

# Precision medicine: NGS variant analysis and interpretation for translational research

## Exercise 4: Running PanDrugs

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# Input 1

- Query PanDrugs using the Genes section
- Load Example 3 (Genes Involved in PI3K-AKT-mTOR pathway)
- Query the database with these genes

# Check the results

- Which are the suggested therapies?
- Which are the best candidates?
- Which are the evidences for these best candidates?
- Is there any drug suggested by a gene that is discarded by another?

# Input 2

- Query PanDrugs using the Gene Ranking section
- Load Example file (Expression data for the top 500 up-regulated genes in a lung adenocarcinoma patient with EGFR alteration from TCGA)
- Query the database with this genes

# Check the results

- Search patient (TCGA-91-6847) in cBioPortal to visualize the alterations.
- Which are the suggested therapies?
- Which are the best candidates?
- Is there any drug approved for the same cancer type?
- Which are the evidences for the drugs that rank higher in the assignments?

# Input 3

- Query PanDrugs using the Genomic Variant section
- Load Example file (vcf file with alterations in exome of melanoma patient with mutant BRAF from TCGA)
- Query the database with this file

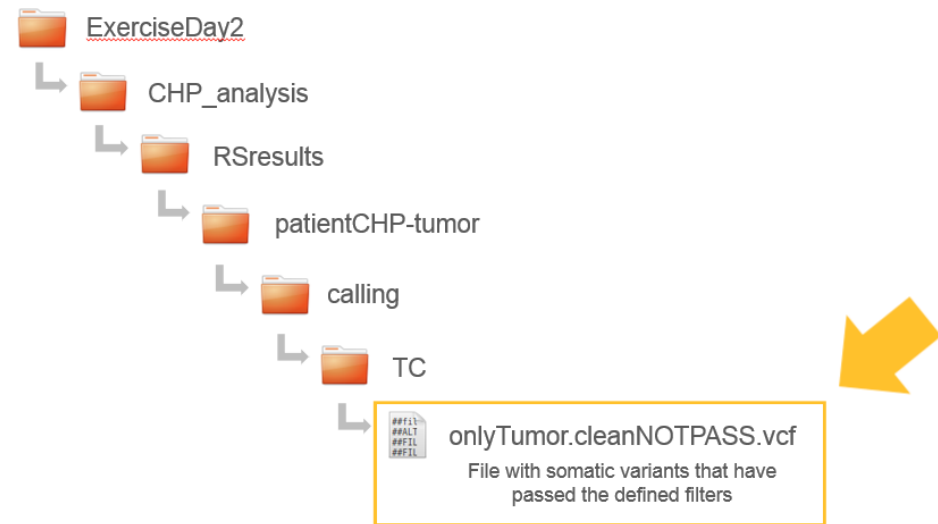
# Check the results

- Search patient (TCGA-BF-A1PU) in cBioPortal to visualize the alterations.
- Which are the suggested therapies?
- Is there any drug suggested by a gene that is discarded by another?
- Is there any drug approved for the same cancer type?
- Is there any drug in cancer clinical trials for this cancer type?
- Could be used a drug repositioning approach?

# Input 4

- Query PanDrugs using the Genomic Variant section
- Load the vcf file without annotations from the exercise of CHP patient

Path to the input file



- Query the database with this file



# Check the results

- Which are the suggested therapies?
- Is there any drug suggested by a gene that is discarded by another?
- Is there any drug approved for the same cancer type?
- Is there any drug in cancer clinical trials for this cancer type?
- Could be used a drug repositioning approach?