## NCBI

### **NCBI Nucleotide**

#### Search 1

- 1. Go to NCBI Nucleotide.
- 2. Search using the query myostatin AND human[organism].
- 3. In the results page note that there are several links on the left for accessing subsets of results based on, for example, molecule type or source database. Click on **mRNA** under **Molecule types** to access the records for mRNA sequences.
- 4. Scroll down to the record with the title Homo sapiens WAP, follistatin/kazal, immunoglobulin, kunitz and netrin domain containing 2 (WFIKKN2), transcript variant 1, mRNA and click on the title to view the sequence record in GenBank format.
- 5. Scroll down to the feature table in this record. Note that the gene producing this mRNA sequence is called **WFIKKN2**. This gene is not the myostatin gene. Why was this record returned by the search myostatin AND human[organism]? The search qualifiers (the keywords in square brackets) control which parts of the records are searched for matches to the adjacent query text. When a qualifier is omitted all searchable fields are searched. Although this record is not for a myostatin mRNA, in contains the word "myostatin" in several other fields, thus it was returned by the search.
- 6. Look in the **search details** text box on the right of the search results. It contains the processed query that yielded the displayed results and in this example should contain the text myostatin[All Fields] AND "Homo sapiens"[Organism] AND biomol\_mrna[PROP]. The [All Fields] qualifier is added by the search system when no qualifier is provided for a query word. "Homo sapiens"[Organism] is what human[organism] is converted to by the search system and biomol\_mrna[PROP] was added to the query when the **mRNA** link was clicked. The PROP refers to "properties" and is a way of restricting the search to certain types of molecules.

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### Search 2

- 1. The myostatin gene in humans is called MSTN. Search NCBI Nucleotide using the query MSTN[gene name] AND human[organism].
- 2. Note that this search, which uses more precise syntax, returns a smaller number of hits. All the hits correspond to the human MSTN gene.

Your name here 1

# A link to a random photo

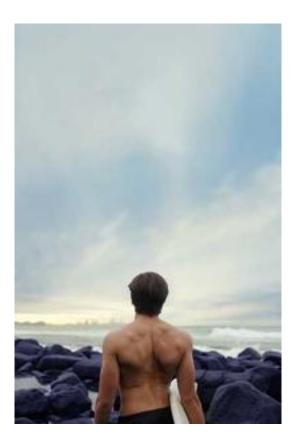


Figure 1: A random photo

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