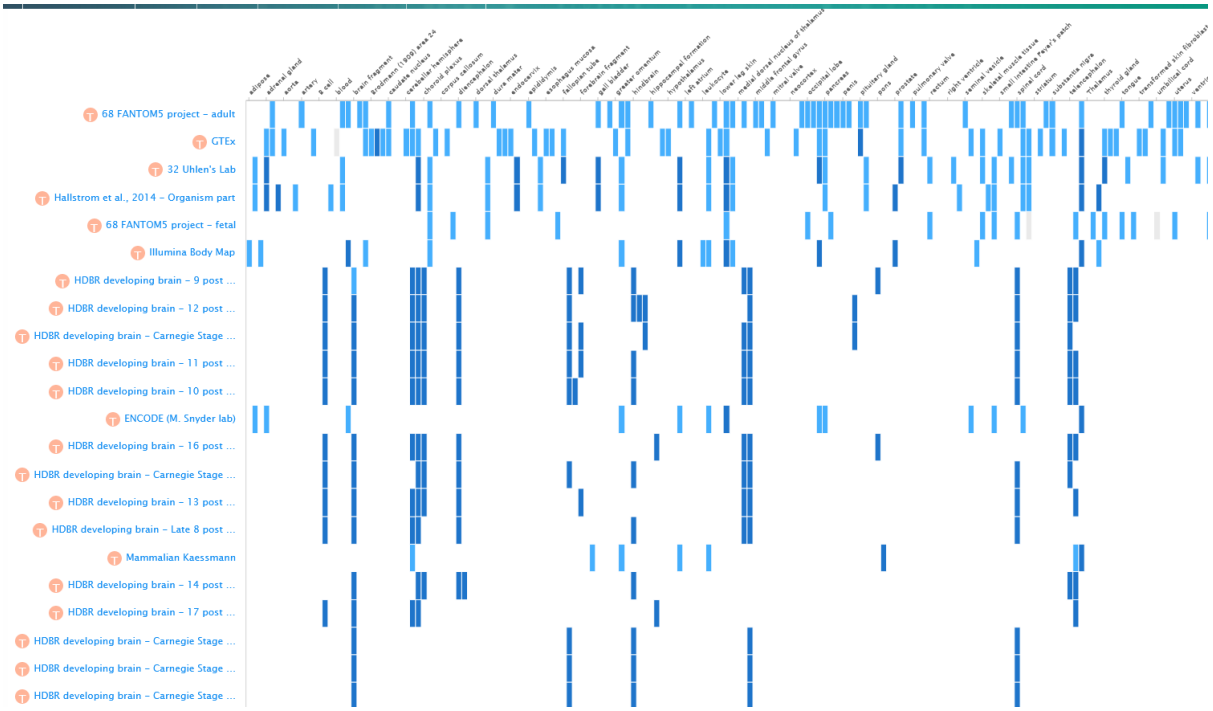
Jan Izquierdo Ramos

Finally, it is time that you apply all what you have learned on this practical to take a closer look on your own at the ARL6 gene. Use the database Expression Atlas to describe the basal expression of this gene and to list under which conditions this gene is expressed differentially. Include the conditions where the gene shows the highest up and down regulation (as per Log2-FC).
Summarize and discuss your findings individually. You can include both text and images/screenshots.

The basal expression of ARL6 in different species is:

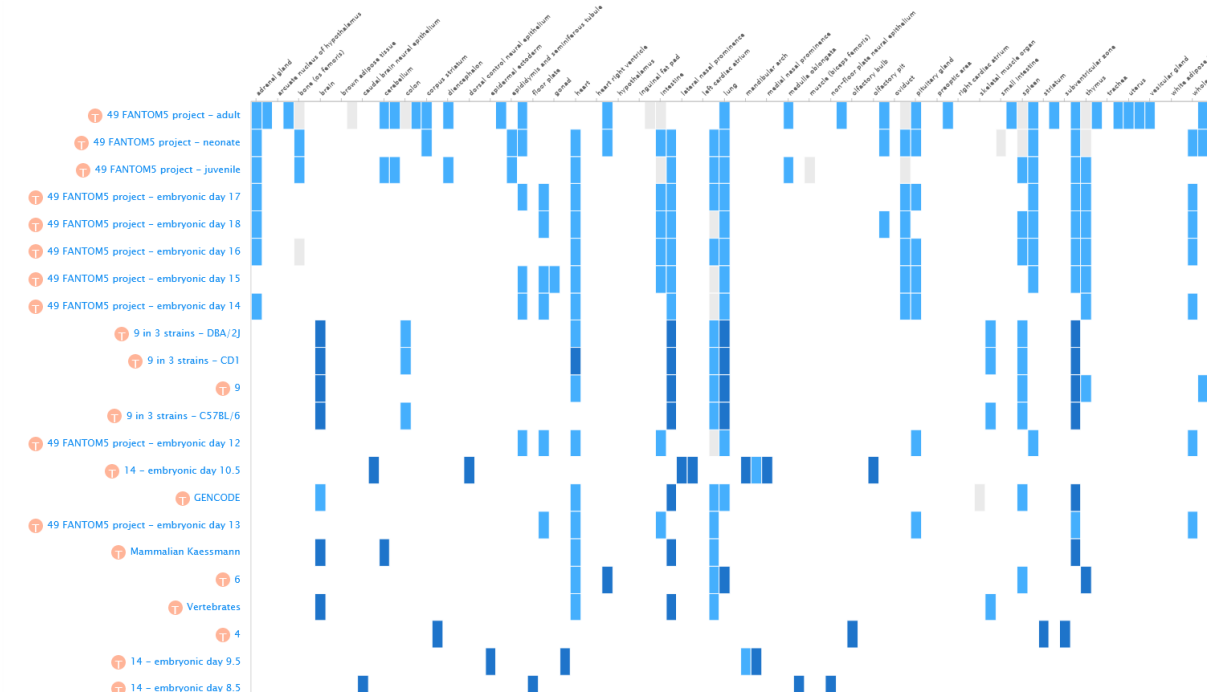
In humans, a total of 65 experiments are recorded in the database, the gene is present in a lot of organism parts.



In other organisms such as Anolis carolinensis only 1 experiment has been done, and ARL6 is expressed either in the brain or kidneys.

In mice, there are 52 experiments recorded in the database, and we can see that ARL6 is manifested in a lot of organism parts as well.

Jan Izquierdo Ramos



This gene is expressed differentially with high up and down regulation values when the conditions of the experimental variables are:

- Disease(Breast carcinoma, pancreatic adenocarcinoma)
- Stimulus(Lipopolysaccharide)
- Phenotype(catoGFP positive or negative)
- Block
- Organism part(campaniform neuron or normal neuron)
- Treatment(Blood alcohol content 0.04% declining or normal)
- Sampling time point(sample in time point 4 for 2 different treatments)

The cases with the highest up and down regulation are :

A downregulation of 4.5 in an experiment consisting of a multidimensional blood stimulation assay. The experimental variables are disease and stimulus.

-4.5		ARL6	'lipopolysaccharide' vs 'none' in 'normal'	disease, stimulus	A multidimensional blood stimulation assay reveals immune alterations underlying systemic juvenile idiopathic arthritis [RNA-Seq]

Jan Izquierdo Ramos

A multidimensional blood stimulation assay reveals immune alterations underlying systemic juvenile idiopathic arthritis [RNA-Seq]
'lipopolysaccharide' vs 'none' in 'normal'

Property	Test value (N=4)	Reference value (N=5)
disease	**normal**	**normal**
stimulus	**lipopolysaccharide**	**none**
age	4 year, 8 year	7 year, 5 year, 6 year, 4 year, 8 year
cell type	monocyte	monocyte
individual	H-394, H-391, H-398, H-397	H-396, H-394, H-392, H-391, H-398
organism	Homo sapiens	Homo sapiens
organism part	blood	blood
sex	female, male	female, male
stimulus	lipopolysaccharide	

The next higher absolute value is an upregulation of 3.7 in drosophila melanogaster in an experiment consisting of transcription profiling by array of Drosophila embryonic chordotonal neurons. The experimental variable is the phenotype

3.7		Arl6	'catoGFP positive' vs 'catoGFP negative'	phenotype	Transcription profiling by array of Drosophila embryonic chordotonal neurons expressing the cato GFP reporter gene construct

Transcription profiling by array of Drosophila embryonic chordotonal neurons expressing the cato GFP reporter gene construct
'catoGFP positive' vs 'catoGFP negative'

Property	Test value (N=3)	Reference value (N=3)
phenotype	**catoGFP positive**	**catoGFP negative**
array design	A-AFFY-35	A-AFFY-35
cell type	embryonic cell	embryonic cell
developmental stage	embryonic stage	embryonic stage
genotype	w1118; catoGFP	w1118; catoGFP
organism	Drosophila melanogaster	Drosophila melanogaster