

Кафедра Превентивной,
Персонализированной
Трансляционной Медицины



Молекулярный атлас человека

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HUMAN GENOME PROJECT

"What more powerful form of study of mankind could there be than to read our own instruction book?"

-Francis S. Collins

12 tumor types

Leukemia (LAML)

Lung adenocarcinoma (LUAD)

Lung squamous (LUSC)

Kidney (KIRC)

Bladder (BLCA)

Endometrial (UCEC)



Glioblastoma (GBM)

Head and neck (HNSC)

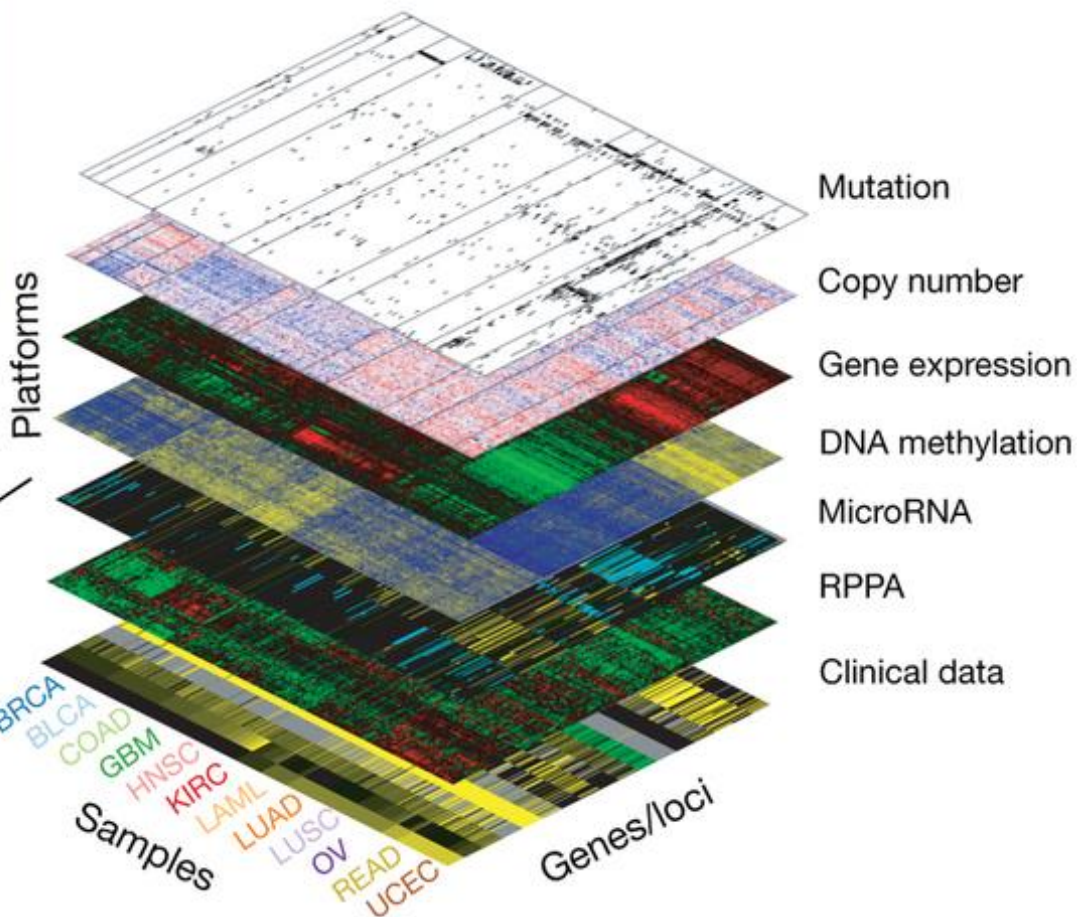
Breast (BRCA)

Ovarian (OV)

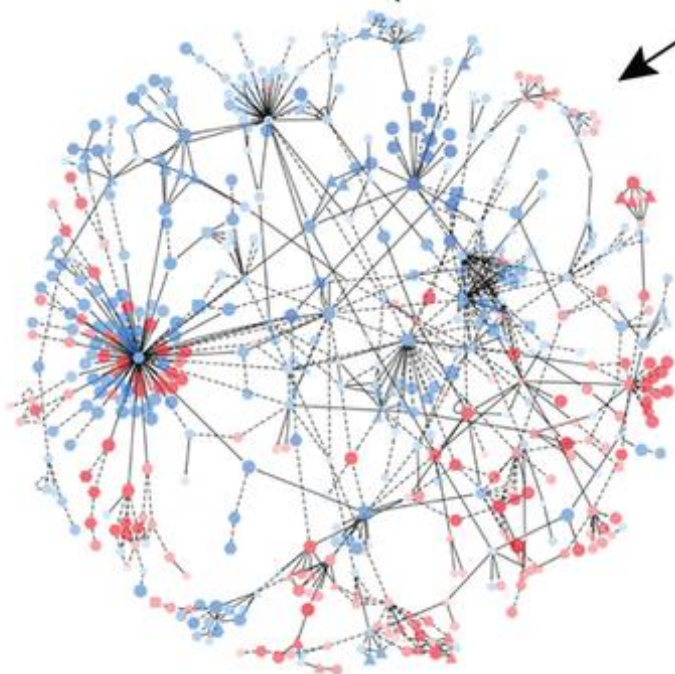
Colon (COAD)

Rectum (READ)

Omics characterizations



Thematic pathways



THE HUMAN PROTEIN ATLAS



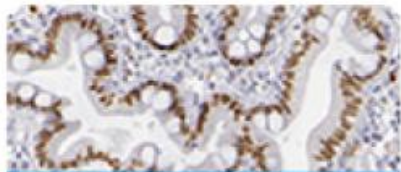
ABOUT & HELP



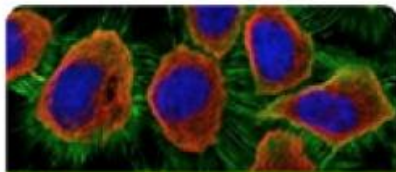
A Tissue-Based Map of the Human Proteome

Here, we summarize our current knowledge regarding the human proteome mainly achieved through antibody-based methods combined with transcriptomics analysis across all major tissues and organs of the human body. A large number of lists can be accessed with direct links to gene-specific images of the corresponding proteins in the different tissues and organs.

[Read more](#)



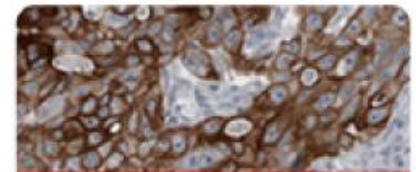
TISSUE ATLAS



SUBCELL ATLAS



CELL LINE ATLAS



CANCER ATLAS

Функционал

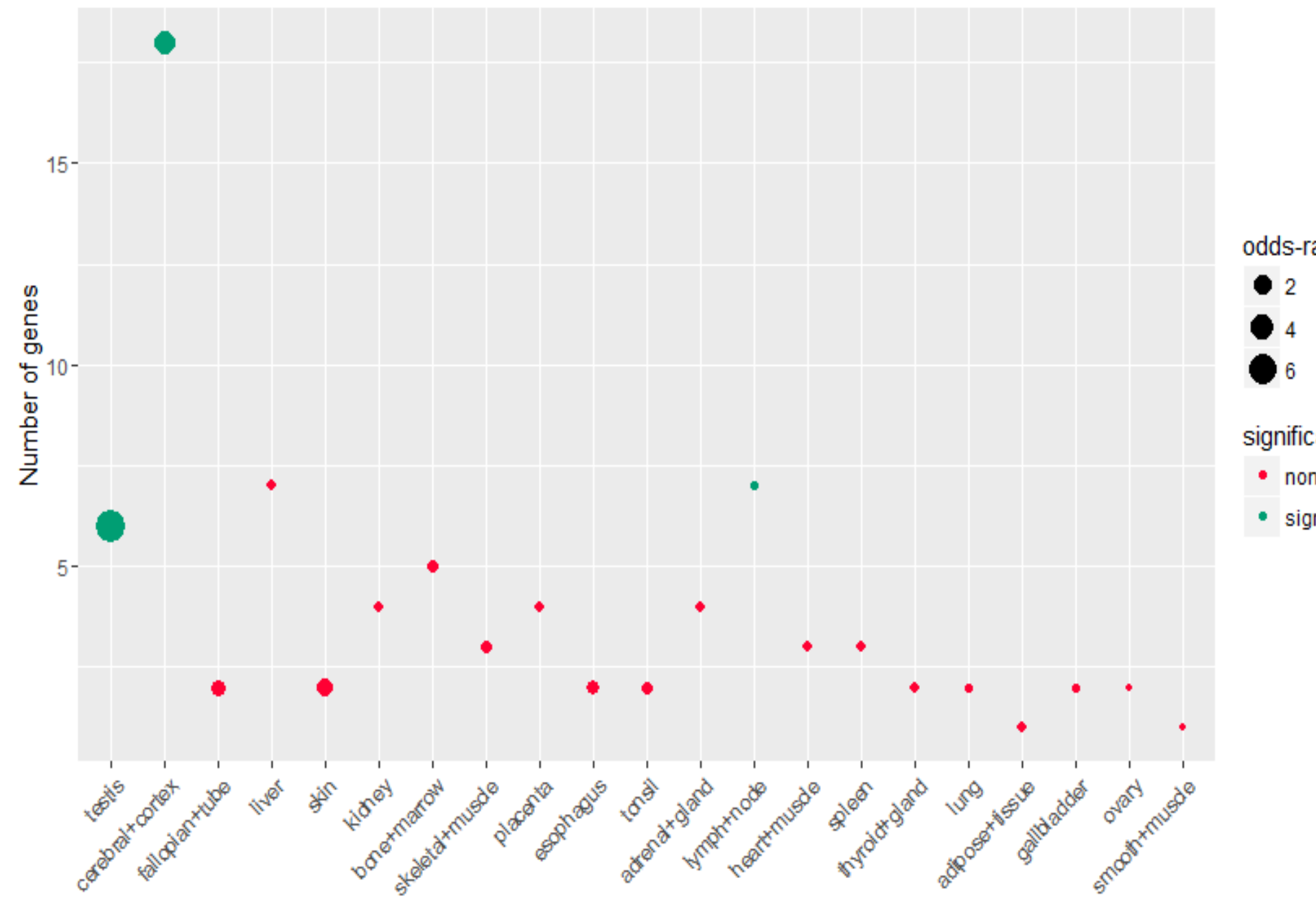
- построение таблиц основываясь на данных НРА по экспрессии для тех генов, которые были показаны как экспрессирующие статистически различно с контрольной группой
- анализ обогащения основываясь на экспериментальных данных принимая во внимание тканеспецифичную экспрессию, полученную на основе НРА данных с использованием статистических тестов.

Symbol	Up_in_mal_positives	Parametric p-value	FDR
ADAMTS10	6.25	7.00E-07	0.000223
ADAMTS16	5.263157895	4.00E-07	7.79E-05
ATIC	5.263157895	5.10E-06	0.000727
LCK	5.263157895	7.00E-07	0.000223
ANXA6	5	0.0006177	0.0432
CORO2B	5	1.00E-06	0.000276
AFMID	4.761904762	6.00E-07	0.000223
SPTBN1	4.761904762	< 1e-07	< 1e-07
PLEKHO1	4.545454545	0.0003356	0.00862
CALCOCO2	4.347826087	2.97E-05	0.00254
CD81	4.347826087	4.00E-07	7.79E-05
MCM7	4.347826087	3.80E-06	0.000654
RPL24	4.347826087	0.0001594	0.00544
MMP14	4.166666667	6.00E-07	0.000223
RAB11FIP3	4.166666667	1.00E-07	3.51E-05
TUBA1B	4.166666667	1.91E-05	0.00203

Tissue	Tissue enriched	Group enriched	Tissue enhanced	Total elevated
Testis	<u>1057</u>	<u>349</u>	<u>574</u>	<u>1980</u>
Cerebral cortex	<u>381</u>	<u>245</u>	<u>597</u>	<u>1223</u>
Fallopian tube	<u>66</u>	<u>201</u>	<u>217</u>	<u>484</u>
Liver	<u>170</u>	<u>135</u>	<u>131</u>	<u>436</u>
Skin	<u>95</u>	<u>123</u>	<u>194</u>	<u>412</u>
Kidney	<u>70</u>	<u>148</u>	<u>179</u>	<u>397</u>
Small intestine	<u>6</u>	<u>180</u>	<u>153</u>	<u>339</u>
Bone marrow	<u>84</u>	<u>46</u>	<u>207</u>	<u>337</u>
Skeletal muscle	<u>106</u>	<u>124</u>	<u>100</u>	<u>330</u>
Duodenum	<u>6</u>	<u>179</u>	<u>135</u>	<u>320</u>
Placenta	<u>83</u>	<u>66</u>	<u>163</u>	<u>312</u>
Esophagus	<u>48</u>	<u>110</u>	<u>139</u>	<u>297</u>
Tonsil	<u>7</u>	<u>101</u>	<u>158</u>	<u>266</u>
Adrenal gland	<u>38</u>	<u>91</u>	<u>129</u>	<u>258</u>
Lymph node	<u>0</u>	<u>50</u>	<u>206</u>	<u>256</u>
Total	<u>2489</u>	<u>1161</u>	<u>3450</u>	<u>7100</u>

Gene	Gene description	Ch	Position	Protein.class	Antibody	RNA.TS.FPKM
AHSG	Alpha-2-HS-glycoprotein	3	186612923-186621318	Cancer-related genes, Plasma proteins, Predicted secreted proteins	HPA001524, HPA001525, CAB026209	liver: 2121.9
HPX	Hemopexin	11	6431049-6442617	Candidate cardiovascular disease genes, Plasma proteins, Predicted secreted proteins, Transporters	CAB016725	liver: 1577.6
GFAP	Glial fibrillary acidic protein	17	44905008-44916937	Candidate cardiovascular disease genes, Disease related genes, Plasma proteins, Predicted intracellular proteins	CAB000039, HPA056030, HPA063513	cerebral cortex: 1983.8
FGB	Fibrinogen beta chain	4	154562956-154571086	Cancer-related genes, Candidate cardiovascular disease genes, Disease related genes, Plasma proteins, Predicted intracellular proteins.	HPA001900, HPA001901, CAB008624	liver: 6643.0

tissue	number	p-value-chisq	odds-ratio	significance
testis	6	2.51E-06	7.025391	significant
cerebral cortex	18	6.43E-05	3.029002	significant
fallopian tube	2	0.99	1.133918	non-significant
liver	7	0.094247	0.289744	non-significant
skin	2	0.99	1.324462	non-significant
kidney	4	0.99	0.310943	non-significant
bone marrow	5	0.99	0.558096	non-significant
skeletal muscle	3	0.99	0.61743	non-significant
placenta	4	0.99	0.321744	non-significant
esophagus	2	0.99	0.676687	non-significant
tonsil	2	0.99	0.544922	non-significant
adrenal gland	4	0.967757	0.311093	non-significant
lymph node	7	0.0066	0.22443	Significant
heart muscle	3	0.99	0.28955	non-significant
spleen	3	0.99	0.35217	non-significant
thyroid gland	2	0.99	0.325771	non-significant
lung	2	0.99	0.219971	non-significant
gallbladder	2	0.99	0.202244	non-significant



Благодарю
за внимание!