# Analyse de la Fréquence Allélique et Déduction du Pourcentage Tumoral

Léo Zwilling

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## Introduction

This document performs an analysis of allele frequency and estimates the tumoral percentage of the sample. It includes data preparation, visualization, and summary statistics.

## Data Visualization with GT

We will first create a GT table to visualize the data with conditional color formatting based on the LOH classification.

```
##
## Attachement du package : 'dplyr'

## Les objets suivants sont masqués depuis 'package:stats':
##
##     filter, lag

## Les objets suivants sont masqués depuis 'package:base':
##
##     intersect, setdiff, setequal, union

## here() starts at C:/Users/leozw/Documents/R/LOHmeter

## Warning: Since gt v0.3.0, `columns = vars(...)` has been deprecated.
## * Please use `columns = c(...)` instead.
## Since gt v0.3.0, `columns = vars(...)` has been deprecated.
## * Please use `columns = c(...)` instead.
```

| Gene.cons | Transcript.cons | Pos. | Ty |
|---|---|---|---|
| ABCB1 | NM_000927 | 12 (1236) [chr7:g.87179601 (hg19)] | C |
| ABCB1 | NM_000927 | 196 (2677) [chr7:g.87160618 (hg19)] | C |
| ABCB1 | NM_000927 | 153 (3435) [chr7:g.87138645 (hg19)] | C |
| AIP | NM_003977 | 37 (682) [chr11:g.67257823 (hg19)] | C |
| AIP | NM_003977 | 133 (920) [chr11:g.67258391 (hg19)] | C |
| CASR | NM_000388 | +19 [chr3:g.121976253 (hg19)] | C |
| CASR | NM_000388 | +16 [chr3:g.122001099 (hg19)] | C |
| CASR | NM_000388 | 512 (2244) [chr3:g.122003045 (hg19)] | C |
| CASR | NM_000388 | 1299 (3031) [chr3:g.122003832 (hg19)] | C |
| CASR | NM_000388 | 1565 [chr3:g.122004098 (hg19)] | C |
| CDA | NM_001785 | 149 / 1bp [chr1:g.20915592 / 20915590 (hg19)] | D |

| | | | |
|---|---|---|---|
| CDKN1B | NM_004064 | 492 [chr12:g.12870695 (hg19)] | C |
| CDKN1B | NM_004064 | 896 (326) [chr12:g.12871099 (hg19)] | C |
| DLST | NM_001933 | 39 (1098) [chr14:g.75367807 (hg19)] | C |
| EPAS1 | NM_001430 | -7 [chr2:g.46603671 (hg19)] | C |
| FLCN | NM_144997 | -14 [chr17:g.17127471 (hg19)] | C |
| FLCN | NM_144997 | +6 [chr17:g.17122327 (hg19)] | C |
| GNA11 | NM_002067 | +18 [chr19:g.3110349 (hg19)] | C |
| GNA11 | NM_002067 | -20 [chr19:g.3119184 (hg19)] | C |
| GNA11 | NM_002067 | 36 (771) [chr19:g.3119239 (hg19)] | C |
| GNA11 | NM_002067 | +8 [chr19:g.3119365 (hg19)] | C |
| GNAS | NM_000516 | 81 (393) [chr20:g.57478807 (hg19)] | C |
| GPR101 | NM_054021 | 370 (370) [chrX:g.136113464 (hg19)] | C |
| MDH2 | NM_005918 | 94 [chr7:g.75677430 (hg19)] | C |
| MDH2 | NM_005918 | 168 (26) [chr7:g.75677504 (hg19)] | C |
| MDH2 | NM_005918 | +10 [chr7:g.75684326 (hg19)] | C |
| MDH2 | NM_005918 | +17 [chr7:g.75692927 (hg19)] | C |
| MEN1 | NM_130799 | -16 [chr11:g.64577620 (hg19)] | C |
| MEN1 | NM_130799 | 69 (1254) [chr11:g.64572602 (hg19)] | C |
| MEN1 | NM_130799 | 114 (1299) [chr11:g.64572557 (hg19)] | C |
| MEN1 | NM_130799 | 271 (1621) [chr11:g.64572018 (hg19)] | C |
| MET | NM_001127500 | 60 (3912) [chr7:g.116435768 (hg19)] | C |
| MET | NM_001127500 | 80 (3932) [chr7:g.116435788 (hg19)] | C |
| MET | NM_001127500 | 82 (4071) [chr7:g.116436022 (hg19)] | C |
| MET | NM_001127500 | 157 (4146) [chr7:g.116436097 (hg19)] | C |
| NF1 | NM_001042492 | 48 (702) [chr17:g.29508775 (hg19)] | C |
| NF1 | NM_001042492 | 33 (2034) [chr17:g.29553485 (hg19)] | C |
| NF1 | NM_001042492 | 13 (3126) [chr17:g.29557872 (hg19)] | C |
| NF1 | NM_001042492 | 94 (4929) [chr17:g.29652931 (hg19)] | C |
| NF1 | NM_001042492 | +19 [chr17:g.29654876 (hg19)] | C |
| NUDT15 | NM_018283 | 232 (52) / 1bp [chr13:g.48611934 (hg19)] | C |
| NUDT15 | NM_018283 | 60 (415) / 1bp [chr13:g.48619855 (hg19)] | C |
| NUDT15 | NM_018283 | 61 (416) / 1bp [chr13:g.48619856 (hg19)] | C |
| PRKAR1A | NM_002734 | -4 / 1bp [chr17:g.66519861_66519862 / 66519857_66519858 (hg19)] | I ( |
| RET | NM_020975 | 62 (135) [chr10:g.43595968 (hg19)] | C |
| RET | NM_020975 | +9 [chr10:g.43596179 (hg19)] | C |
| RET | NM_020975 | 33 (1296) [chr10:g.43606687 (hg19)] | C |
| RET | NM_020975 | 192 (2071) [chr10:g.43610119 (hg19)] | C |
| RET | NM_020975 | 23 (2307) [chr10:g.43613843 (hg19)] | C |
| RET | NM_020975 | 105 (2712) [chr10:g.43615633 (hg19)] | C |
| SDHB | NM_003000 | 169 (18) [chr1:g.17380497 (hg19)] | C |
| SDHC | NM_003001 | 228 [chr1:g.161332346 (hg19)] | C |
| SPRED1 | NM_152594 | 84 (291) [chr15:g.38614525 (hg19)] | C |
| SPRED1 | NM_152594 | -18 [chr15:g.38631920 (hg19)] | C |
| SPRED1 | NM_152594 | -8 [chr15:g.38631930 (hg19)] | C |
| SPRED1 | NM_152594 | 360 (1044) [chr15:g.38643574 (hg19)] | C |

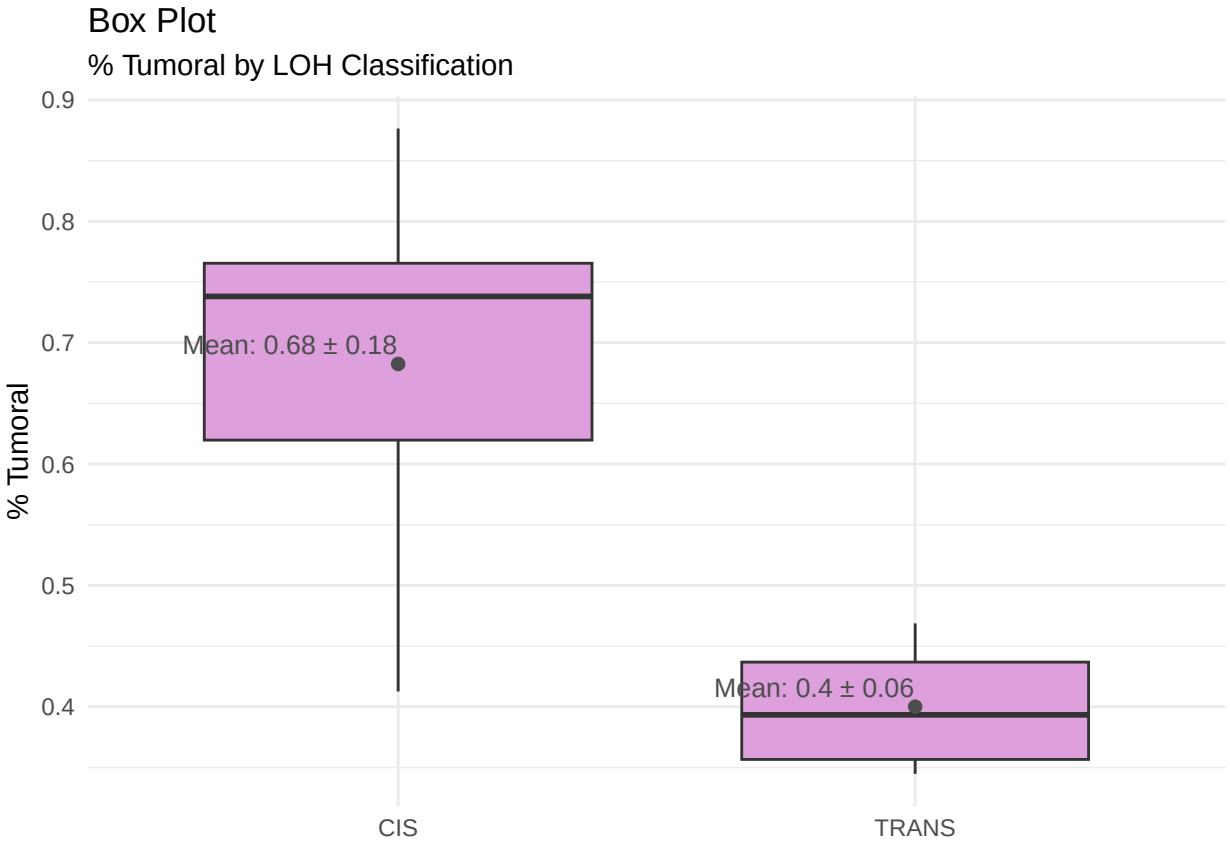
| | | | |
|---|---|---|---|
| TMEM127 | NM_017849 | 212 (621) [chr2:g.96919642 (hg19)] | C |
| TPMT | NM_000367 | 5 (238) / 1bp [chr6:g.18143955 (hg19)] | C |
| TPMT | NM_000367 | 41 (460) / 1bp [chr6:g.18139228 (hg19)] | C |
| TPMT | NM_000367 | 55 (474) [chr6:g.18139214 (hg19)] | C |
| TPMT | NM_000367 | -1 / 1bp [chr6:g.18131012 (hg19)] | C |
| TPMT | NM_000367 | 94 (719) / 1bp [chr6:g.18130918 (hg19)] | C |
| VHL | NM_000551 | 19 [chr3:g.10183337 (hg19)] | C |

## Data Preparation

We extract the %tumoral values based on LOH classification and calculate the mean and standard deviation for each classification.

## Boxplot Visualization

We create a boxplot of %tumoral by LOH classification, displaying the mean and standard deviation.




## Results

The calculated mean for the CIS and TRANS classes combined is:

```
## [1] 0.556979
```