

1 RSV Study Results

These are the 13 genes that were used in the previous rhino study.

CXCL10 OAS2 CCL2 CCL8 IL1B IL1RN CASP7 CCR1 TAP1 TAP2
CASP5 TNFAIP6 TNFSF10

We used this same set on the rsv data to classify the subjects.

1.1 Classifier

For each gene, compute the baseline average (average of t-12 and t0 values for all subjects), baseline standard deviation (using L1 norm for now), and baseline maximum. Set gene.threshold to be the baseline_maximum + 1*baseline_stddev

Next compute a score for each subject. If a gene ever goes over gene_threshold in the given time period (tlower to tupper, default all times), then increment score of subject by 1.

If score is greater than number of genes/3, then subject classified as "SYMP"

If score is less than number of genes/4, then subject classified as "ASYMP"

Here are the results – using ALL time points:

```
Subject 0 = 11, r, classified = r
Subject 1 = 12, r, classified = r
Subject 2 = 8, r, classified = r
Subject 3 = 1, g, classified = g
Subject 4 = 3, g, classified = g
Subject 5 = 6, r, classified = r
Subject 6 = 13, r, classified = r
Subject 7 = 0, g, classified = g
Subject 8 = 0, g, classified = g
Subject 9 = 1, g, classified = g
Subject 10 = 1, r, classified = g
Subject 11 = 5, r, classified = r
Subject 12 = 2, g, classified = g
Subject 13 = 5, r, classified = r
Subject 14 = 0, g, classified = g
Subject 15 = 7, g, classified = r
Subject 16 = 0, g, classified = g
Subject 17 = 0, g, classified = g
Subject 18 = 0, g, classified = g
Subject 19 = 2, r, classified = g
```

There are 3 errors: subject 10, 15 and 19. NOTE that Subject numbers are 1 less than those used in data set.

For time 0 to time 60hrs, everyone is classified as "ASYMP". (9 errors)

For time 0 to time 93hrs, sub 1 and 6 correctly classified as "SYMP" everyone else is classified as "ASYMP". (7 errors)

For time 0 to time 117hrs, sub 1,2,6,11,13 are correctly classified as "SYMP"
everyone else is classified as "ASYMP". (4 errors)

For time 0 to time 132hrs, sub 1,2,5,6,11,13 are correctly classified as "SYMP"
everyone else is classified as "ASYMP". (3 errors)

For time 0 to time 141hrs, sub 0,1,2,5,6,11,13,15 are classified as "SYMP"
everyone else is classified as "ASYMP". Errors : 15, 10, 19 (3 errors)

Color coding is as follows in these plots:

- (1) Green: Asymp.
- (4) Red: Symp











