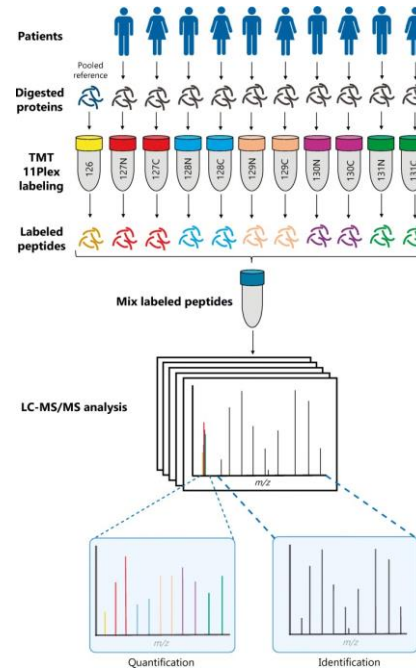
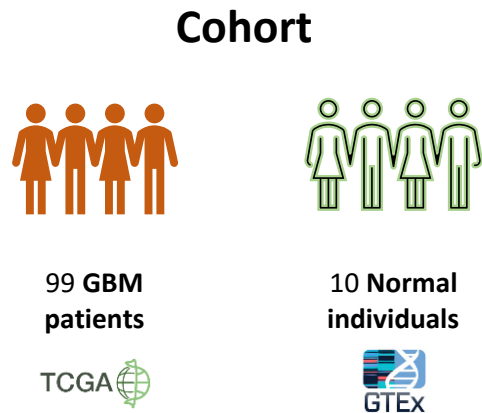


CPTAC Glioblastoma Discovery Study

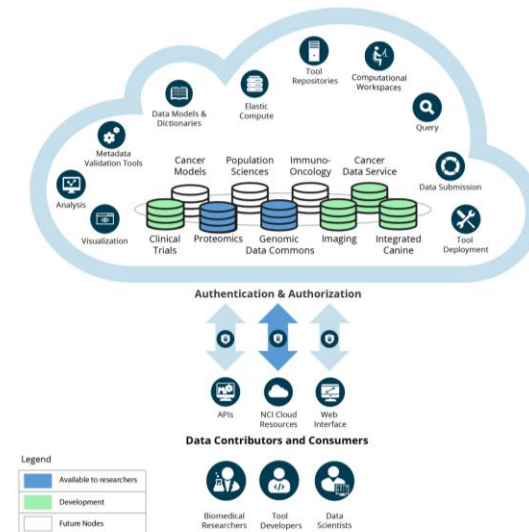
CKG re-analysis

CPTAC Glioblastoma Cohort



- National Cancer Institute's **Clinical Proteomic Tumor Analysis Consortium** Glioblastoma Multiforme (CPTAC-GBM)



Data deposition <https://tinyurl.com/469bpjhr>

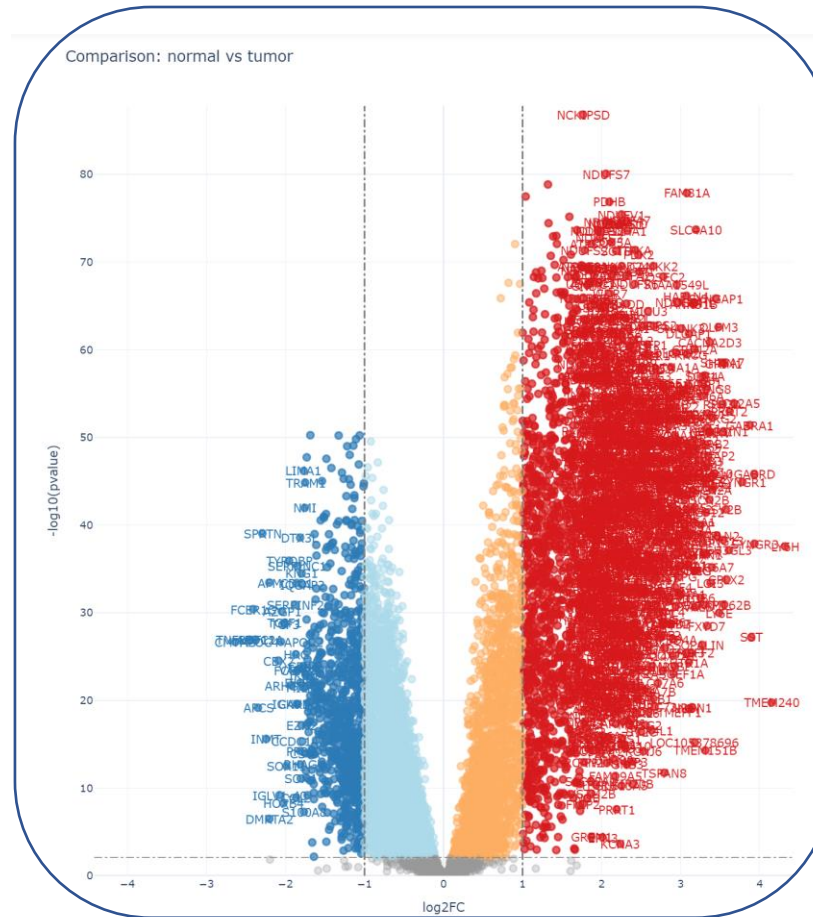


CKG Analysis

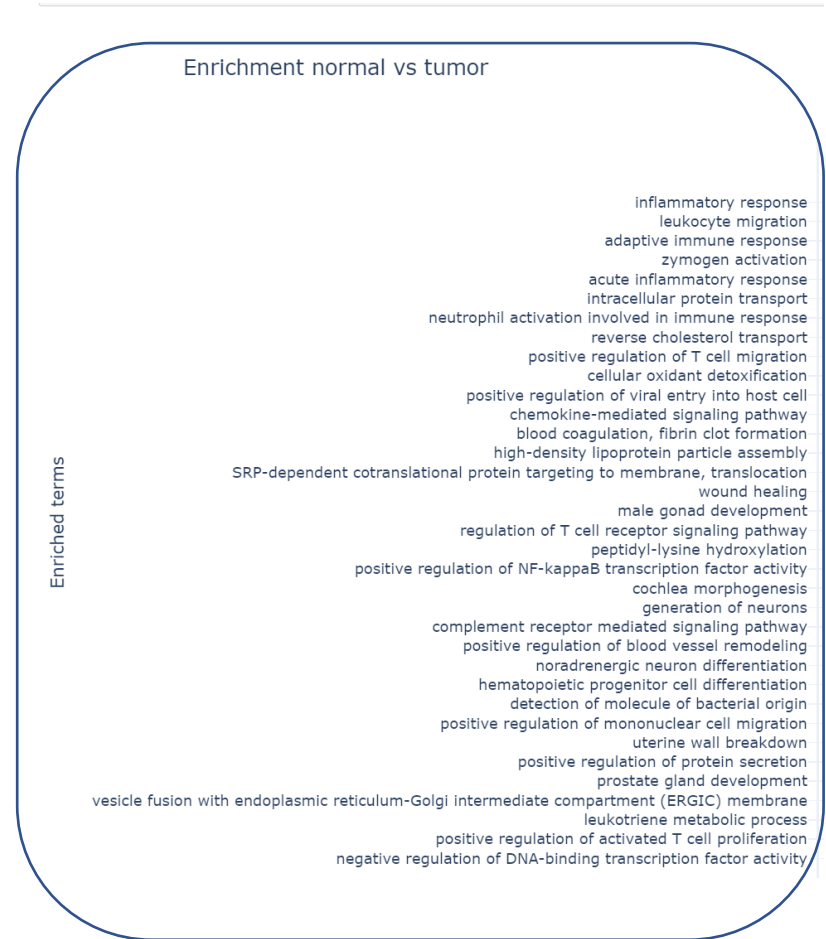
1. **Differential regulation Tumor vs Normal:** identify proteins upregulated in GBM when comparing to normal tissue  
2. **Knowledge Annotation** of upregulated proteins in tumors
3. **Identify inhibitors** for upregulated proteins in tumors

1. Differential Regulation

- **ANCOVA analysis**
 - Covariates: **age** and **biological sex**
- **Results: 861 proteins significantly upregulated in tumor (FDR <0.01; FC > 2)**



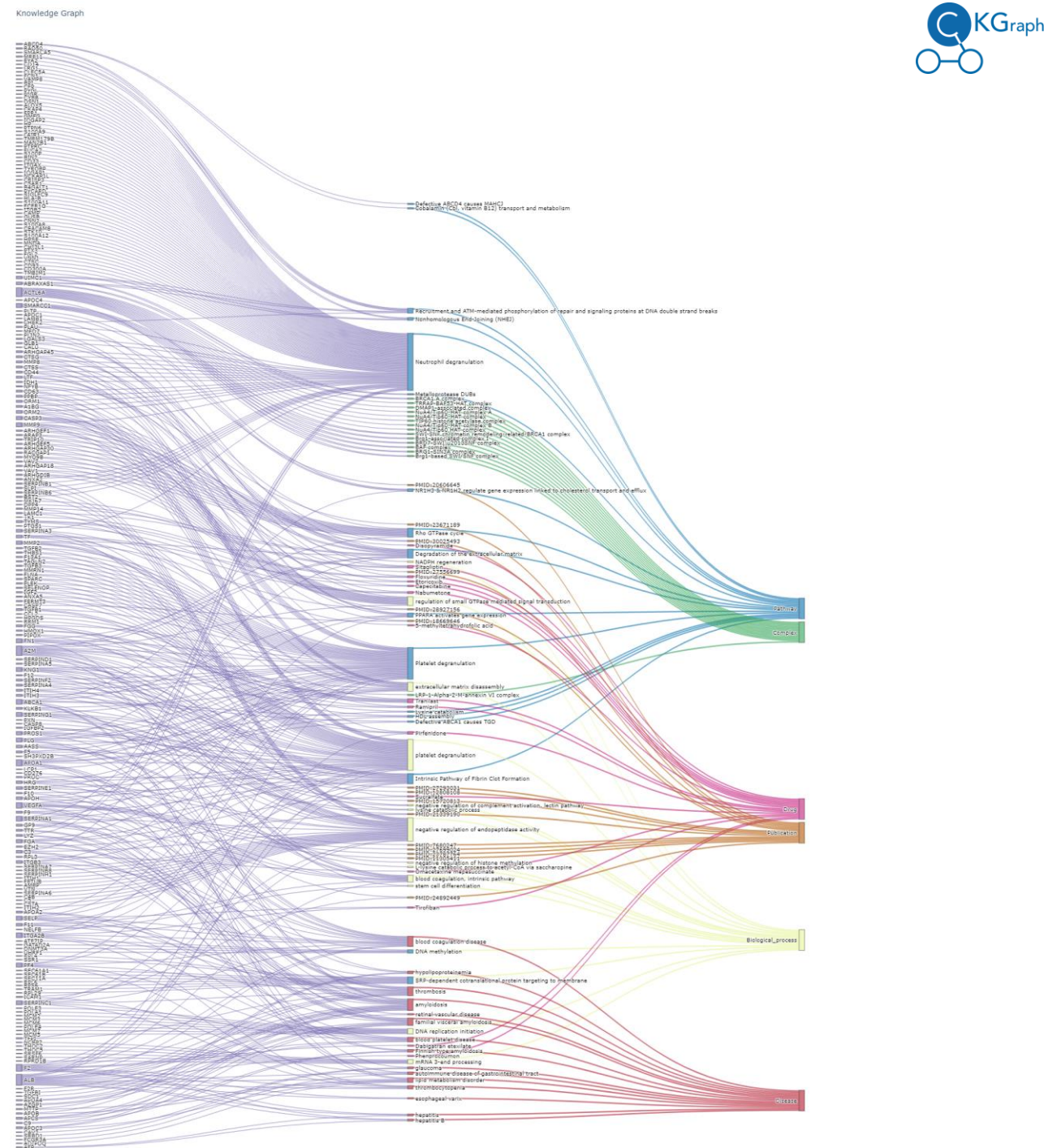
Upregulated in Tumor

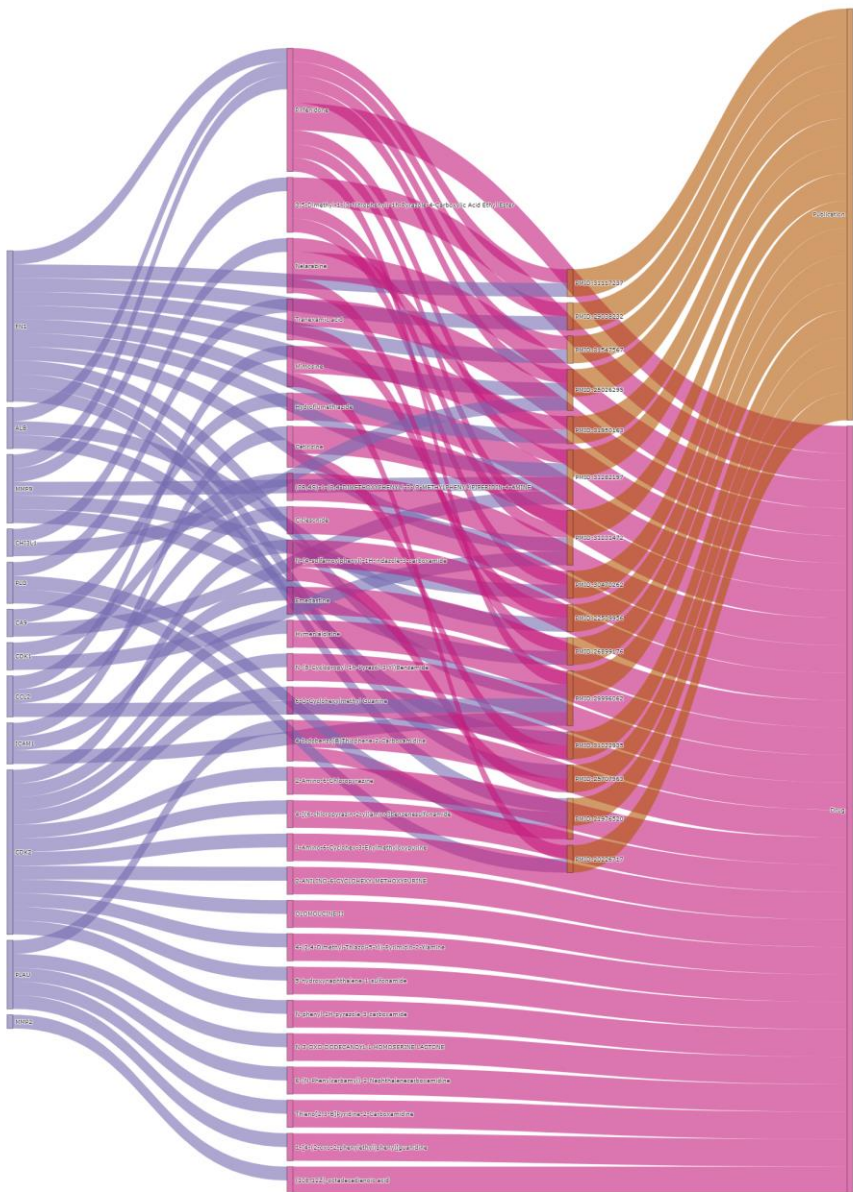


Enrichment Upregulated in Tumor

2. Knowledge Annotation

- **Summarize knowledge** (Protein Complexes, Pathways, Biological processes, Publications, Diseases and Drugs) associated with the list of **proteins up-regulated in tumors compared to normal brain tissue.**





3. Inhibitors

- From the list of 861 upregulated proteins:
 - Find those already **known to be associated to GBM**
 - 44 proteins** (source: DISEASES database; confidence score> 1.5)
 - For those, find **known drug inhibitors**
 - 28 drug inhibitors** (source: STITCH database; confidence score> 0.7)
 - Find Publications **mentioning the triplet: glioblastoma, drug, protein** (source: text-mining)

	Drug class	Drug name	Publication	Protein name
0	Azoles	3,5-Dimethyl-1-(3-Nitrophenyl)-1h-Pyrazole-4-C...	PMID:30470262	MMP9
1	Pyridines and derivatives	Pirfenidone	PMID:31282197	MMP9
2	Purine nucleosides	Nelarabine	PMID:26899176	MMP9
3	Pyridines and derivatives	Pirfenidone	PMID:31282197	CA9
4	Benzene and substituted derivatives	Cetirizine	PMID:31022935	ALB
5	Carboxylic acids and derivatives	Tranexamic acid	PMID:22539956	ALB
6	Pyridines and derivatives	Pirfenidone	PMID:31117237	FN1
7	Purine nucleosides	Nelarabine	PMID:31950163	FN1
8	Pyridines and derivatives	Pirfenidone	PMID:31282197	FN1
9	Pyridines and derivatives	Pirfenidone	PMID:29996062	FN1
0	Pyridines and derivatives	Pirfenidone	PMID:31547567	FN1
1	Azoles	3,5-Dimethyl-1-(3-Nitrophenyl)-1h-Pyrazole-4-C...	PMID:31231472	FN1
2	Pyridines and derivatives	Pirfenidone	PMID:31231472	FN1
3	Pyridines and derivatives	Pirfenidone	PMID:29038232	FN1
4	Benzene and substituted derivatives	N-(4-sulfamoylphenyl)-1H-indazole-3-carboxamide	PMID:25707963	FN1
5	Pyridines and derivatives	Pirfenidone	PMID:25026295	FN1
6	Benzothiophenes	4-Iodobenzo[B]Thiophene-2-Carboxamidine	PMID:21976520	FN1
7	Pyridines and derivatives	Pirfenidone	PMID:29996062	ICAM1
8	Azoles	3,5-Dimethyl-1-(3-Nitrophenyl)-1h-Pyrazole-4-C...	PMID:31231472	CDK1
9	Pyridines and derivatives	Pirfenidone	PMID:31231472	CDK1
0	Benzothiophenes	4-Iodobenzo[B]Thiophene-2-Carboxamidine	PMID:21976520	PLG
1	Carboxylic acids and derivatives	Mimosine	PMID:20226717	PLG
2	Pyridines and derivatives	Pirfenidone	PMID:29996062	CCL2
3	Pyridines and derivatives	Pirfenidone	PMID:25026295	CHI3L1

