----------------|----------|-------|----|-------|
| <b>Tier 1</b> |                 |              |             |                |           |           |           |                      |             |                  |                |         |               |      |            |          |         |         |               |                 |          |       |    |       |
| GM12878       | 1               | 1            |             | 2              | 1         |           |           | 7                    | 4           |                  | 4              |         | 6             | 2    | 6          | 2        | 12      | 5       |               | 133             |          |       | 2  |       |
| H1-hESC       | 1               | 1            |             | 2              | 1         |           |           | 3                    |             |                  |                |         | 4             | 1    |            | 1        | 10      | 3       |               | 91              |          |       | 1  |       |
| K562          | 1               | 1            |             | 3              | 16        | 3         |           | 6                    | 4           |                  | 4              |         | 9             | 7    | 9          | 6        | 17      | 7       |               | 224             |          |       | 2  |       |
| <b>Tier 2</b> |                 |              |             |                |           |           |           |                      |             |                  |                |         |               |      |            |          |         |         |               |                 |          |       |    |       |
| A549          | 1               | 1            |             | 1              | 2         | 1         |           |                      |             |                  |                |         | 3             | 2    |            | 3        | 10      | 9       |               | 87              |          |       |    |       |
| CD20+         |                 |              |             |                |           |           |           |                      |             |                  |                |         | 1             |      |            |          | 2       | 1       |               | 4               |          |       |    |       |

## 2) From the Experiment Matrix click one of the links to the ChIP-seq Matrix.

Home - Downloads - Data Policy - Data Standards - Experiment Summary - ChIP-seq Matrix

## Experiment Matrix hg19

search for:  tracks  files

| Cell Types    | DNA Methylation | Methyl Array | Methyl RRBS | Open Chromatin | DNase-DGF | DNase-seq | FAIRE-seq | RNA Binding Proteins | RIP Gene ST | RIP Tiling Array | RIP Validation | RIP-seq | RNA Profiling | CAGE | Exon Array | RNA-chip | RNA-PET | RNA-seq | Small RNA-seq | TFBS & Histones | ChIP-seq | Other | SC | Other |
|---------------|-----------------|--------------|-------------|----------------|-----------|-----------|-----------|----------------------|-------------|------------------|----------------|---------|---------------|------|------------|----------|---------|---------|---------------|-----------------|----------|-------|----|-------|
| <b>Tier 1</b> |                 |              |             |                |           |           |           |                      |             |                  |                |         |               |      |            |          |         |         |               |                 |          |       |    |       |
| GM12878       | 1               | 1            |             | 2              | 1         |           |           | 7                    | 4           |                  | 4              |         | 6             | 2    | 6          | 2        | 12      | 5       |               | 133             |          |       | 2  |       |
| H1-hESC       | 1               | 1            |             | 2              | 1         |           |           | 3                    |             |                  |                |         | 4             | 1    |            | 1        | 10      | 3       |               | 91              |          |       | 1  |       |
| K562          | 1               | 1            |             | 3              | 16        | 3         |           | 6                    | 4           |                  | 4              |         | 9             | 7    | 9          | 6        | 17      | 7       |               | 224             |          |       | 2  |       |
| <b>Tier 2</b> |                 |              |             |                |           |           |           |                      |             |                  |                |         |               |      |            |          |         |         |               |                 |          |       |    |       |
| A549          | 1               | 1            |             | 1              | 2         | 1         |           |                      |             |                  |                |         | 3             | 2    |            | 3        | 10      | 9       |               | 87              |          |       |    |       |
| CD20+         |                 |              |             |                |           |           |           |                      |             |                  |                |         | 1             |      |            |          | 2       | 1       |               | 4               |          |       |    |       |

3) Choose the corresponding Antibody Target and Cell Type of interest, such as ATF3 in K562 cells (select tracks to view data, or files to download).

Home - Downloads - Data Policy - Data Standards - Experiment Summary - Experiment Matrix

ENCODE ChIP-seq Experiment Matrix *hg19*

search for:  tracks  files

Cell Types

| Tier 1  | H2AFZ | H3K27ac | H3K27me3 | H3K36me3 | H3K4me1 | H3K4me2 | H3K4me3 | H3K79me2 | H3K9ac | H3K9me1 | H3K9me3 | H4K20me1 | Transcription Factor | ARID3A | ATF1 | ATF2 | ATF3 | BACH1 | BATF | BCL11A | BCL3 | BCLAF1 | BDP1 |   |
|---------|-------|---------|----------|----------|---------|---------|---------|----------|--------|---------|---------|----------|----------------------|--------|------|------|------|-------|------|--------|------|--------|------|---|
| GM12878 | 1     | 1       | 2        | 2        | 1       | 1       | 2       | 1        | 1      |         |         | 1        | 1                    |        |      | 1    | 1    |       |      |        |      | 1      | 1    |   |
| H1-hESC | 1     | 1       | 1        | 1        | 1       | 1       | 1       | 1        | 1      | 1       | 1       | 1        | 1                    |        |      | 1    | 1    | 1     |      |        |      |        |      |   |
| K562    | 1     | 1       | 3        | 2        | 2       | 1       | 8       | 1        | 2      | 1       | 1       | 1        | 1                    | 1      | 1    |      | 2    | 1     |      |        |      | 1      | 1    | 1 |
| Tier 2  |       |         |          |          |         |         |         |          |        |         |         |          |                      |        |      |      |      |       |      |        |      |        |      |   |
| A549    | 2     | 2       | 2        | 2        | 2       | 2       | 3       | 2        | 1      |         |         | 1        | 1                    |        |      |      | 1    |       |      |        |      | 1      |      |   |
| CD20+   | 1     |         |          |          |         |         | 1       |          |        |         |         |          |                      |        |      |      |      |       |      |        |      |        |      |   |

4) Alternatively Click the Experiment Summary link to select a ChIP factor across cell types.

Home - Downloads - Data Policy - Data Standards - Experiment Summary - Experiment Matrix

ENCODE ChIP-seq Experiment Matrix *hg19*

search for:  tracks  files

Cell Types

| Tier 1  | H2AFZ | H3K27ac | H3K27me3 | H3K36me3 | H3K4me1 | H3K4me2 | H3K4me3 | H3K79me2 | H3K9ac | H3K9me1 | H3K9me3 | H4K20me1 | Transcription Factor | ARID3A | ATF1 | ATF2 | ATF3 | BACH1 | BATF | BCL11A | BCL3 | BCLAF1 | BDP1 |
|---------|-------|---------|----------|----------|---------|---------|---------|----------|--------|---------|---------|----------|----------------------|--------|------|------|------|-------|------|--------|------|--------|------|
| GM12878 | 1     | 1       | 2        | 2        | 1       | 1       | 2       | 1        | 1      |         |         | 1        | 1                    |        |      | 1    | 1    |       | 1    | 1      | 1    | 1      | 1    |
| H1-hESC | 1     | 1       | 1        | 1        | 1       | 1       | 1       | 1        | 1      | 1       | 1       | 1        | 1                    |        |      | 1    | 1    |       | 2    |        |      |        |      |
| K562    | 1     | 1       | 3        | 2        | 2       | 1       | 8       | 1        | 2      | 1       | 1       | 1        | 1                    | 1      | 1    |      | 2    | 1     |      |        | 1    | 1      | 1    |
| Tier 2  |       |         |          |          |         |         |         |          |        |         |         |          |                      |        |      |      |      |       |      |        |      |        |      |
| A549    | 2     | 2       | 2        | 2        | 2       | 2       | 3       | 2        | 1      |         |         | 1        | 1                    |        |      |      | 1    |       |      |        |      | 1      |      |
| CD20+   | 1     |         |          |          |         |         | 1       |          |        |         |         |          |                      |        |      |      |      |       |      |        |      |        |      |

Home - Downloads - Data Policy - Data Standards - Experiment Matrix - ChIP-seq Matrix

ENCODE Experiment Summary *hg19*

search for:  tracks  files

| Genome Annotation | All Experiments          | ChIP-seq Experiments     |
|-------------------|--------------------------|--------------------------|
| GENCODE 4         | view matrix by cell line | view matrix by cell line |
| Mappability 10    | 5C 13                    | ARID3A 2                 |
| ORChID 1          | CAGE 78                  | ATF1 1                   |
| Total: 3 15       | ChIA-PET 8               | ATF2 2                   |
|                   | ChIP-seq 1486            | ATF3 7                   |
|                   | Combined 26              | BACH1 2                  |
|                   | DNA-PET 6                | BATF 1                   |
|                   | DNase-DGF 56             | BCL11A 3                 |
|                   | DNase-seq 219            | BCL3 3                   |
|                   | Exon Array 158           | BCLAF1 2                 |
|                   | FAIRE-seq 37             | BDP1 2                   |
|                   | Genotype 64              | BHLHE40 5                |
|                   | Methyl Array 62          | BRCA1 4                  |
|                   | Methyl RRBS 95           | BRF1 2                   |
|                   | Nucleosome 2             | BRF2 2                   |
|                   | Proteogenomics 14        | CBX2 1                   |
|                   | Repli-chip 9             | CBX3 3                   |

5) From the resulting ChIP-seq Matrix click through to the Track Search page, change the visibility of the desired tracks from hide to pack (left arrow).

Search for Tracks in the Human Feb. 2009 (GRCh37/hg19) Assembly

Search    **Advanced**

Track Name: contains

and Description: contains

and Group: is Any

and Data Format: is Any

ENCORE terms

- + and Experiment (Assay) type is among ChIP-seq Experiment (Assay) type

- + and Cell, tissue or DNA sample is among K562 Cell, tissue or DNA sample

- + and Antibody or target protein is among ATF3 (sc-188) Antibody or target protein

- + and View - Peaks or Signals is among Any

search clear cancel

| +                                   | -    | Visibility | Track Name     |  |
|-------------------------------------|------|------------|----------------|--|
| <input checked="" type="checkbox"/> | pack | +          | K562 ATF3 v    | K562 TFBS Uniform Peaks of ATF3 from ENCODE/Harvard/Analysis     |
| <input type="checkbox"/>            | hide | -          | K562 ATF3 h    | K562 TFBS Uniform Peaks of ATF3 from ENCODE/HudsonAlpha/Analysis |
| <input type="checkbox"/>            | hide | -          | K562 ATF3 v404 | K562 ATF3 v404 4 ChIP-seq Peaks Dec 4 from ENCODE/Harvard        |

Alternatively, modify or add new Track Search parameters (right arrow).

6) Click the “View in Browser” button to see track displayed. Then click the left bar to click through to the related ChIP-seq Track Setting page.

UCSC Genome Browser on Human Feb. 2009 (GRCh37/hg19) Assembly

move <<<< << < > >> >>>> zoom in 1.5x 3x 10x base zoom out 1.5x 3x 10x

chr1:1,359,693-1,526,528 166,836 bp. enter position, gene symbol or search terms go

chr1 (p36.33) p31.1 1q12 q41 4q34

Scale chr1: 1,400,000 50 kb hg19 1,500,000

THM58B VWA1 ATAD3C ATAD3B ATAD3A ATAD3B ATAD3A SSU72 HP08716

UCSC Genes (RefSeq, GenBank, CCDS, Rfam, tRNAs & Comparative Genomics)

RefSeq Genes

Sequences SNPs

Human mRNAs

Spliced ESTs

Layered H3K27Ac

DNase Clusters

Txn Factor ChIP

Common SNPs(137)

RepeatMasker

