

**Practical 2**  
**31 January 2022**

1. How many “Homo sapiens” sequences deposited in DDBJ? Compare with Genbank and EMBL  
<http://www.ddbj.nig.ac.jp/>  
<http://www.ncbi.nlm.nih.gov/genbank/>  
<http://www.ebi.ac.uk/embl/>
2. What is the GC-content of the AY330867?
3. Compare the contents in DDBJ, Genbank and EMBL
4. Get the papers about “discrimination of beta barrel membrane proteins”.  
<https://pubmed.ncbi.nlm.nih.gov/>
5. Find the papers published by any author (E.g.) Elofsson A.
6. How many related articles are listed in PUBMED for the paper, Cell 2008 Dec 26;135(7):1158-9?
7. List the papers published in the journal “Nature” for the year 2022. Check the list in SCOPUS and PUBMED
8. Find the h-index and number of citations for “Burkhard Rost”.
9. Find the class of the enzyme EC 3.4.11.4 and its function  
<http://www.brenda-enzymes.org/>
10. Find the catalytic site residues in Asparagine synthetase  
Hint: Find the EC number and search in Catalytic site atlas  
<https://www.ebi.ac.uk/thornton-srv/m-csa/>
11. Find the scientific name, the taxonomy ID and the number of chromosomes for the following organisms. <http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Root>  
Organisms: Human, Cat, Dog, House mouse, Onion and Thale cress
12. What are NCBI E-utilities? Give the syntax for fetching a record in FASTA format using E-utilities. <http://www.ncbi.nlm.nih.gov/books/NBK25500/>
13. List two databases under each of the following category.  
a. Protein properties, b. Small molecules (Structure related), c. Cancer gene databases

Hint: Use Nucleic Acids Research (NAR) – ‘database category list’  
[https://www.oxfordjournals.org/our\\_journals/nar/database/c/](https://www.oxfordjournals.org/our_journals/nar/database/c/)

**Deadline: 6 Feb 2022**