Module 3: Genes and Sequences (NCBI)

iv - What Information Is Available For a ZGC Clone and its Protein?

Aims

- Introduce options to mine data related to a ZGC clone
- Suggest alternative sources of functional information
- Provide examples of orthologs providing functional information
- Show examples of links on nucleotide and protein records

Introduction

There are a number of alternative ways to determine what is known about a particular Zebrafish Gene Collection (ZGC) cDNA clone. To quickly determine if there are any related records in any of the Entrez databases, you can click on 'Links' in the upper right hand corner of the GenBank page for your cDNA of interest.

Following these links you could answer these questions:

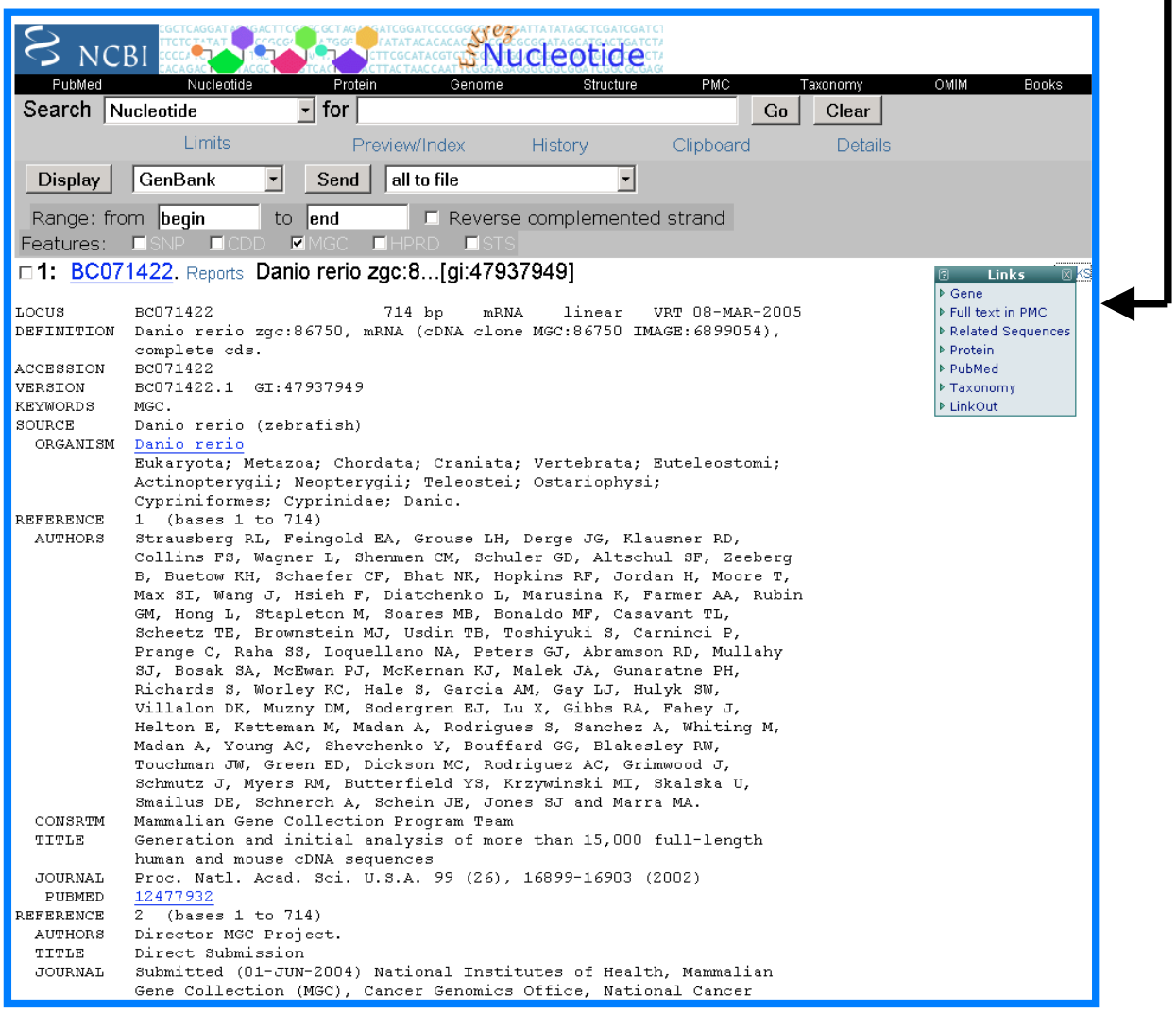
- Is the cDNA clone in a UniGene cluster or Gene record ?
- Are there similar proteins in zebrafish or orthologs whose function is known ? (see also Module 3_ii)
- Where is this cDNA known to be expressed, based on expression of similar ESTs ? (see also Module4_i)
- Does this cDNA encode a conserved domain ? (see also Module3_ii)
- Has this cDNA been annotated on the genome ? (see Module2_iii)

Exercises

1. Examine links to related resources found on a Entrez Nucleotide record.
2. Examine links to related resources found on a Entrez Protein record.
3. Examine links to related resources found on a UniGene record to other similarly expressed UniGene records or homologous UniGene records.

1. Examine links to related resources found on an Entrez Nucleotide record.

To begin, go to the Entrez Nucleotide (GenBank) record for the cDNA. (for example, BC071422: http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=Nucleotide&dopt=GenBank&val=47937949). From the Nucleotide record, click on the Links pull down menu:
to view the set of available related links.



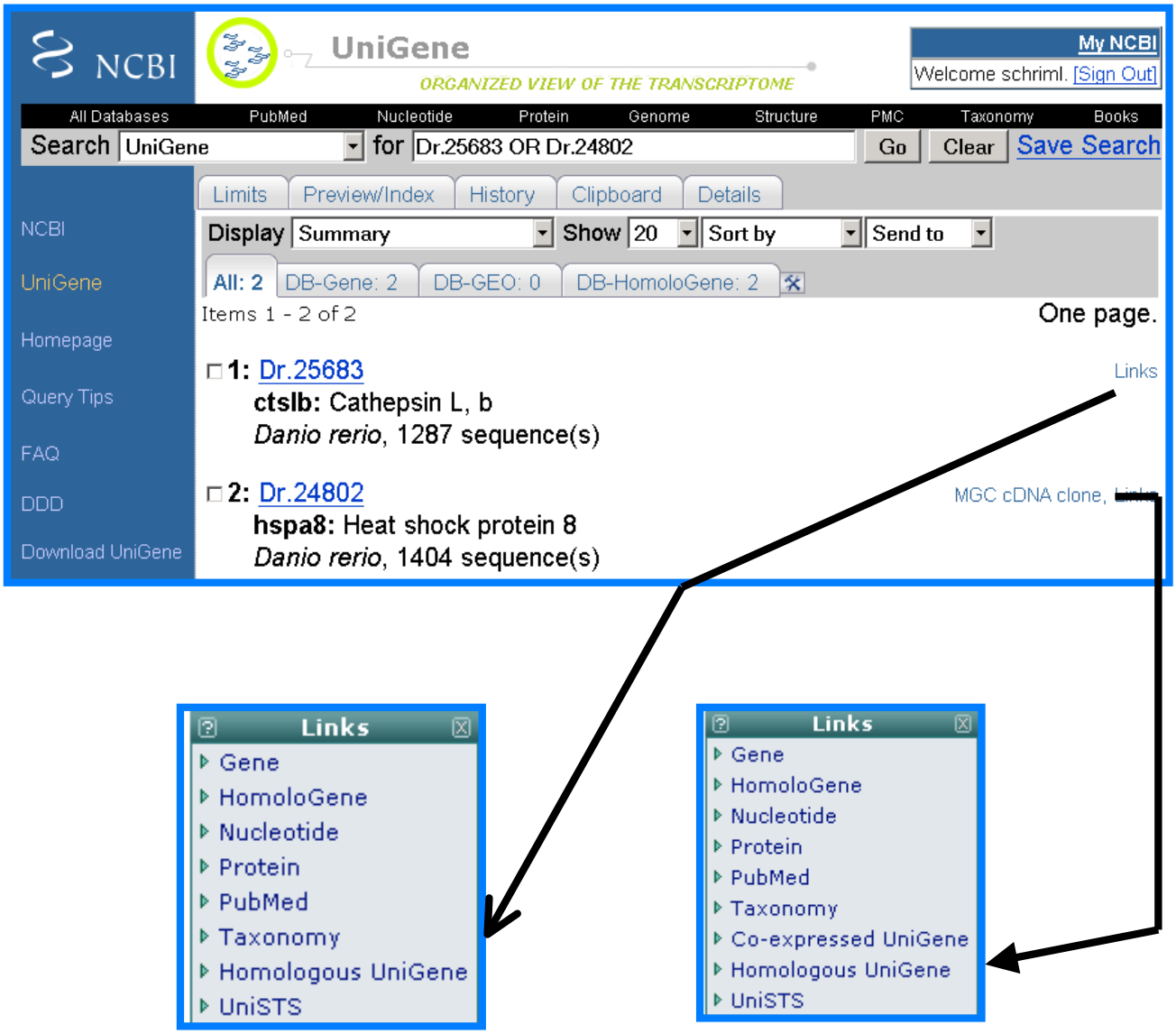
2. Examine links to related resources found on an Entrez Protein record.
You could also start at the Entrez Protein page (AAH71422: http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?val=AAH71422.1) to view the set of related databases in the Links pull-down menu.

Navigate to related proteins records such as BLink or the conserved domains database (CDD)

3. Examine links to related resources found on a UniGene record to other similarly expressed UniGene records or homologous UniGene records.

Query the UniGene database:

Click on links found in the drop-down Links menu to go to other UniGene clusters with similar expression patterns (Co-expressed UniGene) or homologous UniGene clusters determined by Homologen comparisons (Homologous UniGene)


NCBI
UniGene
ORGANIZED VIEW OF THE TRANSCRIPTOME
My NCBI
Welcome schriml. [Sign Out]
All Databases PubMed Nucleotide Protein Genome Structure PMC Taxonomy Books
Search UniGene for Dr.25683 OR Dr.24802 Go Clear Save Search
Limits Preview/Index History Clipboard Details
NCBI
UniGene
Homepage
Query Tips
FAQ
DDD
Download UniGene
Display Summary Show 20 Sort by Send to
All: 2 DB-Gene: 2 DB-GEO: 0 DB-HomoloGene: 2
Items 1 - 2 of 2
One page.
1: Dr.25683
ctslb: Cathepsin L, b
Danio rerio, 1287 sequence(s)
Links
2: Dr.24802
hspa8: Heat shock protein 8
Danio rerio, 1404 sequence(s)
MGC cDNA clone,
Links
Gene
HomoloGene
Nucleotide
Protein
PubMed
Taxonomy
Homologous UniGene
UniSTS
Links
Gene
HomoloGene
Nucleotide
Protein
PubMed
Taxonomy
Co-expressed UniGene
Homologous UniGene
UniSTS