

# ARED PLUS Search Engine

## General Help & Instructions to use with Examples

## **Contents**

Types of Searches and their Purposes	2
Basic Search:	2
Advance search option	6
List Search:	7
Details Page	8
Results Grid functionalities:	10
Column Visibility Functionality:	10
Print Functionality:	11
Export to PDF Functionality:	11
Exporting records to Excel:	12
Real-Time Search Functionality:	12
Paging Functionality:	13

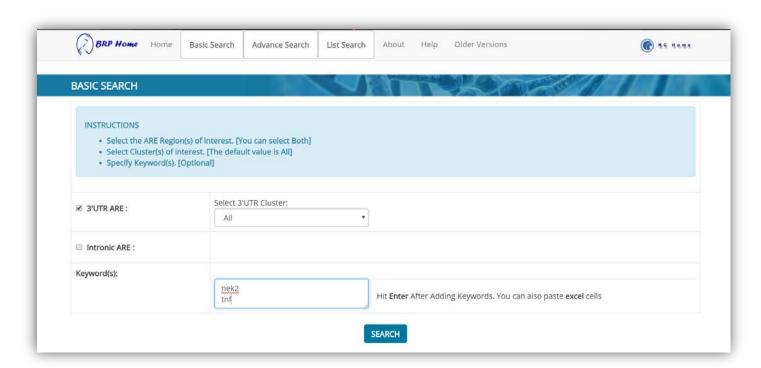
## Types of Searches and their Purposes

#### **Basic Search:**

The Basic Search functionality allow users to find data by providing basic information about the gene. The system expects user to input following Information

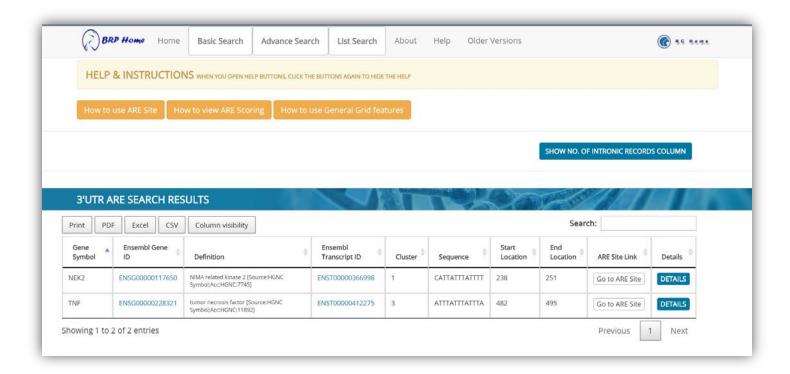
- 1. Select the ARE Region of Interest, this can either be **3'UTR ARE** or **Intron ARE** records user can select both if user wants to search based on both terms.
- 2. Selecting the **Cluster Range from dropdown**. Based on the type of ARE selected the system will ask the user to specify the range of cluster, the default value is **All**.
- 3. Generic Keywords. These keywords can include
  - Gene Symbols
  - Gene Ensembl ID
  - Gene Transcript ID
  - Start Location
  - End Location
  - Chromosome
  - Gene Synonyms (Aliases)
  - Gene Description

Following screen shot shows how the basic search page Looks like when users wants to search **3'UTR ARE** regardless of the Cluster and with Keywords TNF and NEK2

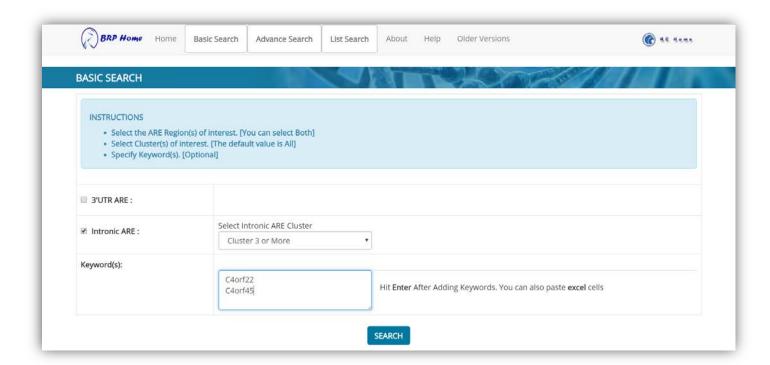


The Output table for a 3'UTR ARE search displays the following Information:

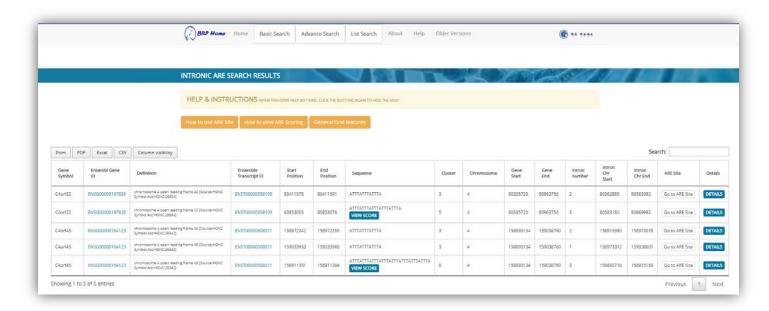
Gene Symbol, Ensembl Gene ID, definition, Ensembl Transcript ID, ARE Cluster, ARE Sequence, ARE Start and end locations, a link to the ARESite and link to the details of the gene. If the ARE is longer than 20 bases a link to ARE score is provided in the sequence pane.



User can also **search Intron ARE Records** by checking Intron ARE Checkbox and specifying Cluster range

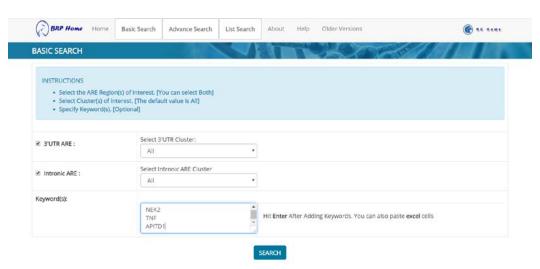


The output table for intronic AREs search displays the following Information: Gene Symbol, Ensembl Gene ID, Definition, Ensemble Transcript ID, Start Position, End Position, Sequence, Cluster, Chromosome, Gene Start, Gene End, Intron number, Intron Chr Start, Intron Chr End, ARE Site, Details. If the ARE is larger than 20 bases a link to ARE score is provided in the sequence pane.

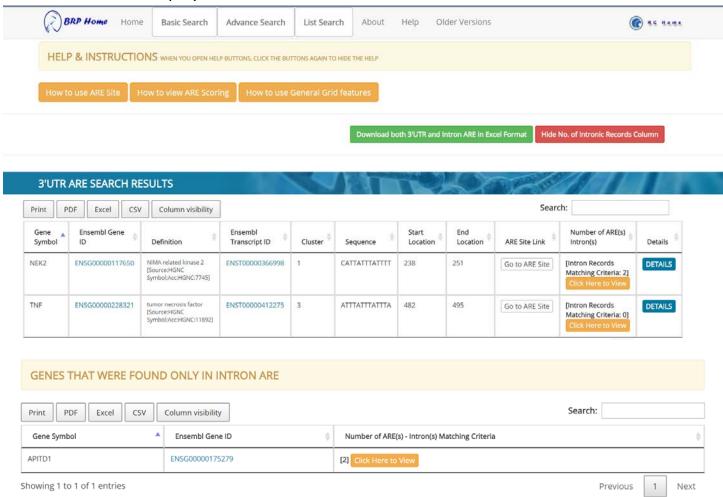


When **both 3'UTR ARE and intronic ARE** are selected, the output table is similar 3'UTR ARE output search with an additional column entitled "Number of ARE(s) Intron(s)" that contains a number and link to the intronic AREs of the gene. Moreover, in case if a particular gene **only exist in the Intron ARE** then the system displays another grid showing list of Genes that exist in Intron ARE only. In Following screen shot we are searching three Genes using their symbol.

- 1. **NEK2:** A gene that have one 3'UTR ARE record and 2 Intronic AREs
- 2. TNF: A gene that only have record in 3'UTR ARE and no record in Intronic ARE
- 3. APITD1: A gene that have no record in 3'UTR ARE and two records in Intronic ARE

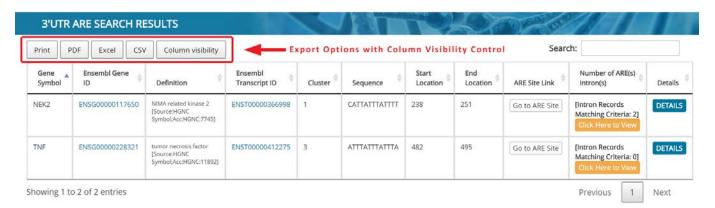


## The Results will be displayed as follows

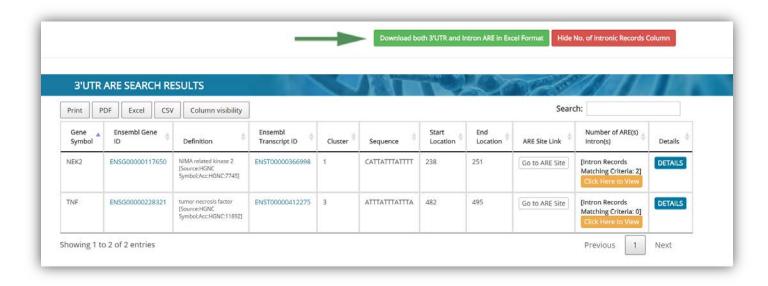


As we can see a separate grid is loaded to show the genes that only exist in Intronic ARE. Moreover, the NEK2 is displayed in the 3'UTR Results following with the link to 2 Intron Records while TNF is being displayed in 3'UTR but has zero Intron ARE Records.

**Note:** If user wants to download records shown in the grid only, user can simply select any export options as highlighted

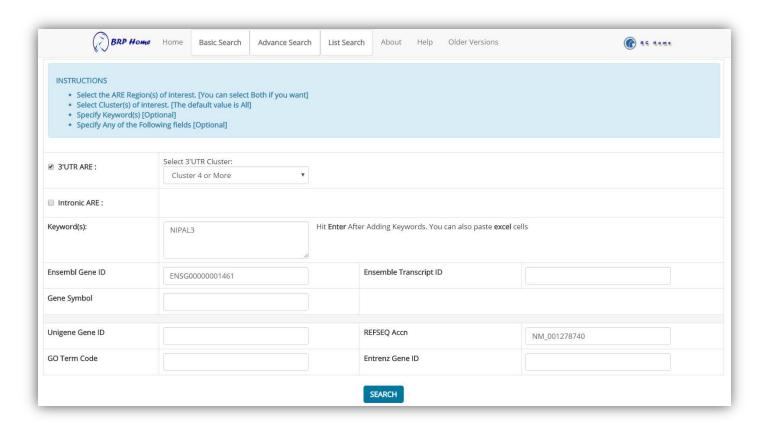


If the user wants to download the 3'UTR ARE results as well as Intron ARE then user can download both ARE Records by clicking on the link highlighted in the following screen shot.



## Advance search option

In the advance search, the user is allowed to enter identifiers in 6 additional specified fields. The output tables are identical to basic search.

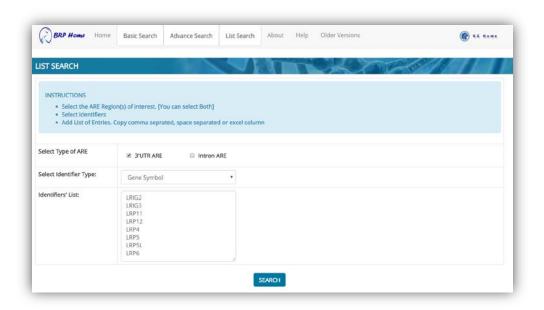


#### List Search:

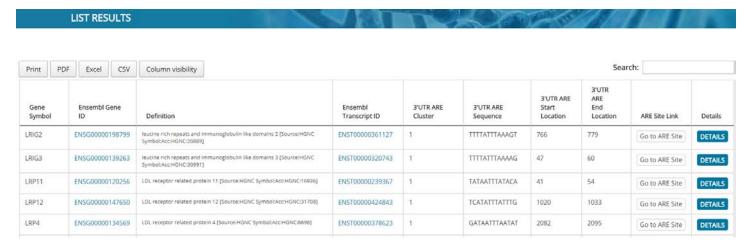
List search allows user to define list of values and get results accordingly. User can specify following types of Identifiers

- 1. Ensembl Gene ID
- 2. Ensemble Transcript ID
- 3. Ref Seq
- 4. Gene Symbol
- 5. Gene ID

Before identifying the list it's important for the user to select which ARE records user wants in the results. In following Example user is defining the list of values in identifier list text box and have chosen 3`UTR ARE Type.



## This is how the results will be displayed



## **Details Page**

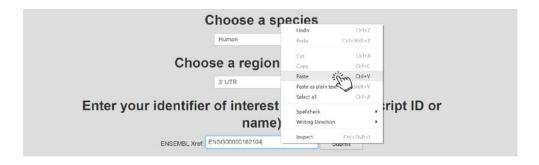
The details page is based on following 4 Sections Basic Gene Details, Refseq, Entrez Gene ID and Uni Gene

#### How to use ARE Site

i. User will Click Go to ARE Site based on the Record user is interested in



- ii. When user will click the button, System will automatically Copy Gene Ensembl ID and will redirect user to ARE Site
- iii. On ARE Site, user will select the Motifs of choice with other options and simply paste the Ensembl Gene ID in the Enter your identifier of interest Text Box

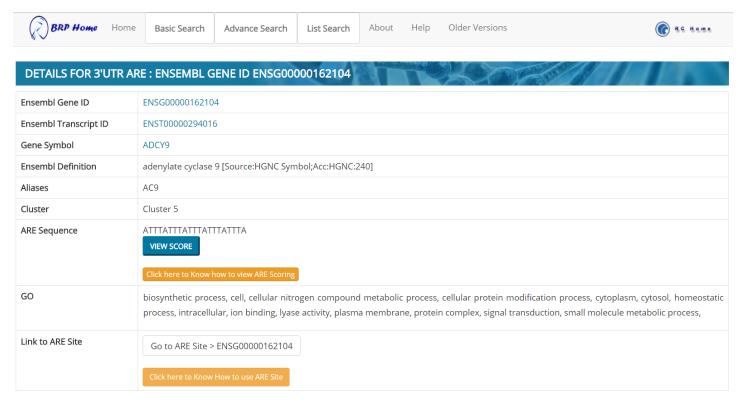


#### **How to use ARE Scoring Site**

- i. This option is only available where pattern size is greater than or equal to 20
- ii. User will click the view ARE Score and System Will Automatically Copy the Pattern with the Required Format and will redirect user to ARE Scoring site.
- iii. On ARE Scoring site, click on the Textbox and paste it. User can either use **ctrl + v** or right click the mouse and select paste option.



## Following screen shot shows how the Details Page Looks Like

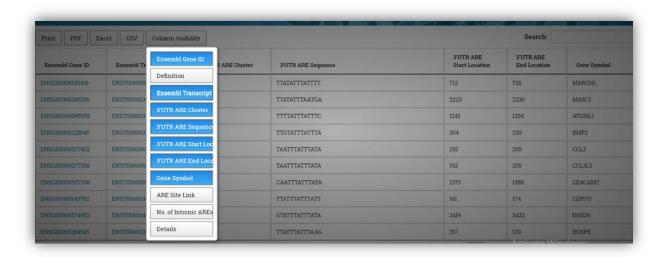


Ref Seg mRNA ID	Description
NM_001116	Homo sapiens adenylate cyclase 9 (ADCY9), mRNA
Entrez Gene ID	
115	
Uni Gene ID	Uni Gene Description
Hs.391860	Adenylate cyclase 9

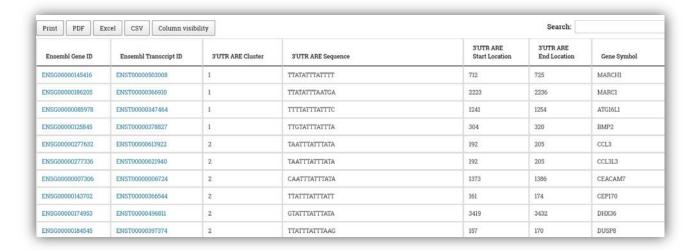
## **Results Grid functionalities:**

## Column Visibility Functionality:

In the output table the user can use the column visibility functionality to customize his column selection. In this example below, the user has un-selected Ensembl Definition, ARE Site link and Details column of the grid and hence these columns will not be displayed.

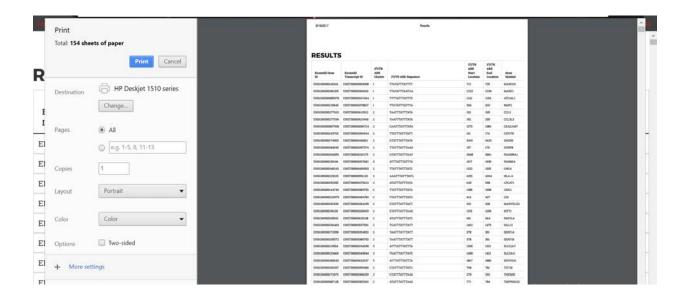


## After Selection the following result will appear



As we can see Description, ARE Site and Details Column aren't visible Anymore.

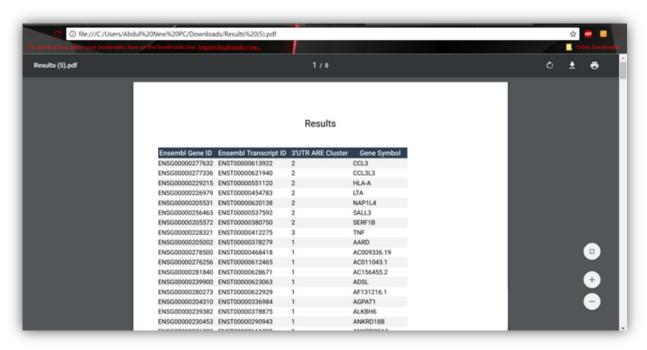
Print Functionality: The Print Functionality will allow user to Print the Records Only. Other part of the web page will be omitted.



In the above screen shot we can see the system is printing only the record section and not the header footer or any other part of the web page

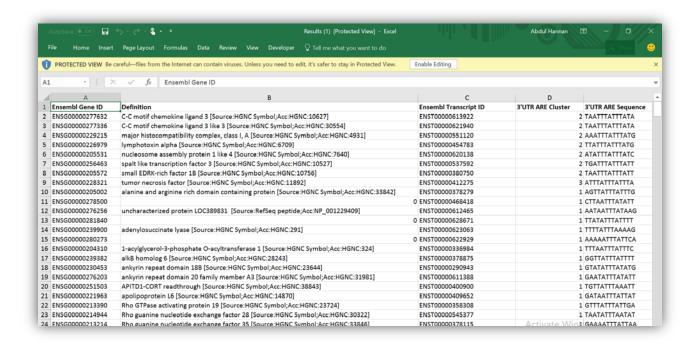
## **Export to PDF Functionality:**

Exporting records to PDF is another key functionality the result Grid Offers to the users. With simple Click of a button users can get the records list in the selected Format as shown below.



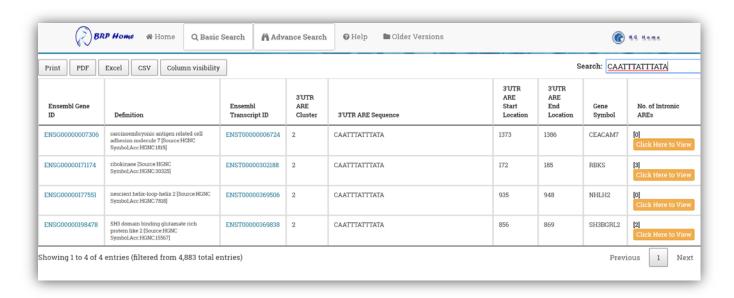
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## **Exporting records to Excel:**



## Real-Time Search Functionality:

The real-time search functionality will allow users to filter records based on any criteria in real time by simply adding search term in a search box as shown in the screen shot below. For example, if the user is interested in a specific sequence pattern like "CAATTTATTTATA". Simply Input the sequence in the real-time search box.



## **Paging Functionality:**

Paging Functionality is one of other essential basic Functionalities available for Users in Result Grid as shown below. It shows the total number of records, number of records shown per page and total number of records following with paging on the right hand side.



For More Information Contact