Using Emacs Orgmode as a Lab Notebook

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December 7, 2016

Contents

- There is an somewhat functional version for VIM
- There is emulation of vim in EMACS (eVIl-mode) people seem quite happy with it.

1 Example 1 A typical day at the bench.

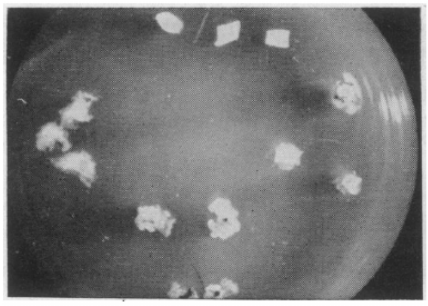
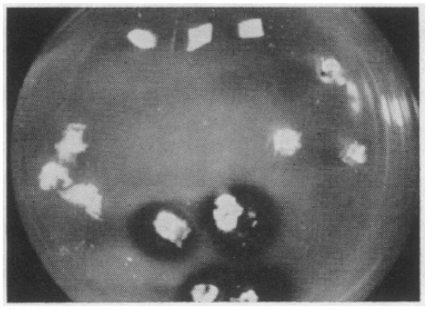
Purpose :: The experiment that we are going to do is to know if the geeky gene (GG1) is **overexpressed** in the memebers of this lab.

1.1 DONE Order Oligos

- I ordered the oligos for the geeky gene 1 (GG1)
  - Fwd: GATGGGTACTGGTACAGT
  - Rev: TTTACGAGTCGTACGGA

1.2 TODO Obtain piece of tissue of the members of the lab

- I use scisors and formol as explained in This new article
- The desired culture of the tissues should look like: (C-u C-c C-x C-v)

Member	weigth (g)
HC	2.1
AR	2.8
RC	3.2
EV	3.4
PC	4.2
MC	3.8
CR	2.8
AT	3.2
ET	3.5

- Guillaume wanna participate or be the postive control?
- Good education: Put yourself last Marc!

1.3 DONE Obtain negative controls

- I obtain tissue from the people that are araund the lab. Simple random sample with a little convenience bias.

People	Weigth (g)
TianTian	2.5
Marc LC	3.1
Alexandra	2.8

The negative controls are the FIRST step!!!

1.4 TODO Facs non fatty cells

- Disgregate the tissue with collagenase 37C 15 min.
- Incubate cells with antibody Fairy (rcognices the receptor of Adipocites). 1h

in agitation.

- Bring to the facility

1.5 TODO Extract DNA

- I extract the DNA from each sample from FACS with Qiagen Blood and tissue Kit

following their recomendations. ref?

- I resuspend in 40 ul EB

Member	conc (ng/ul)	Total
HC	20.1	
AR	20.8	
RC	30.2	
EV	30.4	
PC	40.2	
MC	30.8	
CR	20.8	
AT	30.2	
ET	30.5	

- Total DNA ?

1.6 TODO PCR

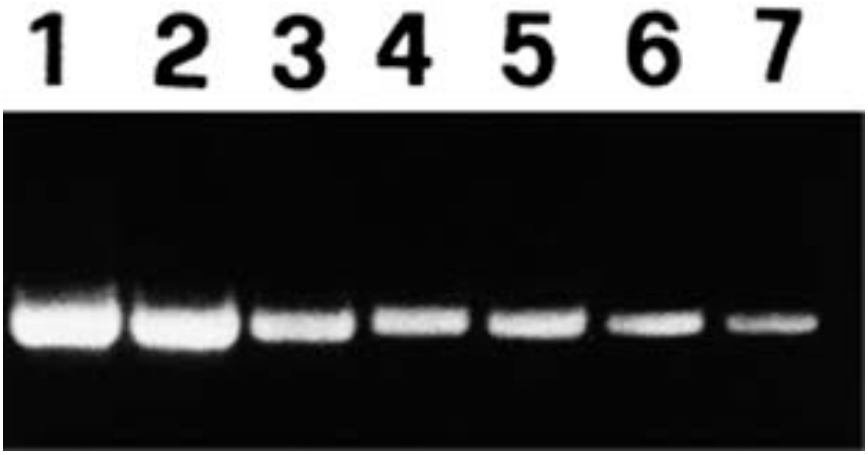
- Print it to carry to the bench.

Component	Amount per 100 ul	100 PCRs
Bfr 5X	20	2 mL
dNTPs	2	200 ul
Primers	50	-
gDNA	4 ul	400 ul
Phusion	1 ul	100 ul
H20	23	2.2 mL
	Total 100 ul	

1.7 TODO Run Gel

- The Gel shows that the gene has amplified 7 people. I made the

quantification with geekQuant.(Of course I havent used a loading control, because I am a cowboy).

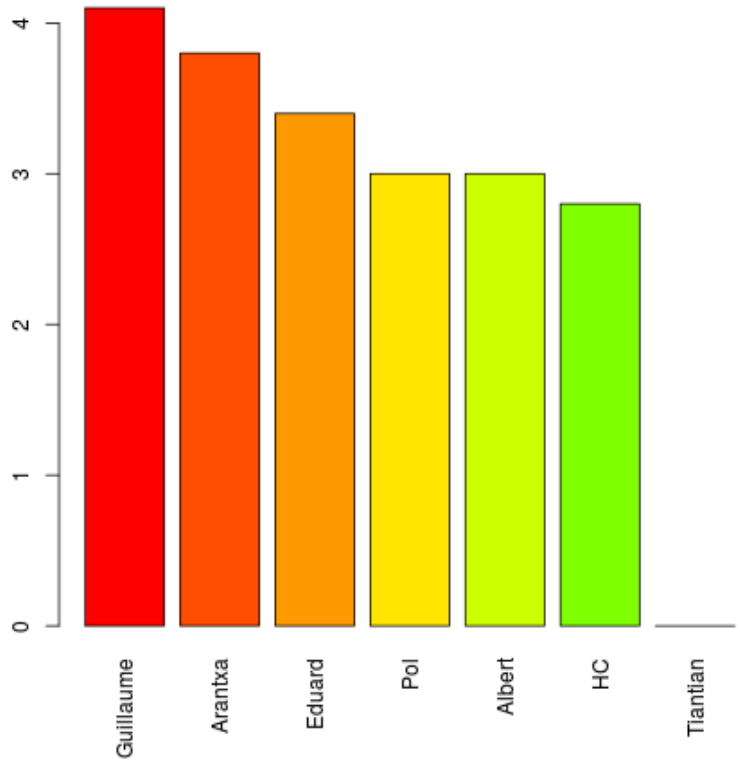


Num	Name	rel_{exp}
1	Guillaume	4.1
2	Arantxa	3.8
3	Eduard	3.4
4	Pol	3.0
5	Albert	3.0
6	HC	2.8
7	Tiantian	0.0

1.8 TODO Make Figure

- Lets make a barplot with the results

```
barplot(geek$rel_exp,names.arg=geek$Name,las=3, col=rainbow(20))
```



1.9 TODO Save a pdf copy

Backups are important!!! Link to the pdf

2 Example 2 A typical day at the computer

- I will make an exaple for someone doing data analysis since I dont know which

are the advantages to 'real developping'.

2.1 TODO Start to track the project in git

2.2 TODO Get the data

2.3 TODO Clean and prepare the Data

2.4 TODO Explore the Data, Plot , statistics

2.5 TODO Send a report, publish, export

3 Example 3 A typical day writing a paper