Exploratory Data Analysis

```r
# Load packages and read Files
library(tidyverse)
library(data.table)

df.ZIKV <- fread("GSE207347_A1B1_vs_A2B2_ZIKV_ribodiff_name.txt.gz")
df.DENV <- fread("GSE207347_A1B1_vs_A3B3_DENV_ribodiff_name.txt.gz")
df.ZIKV_DE <- fread("GSE207347_ZIKV_DESeq2_result_name.txt.gz")
df.DENV_DE <- fread("GSE207347_DENV_DESeq2_result_name.txt.gz")
```

```r
# Figure 1 B
fig1b <- ggplot(subset(df.ZIKV_DE, !is.na(padj)),
                aes(log2FoldChange, -log10(padj)))

fig1b +
  geom_point(aes(colour = -log10(padj) > -log10(0.05)), show.legend = FALSE) +
  labs(title = "ZIKV") + xlab("RNA log2Fold change") + ylab("p adj(-log10)") +
  geom_vline(xintercept = 0) + geom_hline(yintercept = -log10(0.05)) +
  scale_color_manual(values = c('black', 'red')) +
  theme(panel.grid.major = element_blank(),
        panel.grid.minor = element_blank(),
        panel.background = element_blank(),
        plot.title = element_text(hjust = 0.5),
        axis.line = element_line(colour = "black"))
```
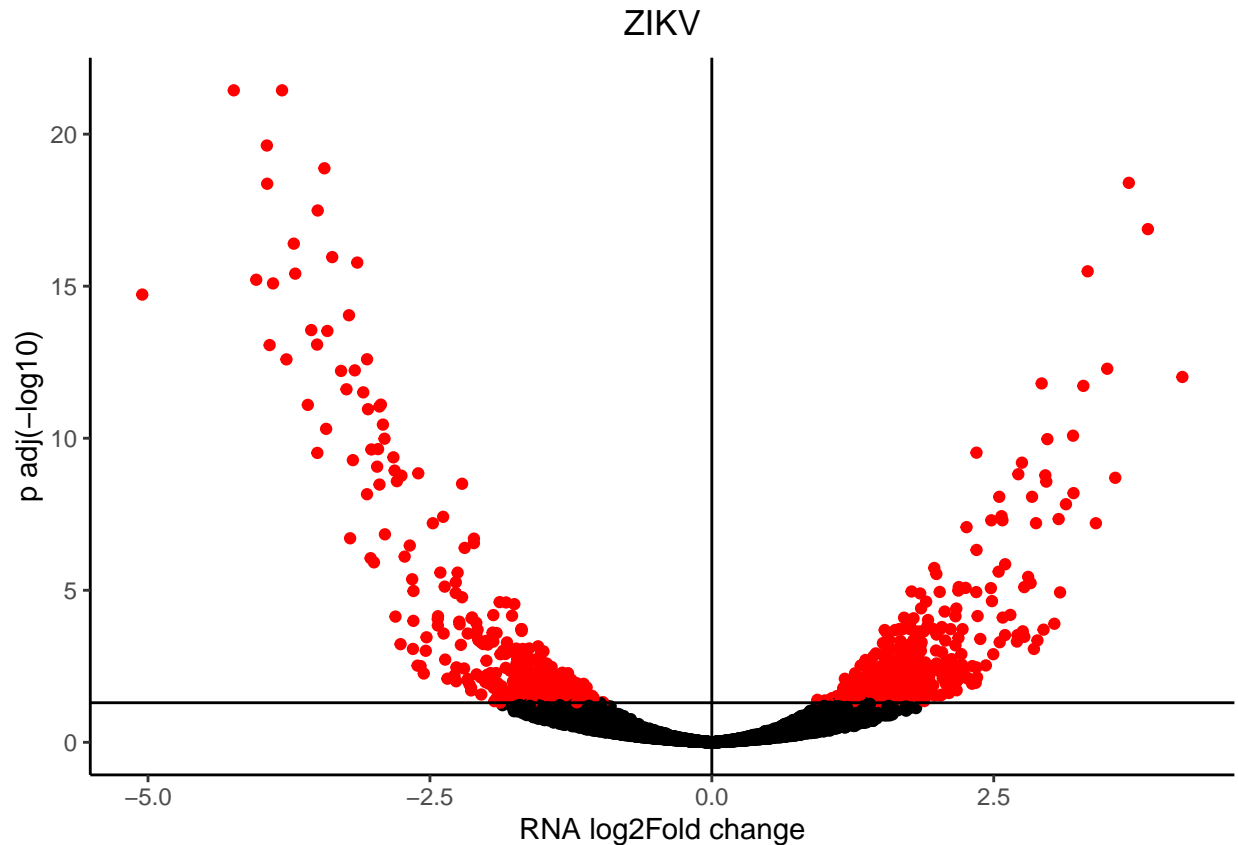
ZIKV

```
df.ZIKV_DE.sub <- subset(df.ZIKV_DE, !is.na(padj))
# Count of Up regulated with q < 0.05
(df.ZIKV_DE.sub$log2FoldChange > 0 & df.ZIKV_DE.sub$padj < 0.05) %>% sum()
```
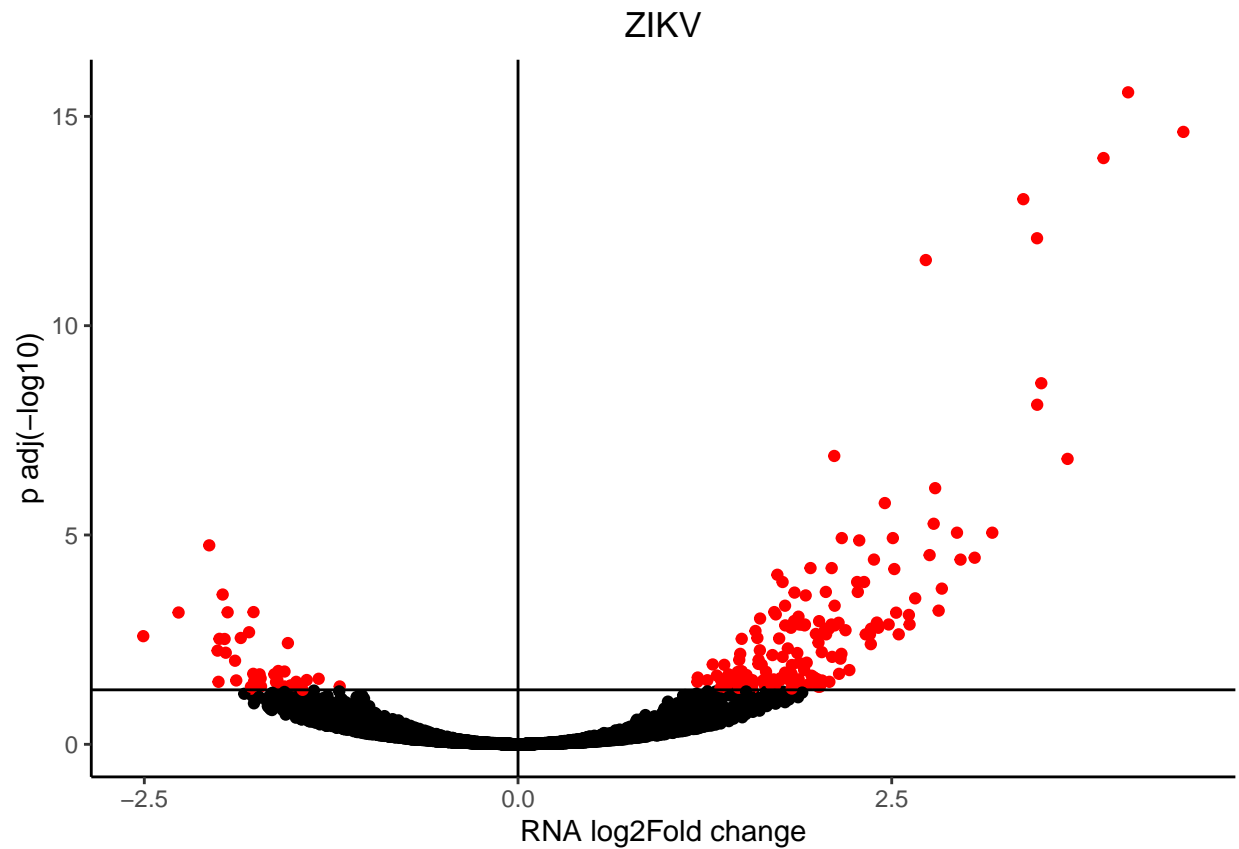
```
## [1] 445
```

```
# Count of Down regulated with q < 0.05
(df.ZIKV_DE.sub$log2FoldChange < 0 & df.ZIKV_DE.sub$padj < 0.05) %>% sum()
```

```
## [1] 335
```

```
# Figure 1 C
fig1c <- ggplot(subset(df.DENV_DE, !is.na(padj)),
                aes(log2FoldChange, -log10(padj)))

fig1c +
  geom_point(aes(colour = -log10(padj) > -log10(0.05)), show.legend = FALSE) +
  labs(title = "ZIKV") + xlab("RNA log2Fold change") + ylab("p adj(-log10)") +
  geom_vline(xintercept = 0) + geom_hline(yintercept = -log10(0.05)) +
  scale_color_manual(values = c('black', 'red')) +
  theme(panel.grid.major = element_blank(),
        panel.grid.minor = element_blank(),
        panel.background = element_blank(),
        plot.title = element_text(hjust = 0.5),
        axis.line = element_line(colour = "black"))
```

ZIKV

```r
df.DENV_DE.sub <- subset(df.DENV_DE, !is.na(padj))
# Count of Up regulated with q < 0.05
(df.DENV_DE.sub$log2FoldChange > 0 & df.DENV_DE.sub$padj < 0.05) %>% sum()
```

```
## [1] 156
```

```r
# Count of Down regulated with q < 0.05
(df.DENV_DE.sub$log2FoldChange < 0 & df.DENV_DE.sub$padj < 0.05) %>% sum()
```

```
## [1] 37
```