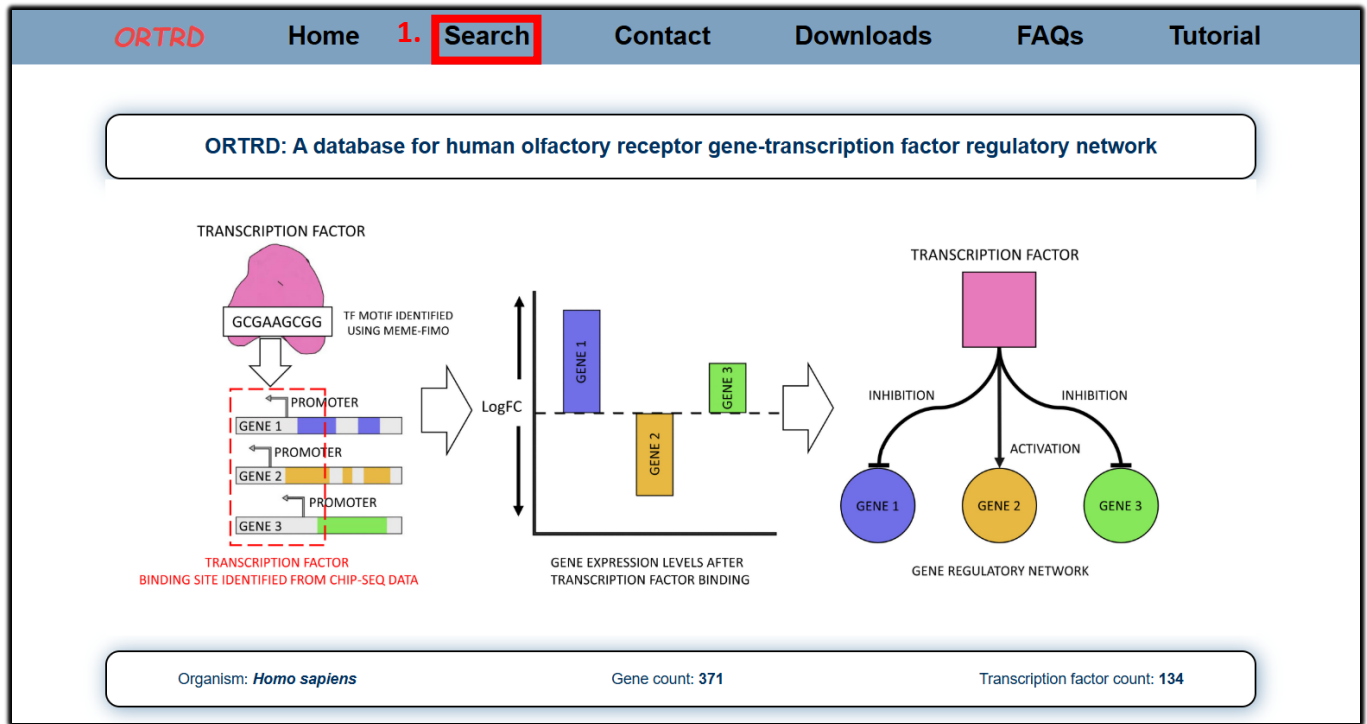


ORTRD Search Tutorial

1.1 Search

Open the Home page and click on the **Search¹** button in the header.



ORTRD supports two different searching modes: “Search by Gene Symbol”, “Search by Transcription factor symbol. Brief search results are presented as a table in the browse page. As an example, the **search box²** can be used to query gene symbols or transcription factors. Enter one single search term, select either **Gene symbol³** or **Transcription factor symbol⁴**, and click on **Submit⁵**.

ORTRD is a repository of manually annotated causal relationships between human olfactory receptor genes and its transcription factors. The search field below allows users to access the entity page detailing all the causal relationships annotated to the query entity. ORTRD also offers advanced network visualization analysis to explore the human olfactory receptors.

Search Here

2.

Format : "OR1A1" with gene symbol or "ASCL1" with transcription factor parameter

3. ☐ Gene symbol 4. ☐ Transcription factor symbol

5.

1.2 Browse

Browse page on the next page are presented as cards which includes Accession ID, Gene Symbol, Gene Name, TF Symbol and TF Name. The “Browse” page is organized as an interactive card for quickly searching datasets of interest. Users can click the **accession⁶** of the data summary of interest to get the complete information. For example, **Accession ID: ORTRD00191**

ORTRD	Home	Search	Contact	Downloads	FAQs	Tutorial
37-Results were found !						
6. ORTRD00191						
Accession ID : ORTRD00191			TF Symbol : BRCA1			
Gene Symbol : OR1A1			TF Name : Brca1 dna repair associated(brca1)			
Gene Name : Olfactory receptor family 1 subfamily a member 1						
Accession ID : ORTRD00215			TF Symbol : CEBPD			
Gene Symbol : OR1A1			TF Name : Ccaat enhancer binding protein delta(cebpd)			
Gene Name : Olfactory receptor family 1 subfamily a member 1						
Accession ID : ORTRD00387			TF Symbol : EBF1			
Gene Symbol : OR1A1			TF Name : Ebf transcription factor 1(ebf1)			
Gene Name : Olfactory receptor family 1 subfamily a member 1						
Accession ID : ORTRD00841			TF Symbol : FOXM1			
Gene Symbol : OR1A1			TF Name : Forkhead box m1(foxm1)			
Gene Name : Olfactory receptor family 1 subfamily a member 1						
Accession ID : ORTRD01382			TF Symbol : JUN			
Gene Symbol : OR1A1			TF Name : Jun proto-oncogene, ap-1 transcrption factor subunit(jun)			
Gene Name : Olfactory receptor family 1 subfamily a member 1						

1.3 Result

Finally, the page will be redirected to the result page with all the information related to **gene**, **transcription factor**, **motif**, and **gene regulatory network information**. Example: Gene = **OR1A1**, Transcription factor = **BRCA1**

For example, after clicking on Accession ID ORTRD00191, the search result page presents Gene information (OR1A1), Transcription Factor Information (BRCA1), Transcription factor motif information, Gene regulation (Repression) and Gene Regulatory Network (GRN) associated with OR1A1 gene.

ORTRD

Home

Search

Contact

Downloads

FAQs

Tutorial

ORTRD00191

Download

Gene Information

Gene symbol : OR1A1

Gene full name : Olfactory receptor family 1 subfamily a member 1

NCBI ID : [8383](#)

Gene transcript ID : [ENST00000641732.2](#)

Transcription Factor Information

TF symbol : BRCA1

TF full name : Brca1 dna repair associated(brca1)

UniProt ID : [P38398](#)

TF Length : 1,863 AA

TFs associated with OR1A1:

[BRCA1](#); [CEBPD](#); [EBF1](#); [FOXM1](#); [JUN](#); [JUND](#); [NFKB1](#); [REST](#); [STAT3](#); [ASCL1](#); [ATF3](#); [ATF4](#); [BATE3](#); [BCL6](#); [ESR1](#); [FOS](#); [FOXC1](#); [FO XK1](#); [FOXP1](#); [GATA2](#); [GATA4](#); [GATA6](#); [MITE](#); [SATB1](#); [SOX4](#); [SP1](#); [SPIB](#); [STAT1](#); [TP53](#); [ZNF263](#); [GATA3](#); [WT1](#); [FOXJ2](#); [HNF4A](#); [HMGA1](#); [STAT5B](#); [STAT6](#);

Transcription factor motif information

Motif ID : BRCA1_HUMAN.H11MO.0.D

Motif sequence : TGTGTGTTG

FIMO scores : 11.0964000

FIMO statistical significance (p-value, q-value) : (5.93000e-5,9.44750e-5)

Motif location (Start Position, End Position) : (68,76)

Motif strand orientation: Negative

Motif weblogo for BRCA1 :



1.4 Network Analysis

ORTRD

Home

Search

Contact

Downloads

FAQs

Tutorial

TF symbol : BRCA1

TF full name : Brca1 dna repair associated(brca1)

UniProt ID : [P38398](#)

TF Length : 1,863 AA

TFs associated with OR1A1:

[BRCA1](#); [CEBPD](#); [EBF1](#); [FOXM1](#); [JUN](#); [JUND](#); [NFKB1](#); [REST](#); [STAT3](#); [ASCL1](#); [ATF3](#); [ATF4](#); [BATE3](#); [BCL6](#); [ESR1](#); [FOS](#); [FOXC1](#); [FO XK1](#); [FOXP1](#); [GATA2](#); [GATA4](#); [GATA6](#); [MITE](#); [SATB1](#); [SOX4](#); [SP1](#); [SPIB](#); [STAT1](#); [TP53](#); [ZNF263](#); [GATA3](#); [WT1](#); [FOXJ2](#); [HNF4A](#); [HMGA1](#); [STAT5B](#); [STAT6](#);

Transcription factor motif information

Motif ID : BRCA1_HUMAN.H11MO.0.D

Motif sequence : TGTGTGTTG

FIMO scores : 11.0964000

FIMO statistical significance (p-value, q-value) : (5.93000e-5,9.44750e-5)

Motif location (Start Position, End Position) : (68,76)

Motif strand orientation: Negative

Motif weblogo for BRCA1 :



Gene regulation

BRCA1 -----| OR1A1

Regulation : Repression

Log2(FC) : 0.433247000 (Log2FC too small to infer regulation)

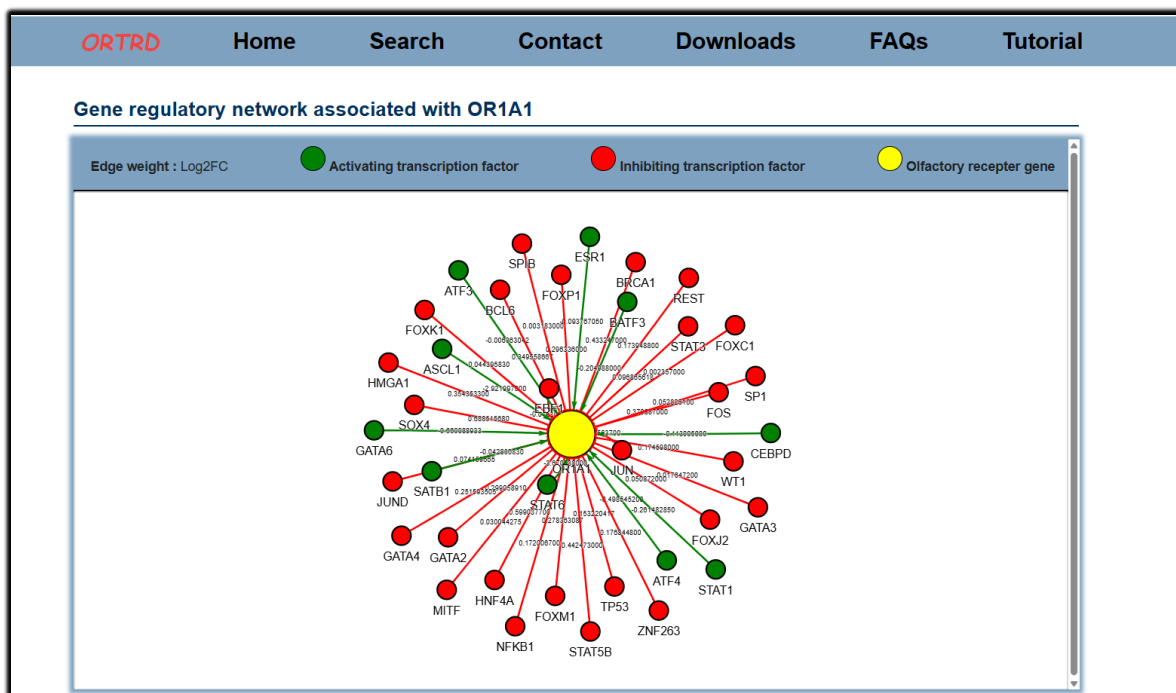
Biological process :

GO:0006357 : regulation of transcription from RNA polymerase II promoter

GO:0045892 : negative regulation of transcription, DNA-templated

This section includes gene expression and repression results inferred from [KnockTF](#). Biological process information was retrieved from [DAVID](#) and [UniProt](#).

ORTRD constructed a Gene Regulatory Network (GRN) by combining human olfactory gene and their TFs interaction datasets. Users can submit a gene symbol or transcription factor symbol to view a gene/transcriptional regulatory network. Target gene-TFs relationships supported by the ChIP-seq data have bold edges in the network based on Log2 (FC) value.



-- END--