ORTRD Search Tutorial

1.1 Search

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

GCGAAG GCGAAG GCGAAG GENE 1 GENE 2 GENE 3	TF MOTIF IDENTIFIED USING MEME-FIMO	LogFC	ANSCRIPTION FACTOR	NN NE 3

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	Home	Search	Contact	FAQs	Tutorial	
	ORTRD is a reposito field below allows us	ry of manually annotated of sers to access the entity p network	causal relationships betwee bage detailing all the causal visualization analysis to exp	In human olfactory receptor g relationships annotated to th plore the human olfactory rec	enes and its transcription f e query entity. ORTRD also eptors.	actors. The search o offers advanced	
2 Write your Gene/TF name here. Format: "OR1A1" with gene symbol or "ASCL1" with transcription factor parameter 3 Gene symbol 4 Transcription factor symbol 5 Submit							

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 cards for quickly searching datasets of interest. Users can click the **accession**⁶ of the data summary of interest to get the complete information. For example, Accession ID: ORTRD00191



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	FAQs	Tutorial
ORTRD00191					Download
Gene Informatio	on				
Gene symbol : OR1A1 Gene full name : Olfacto NCBI ID : 8383 Gene transcript ID : ENS Transcription Fa	ory receptor family 1 subfami IST00000641732.2 actor Information	ly a member 1			
TF symbol : BRCA1 TF full name : Brca1 dna Uniprot ID : P38398 TF Length : 1,863 AA Transcription fa	a repair associated(brca1)	ation	TFs associated with OR1A1: BRCA1; CEBPD: EBE1: FOXM1 ATE3: ATE4: BATE3: BCL6: ESR GATA6: MITE: SATB1: SOX4: SI	: JUN: JUND: NFKB1; REST 11: EOS: EOXC1: EOXK1; EO P1: SPIB: STAT1: TP53; ZNE	STAT3: ASCL1: XP1: GATA2: GATA4; 263:
Motif ID : BRCA1_HUMA Motif sequence : TGTGT FIMO scores : 11.096400 FIMO statistical signific Motif location (Start Pos Motif strand orientation	AN.H11MO.0.D TGTTG 00 cance (p-value, q-value) : (5 sition, End Position) : (68,7 : Negative	5.9e-0,0.80700) 76)	Motif weblogo for BRCA1 :		~~~



1.4 Network Analysis

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



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