perm pvalues

Frequency

0.0 0.2 0.4 0.6 0.8 1.0

rawp
n=2989

s,rawM_0zero_num<max(20,min(rawM

Frequency

0.5 0.6 0.7 0.8 0.9 1.0

[rawM_0zero_num < max(20, min(rawM_0zero_n
n=1, ks_pval=1

perm pvalues,rawM_0zero_num 20–

Frequency

0.2 0.4 0.6 0.8 1.0
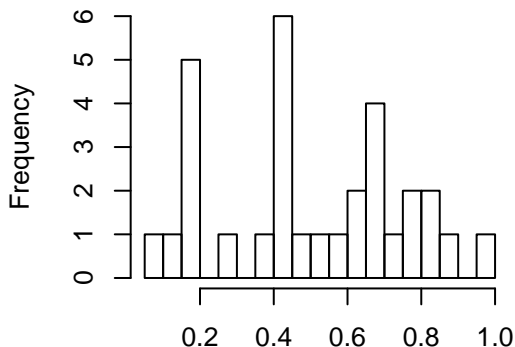
awp[rawM_0zero_num >= 20 & rawM_0zero_num
n=31, ks_pval=0.958596019986107

perm pvalues,rawM_0zero_num>=10
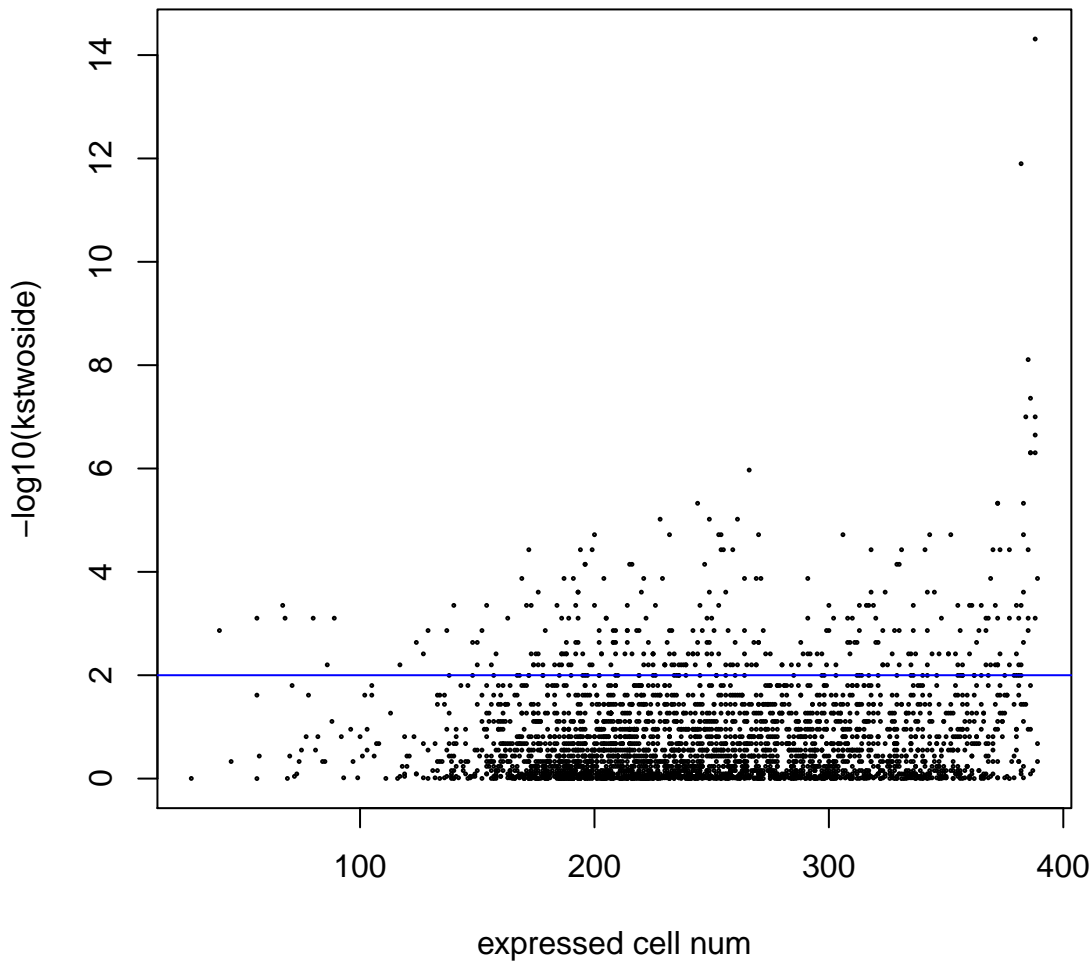
Frequency

0.0 0.2 0.4 0.6 0.8 1.0
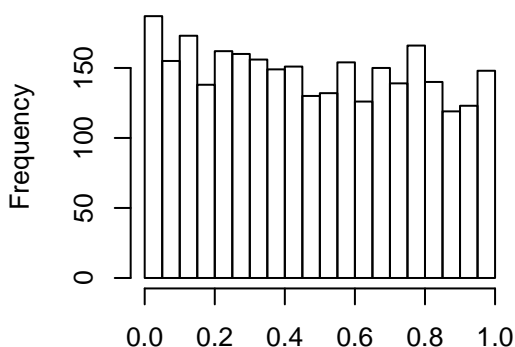
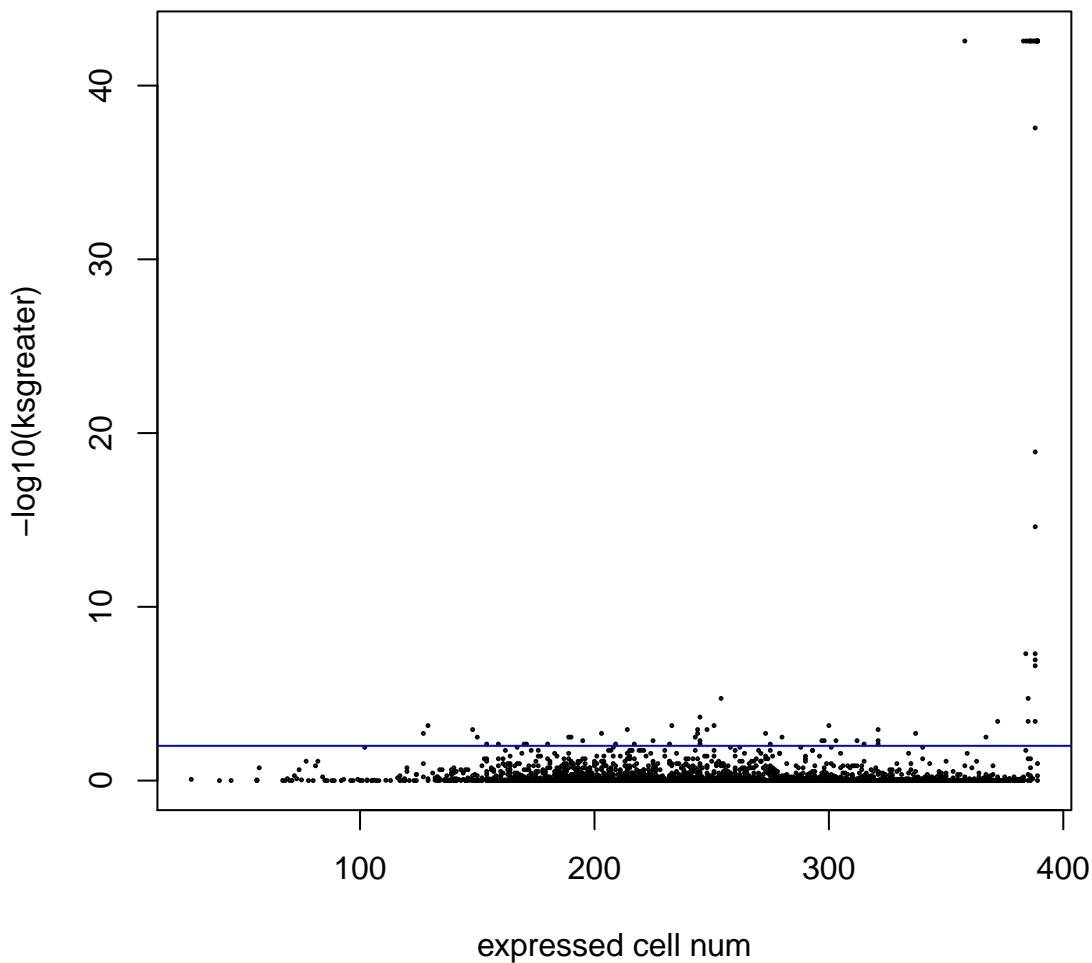rawp[rawM_0zero_num >= 100]
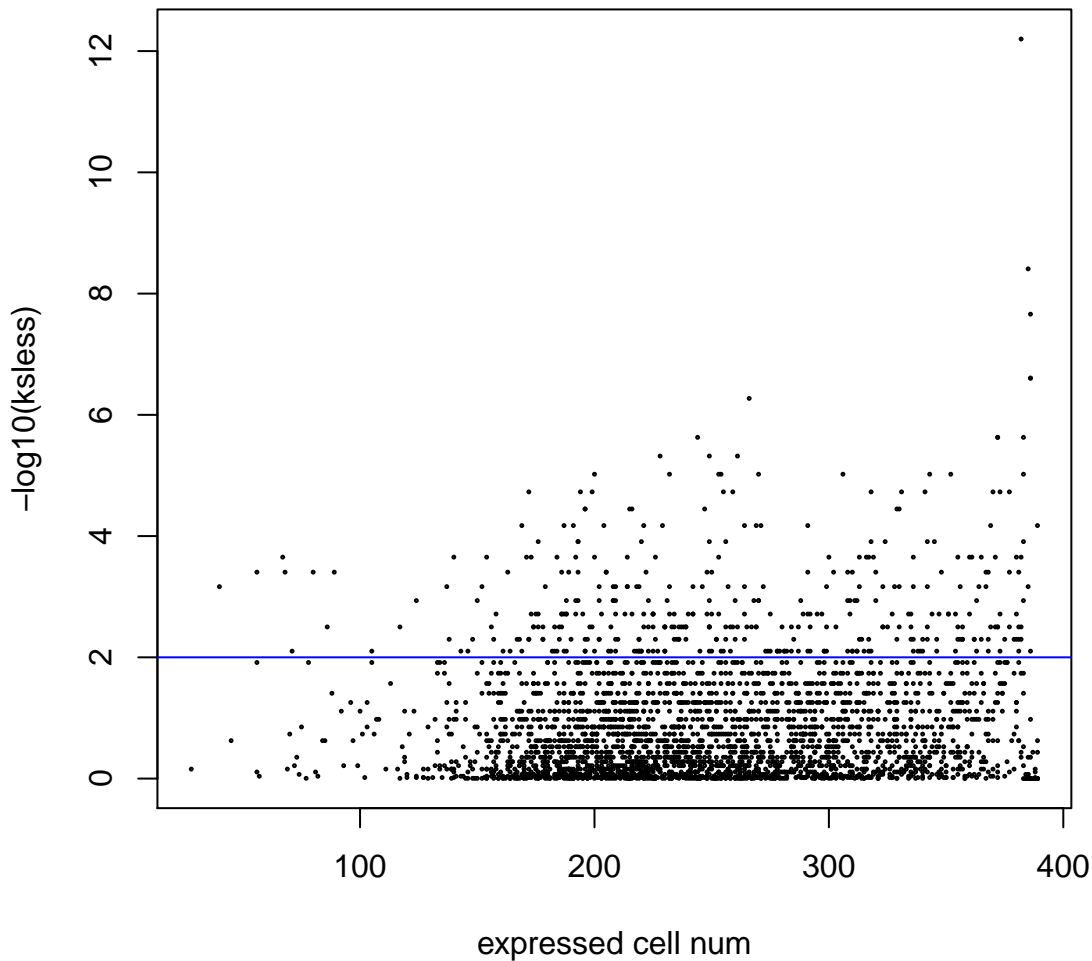n=2958, ks_pval=0.0481204865924416

perm pvalues
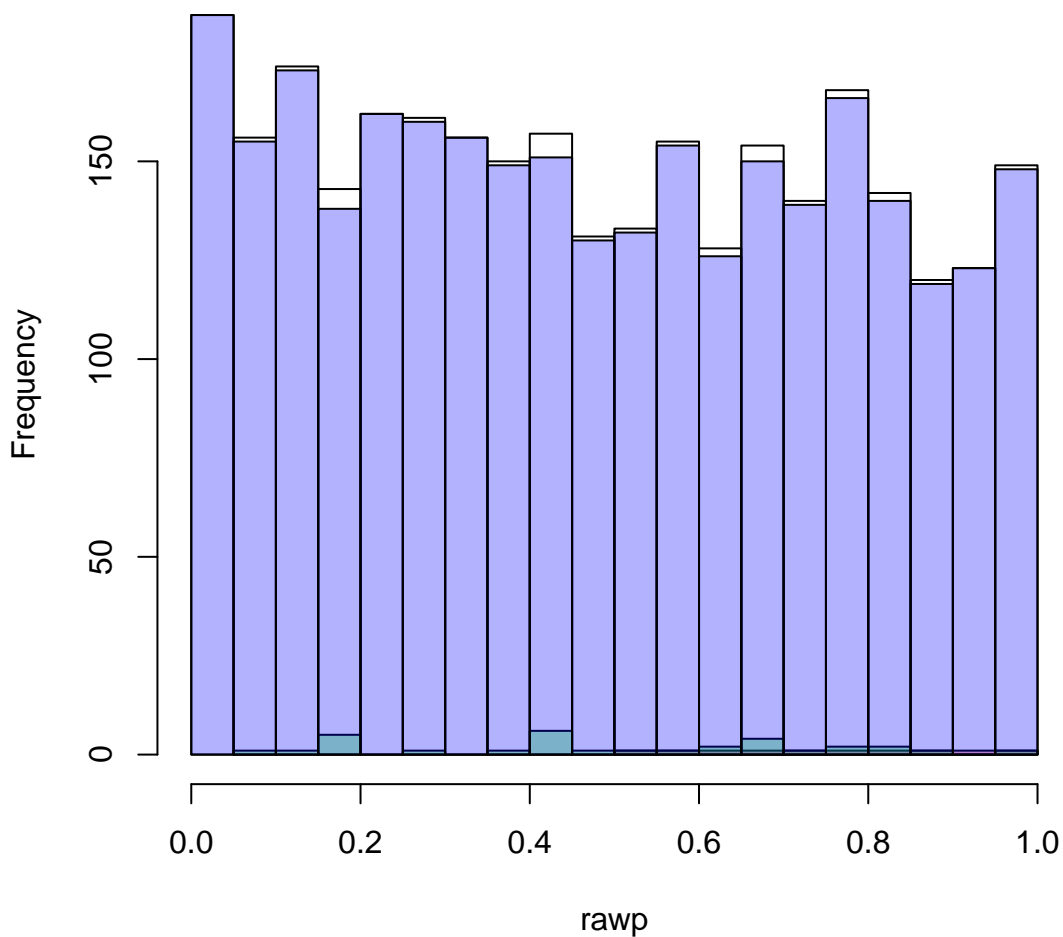
sig_KStwoside: 10.539%
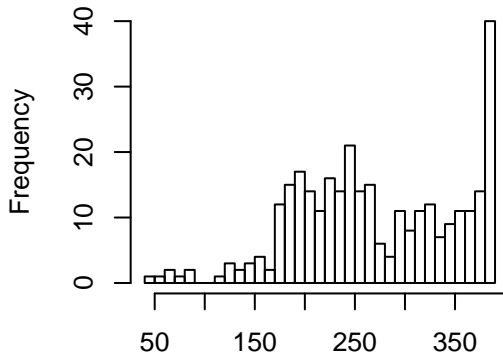
sig_KSgreater: 2.308%

sig_KSless: 13.014%
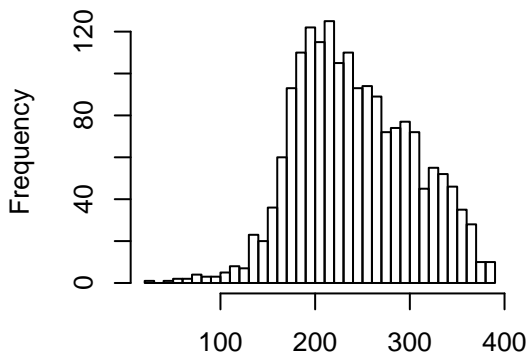
expression cell num,kstwoside>0.2 **expression cell num,kstwoside<0.0**

rawM_0zero_num[kstwoside > 0.2]   rawM_0zero_num[kstwoside < 0.01]

expression cell num,ksgreater<0.01 **expression cell num,ksless<0.01**
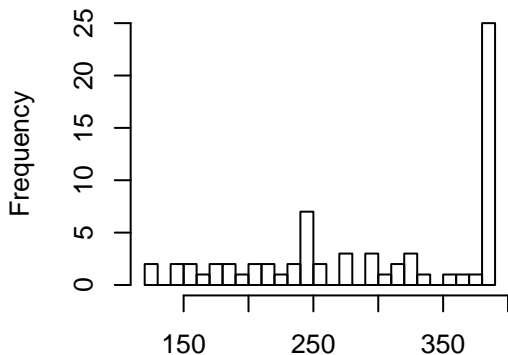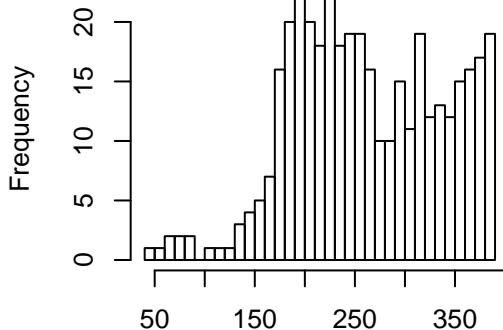
rawM_0zero_num[ksgreater < 0.01]   rawM_0zero_num[ksless < 0.01]

expression cell num

Frequency

rawM_0zero_num[kstwoside > 0.2]

median of nozero log−expres of genes, kstwoside sig
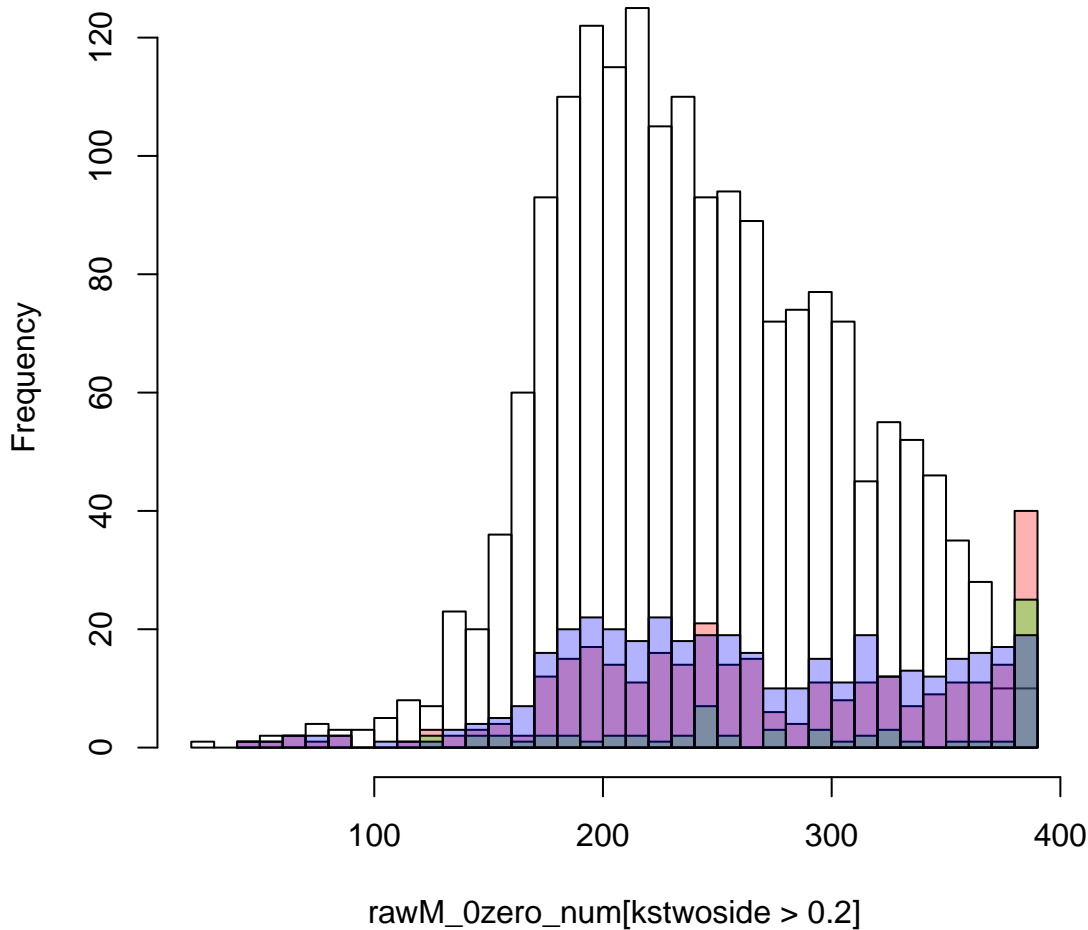
rawM_nozero_median[kstwoside_sig]
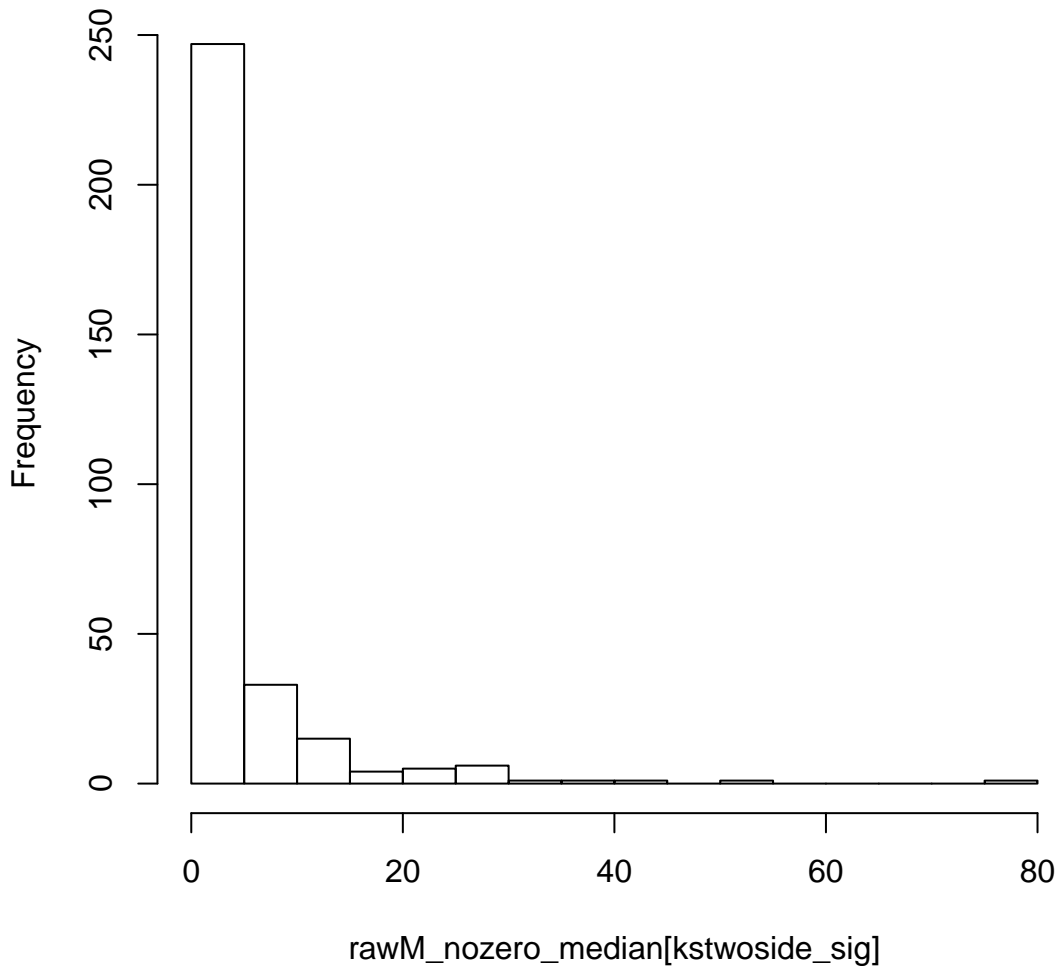
median of nozero log−expres of genes, ksless sig

median of nozero log−expres of genes,ksgreater sig
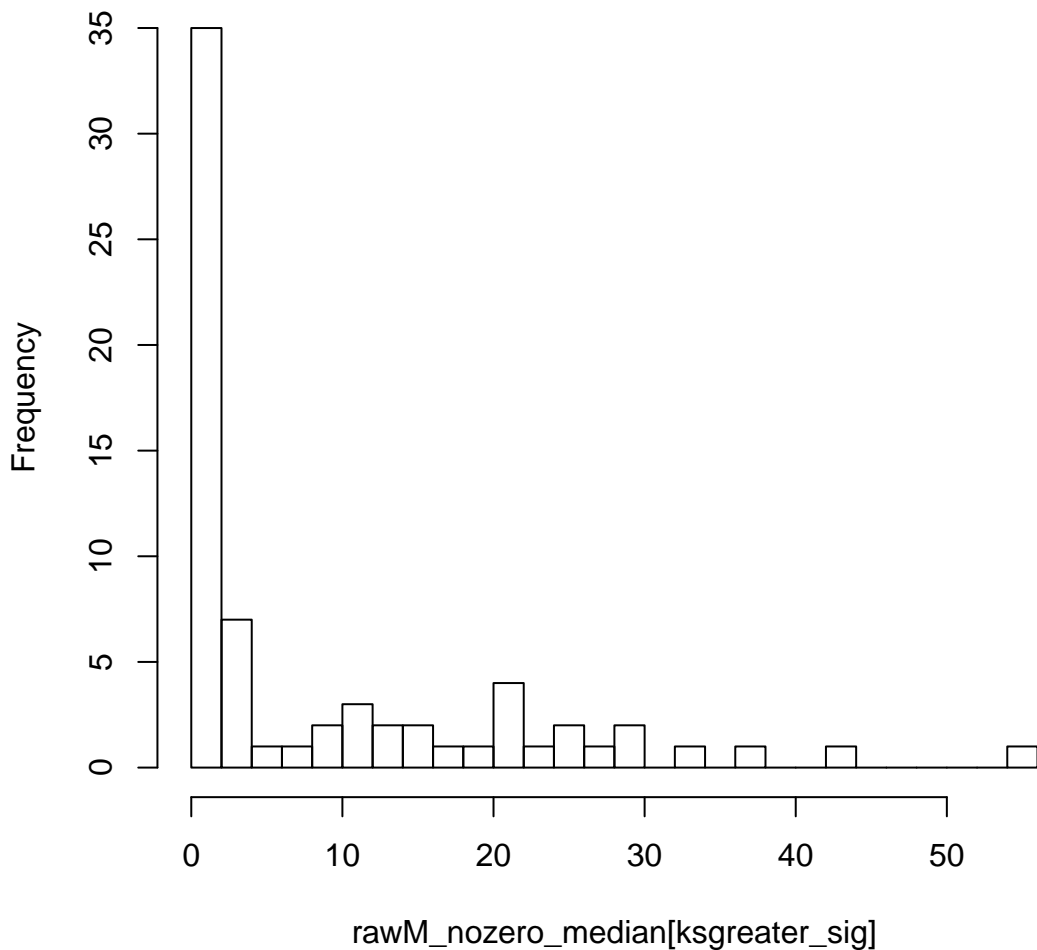
Frequency

rawM_nozero_median[ksgreater_sig]

median of nozero log−expres of genes,ks no sig

Frequency

rawM_nozero_median[ks_nonsig]

mean of nozero log−expres of genes, kstwoside sig

Frequency
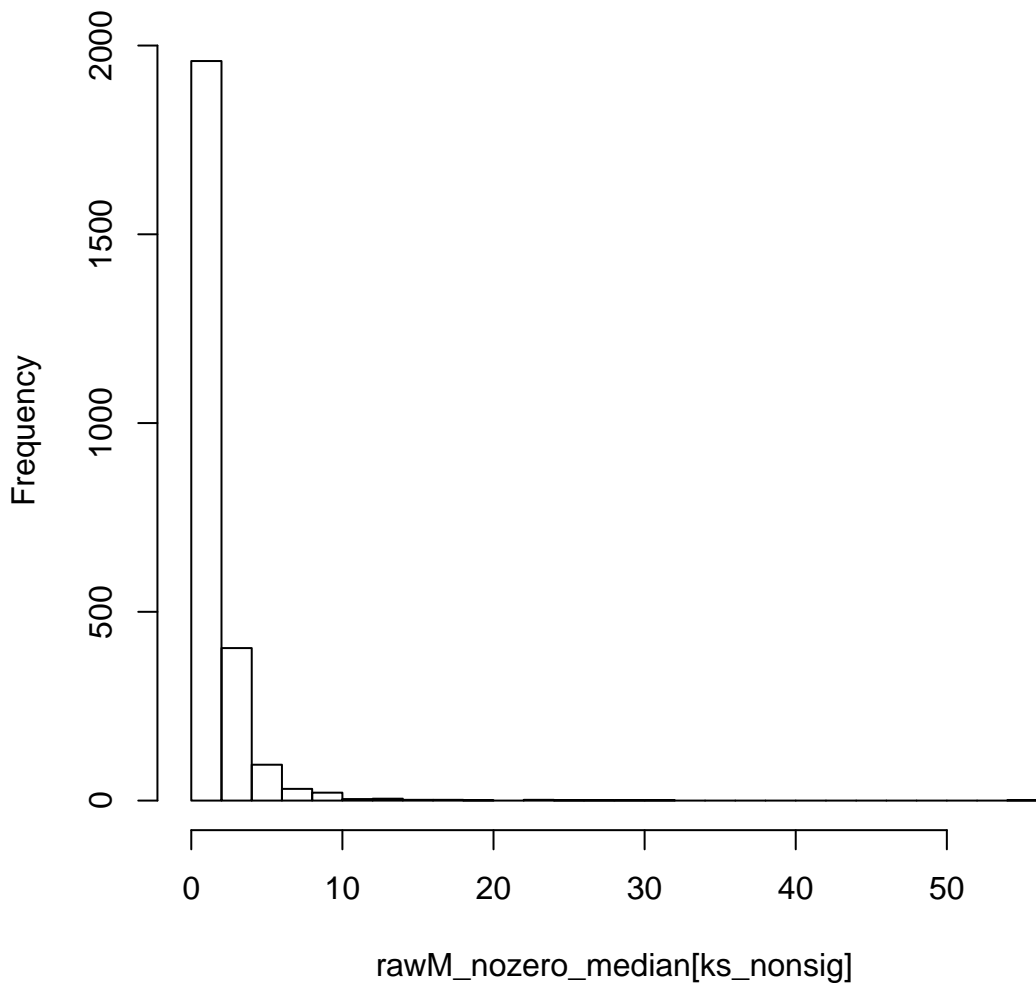
rawM_nozero_mean[kstwoside_sig]

mean of nozero log−expres of genes, ksless sig

Frequency

rawM_nozero_mean[ksless_sig]

mean of nozero log−expres of genes,ksgreater sig

Frequency
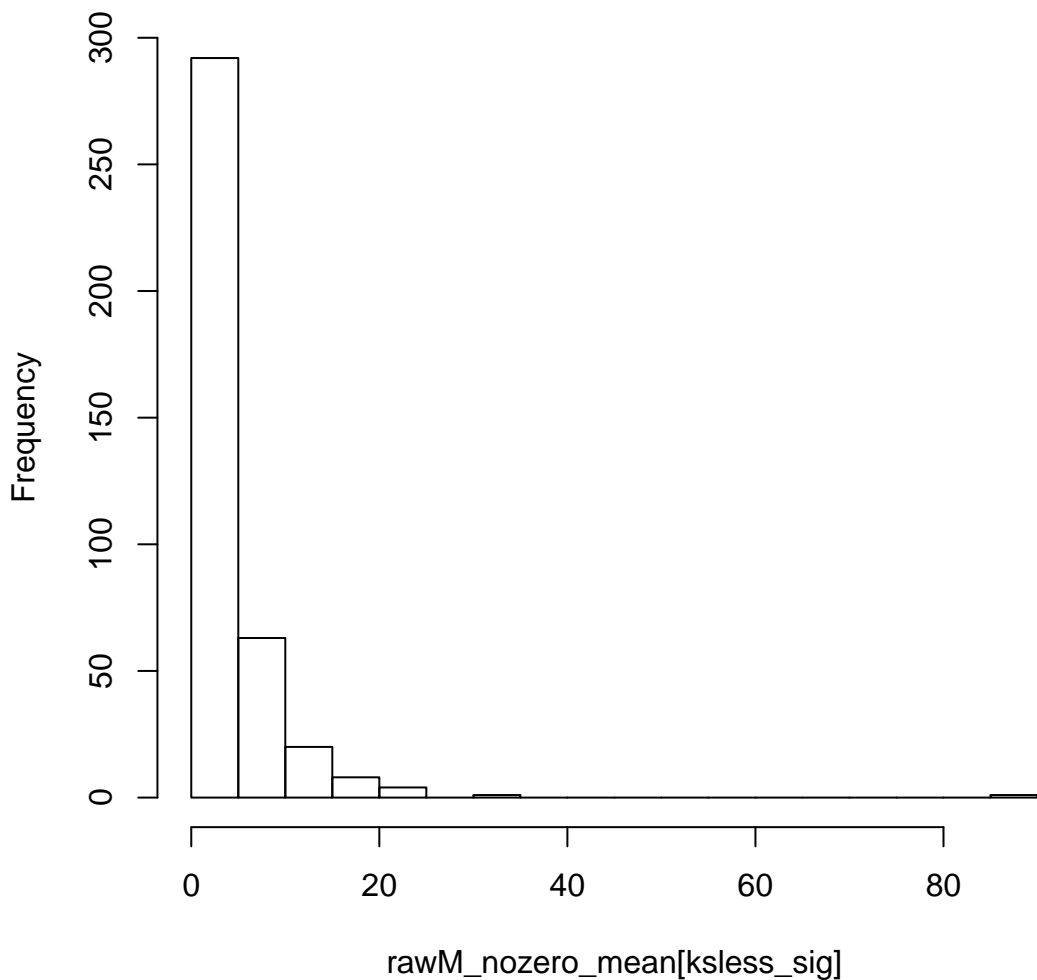
rawM_nozero_mean[ksgreater_sig]

mean of nozero log−expres of genes,ks no sig

rawM_nozero_mean[ks_nonsig]
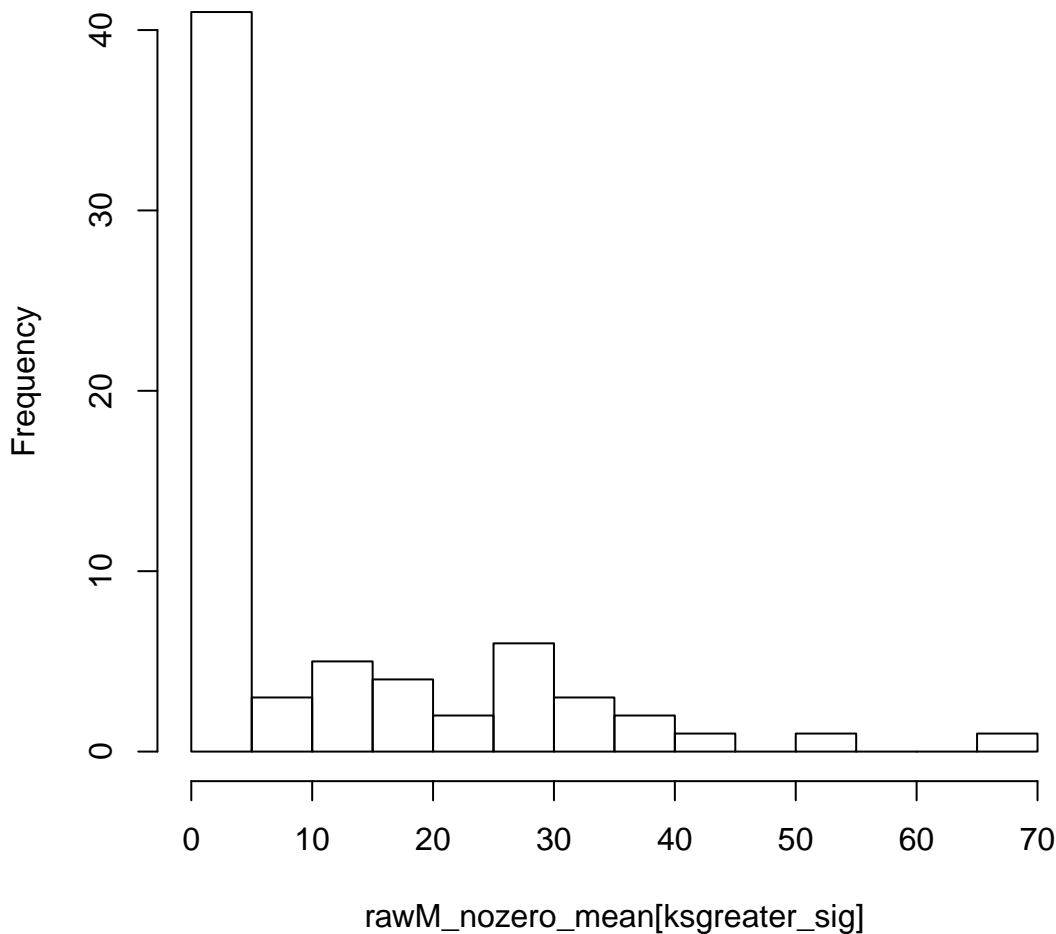
sd of nozero log−expres of genes, kstwoside sig

sd of nozero log−expres of genes, ksless sig

Frequency

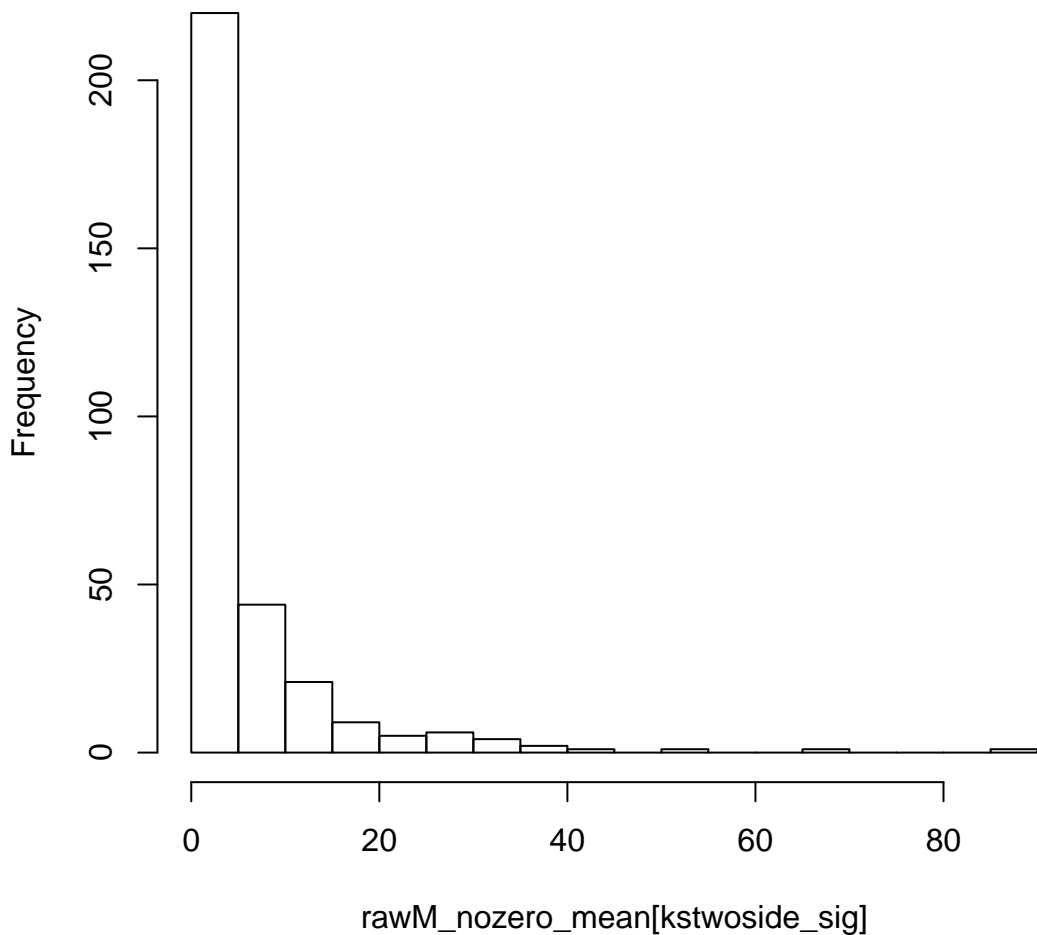rawM_nozero_sd[ksless_sig]
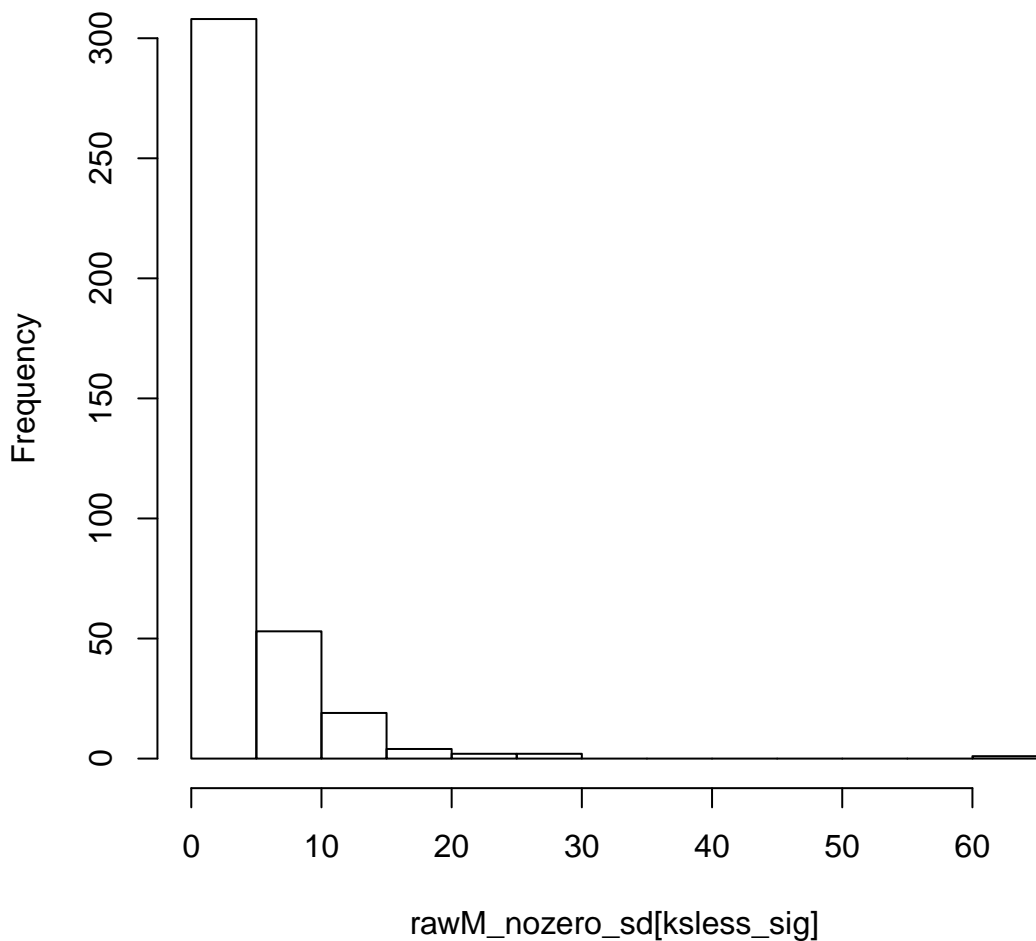
sd of nozero log−expres of genes,ksgreater sig

sd of nozero log−expres of genes,ks no sig

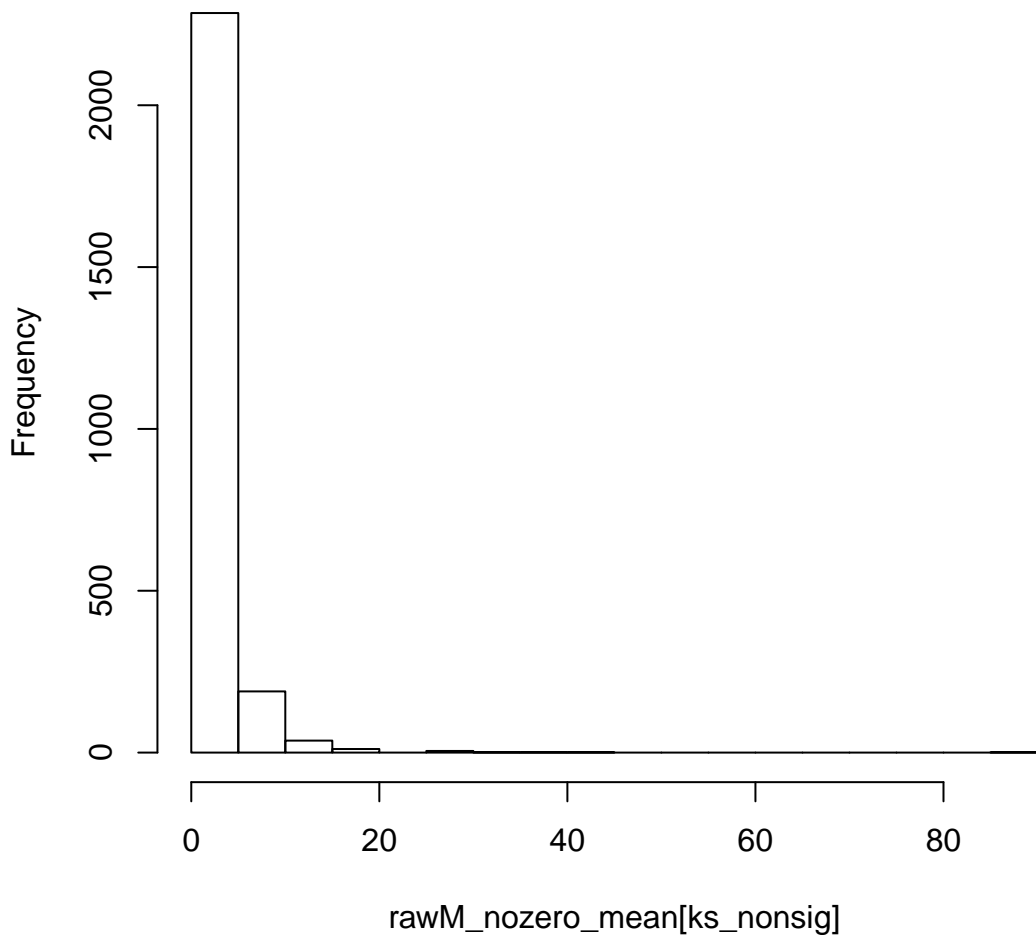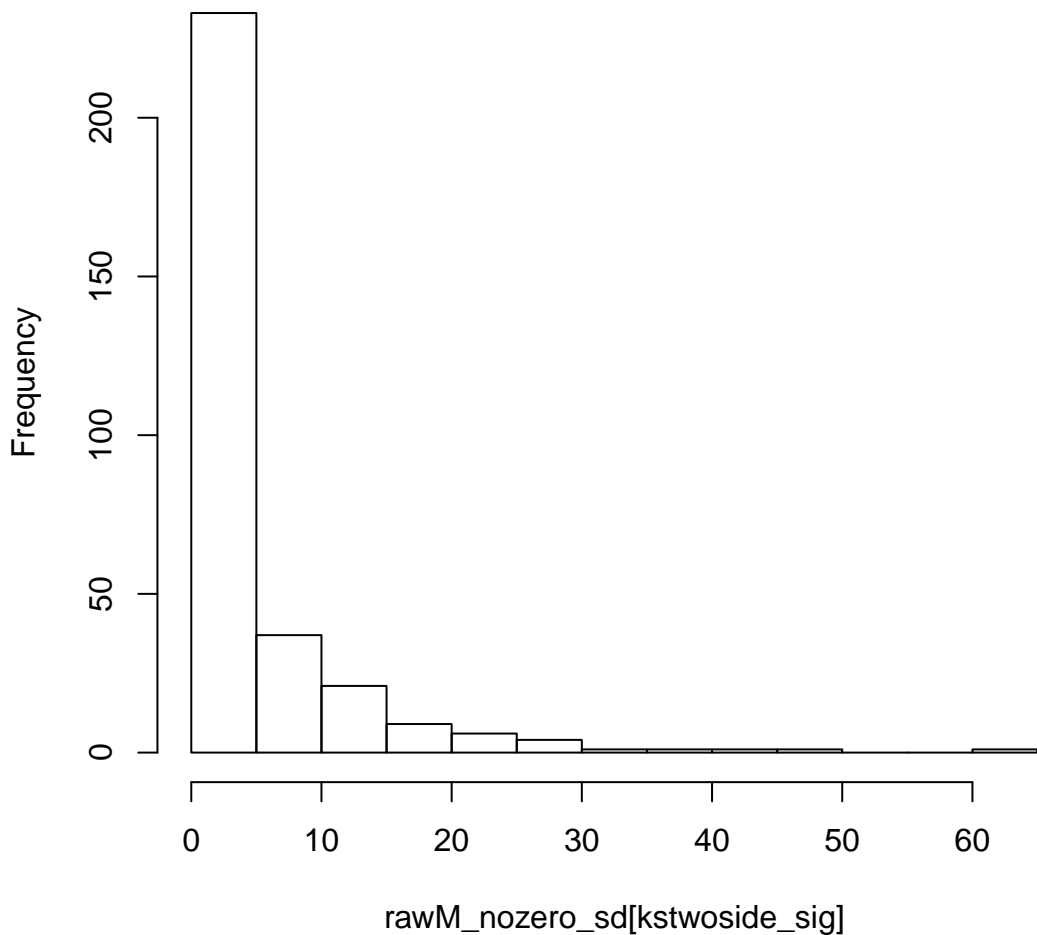**skewness of nozero log−expres of genes, kstwoside sig**

rawM_nozero_skewness[kstwoside_sig]

skewness of nozero log−expres of genes, ksless sig

Frequency

rawM_nozero_skewness[ksless_sig]

skewness of nozero log−expres of genes,ksgreater sig
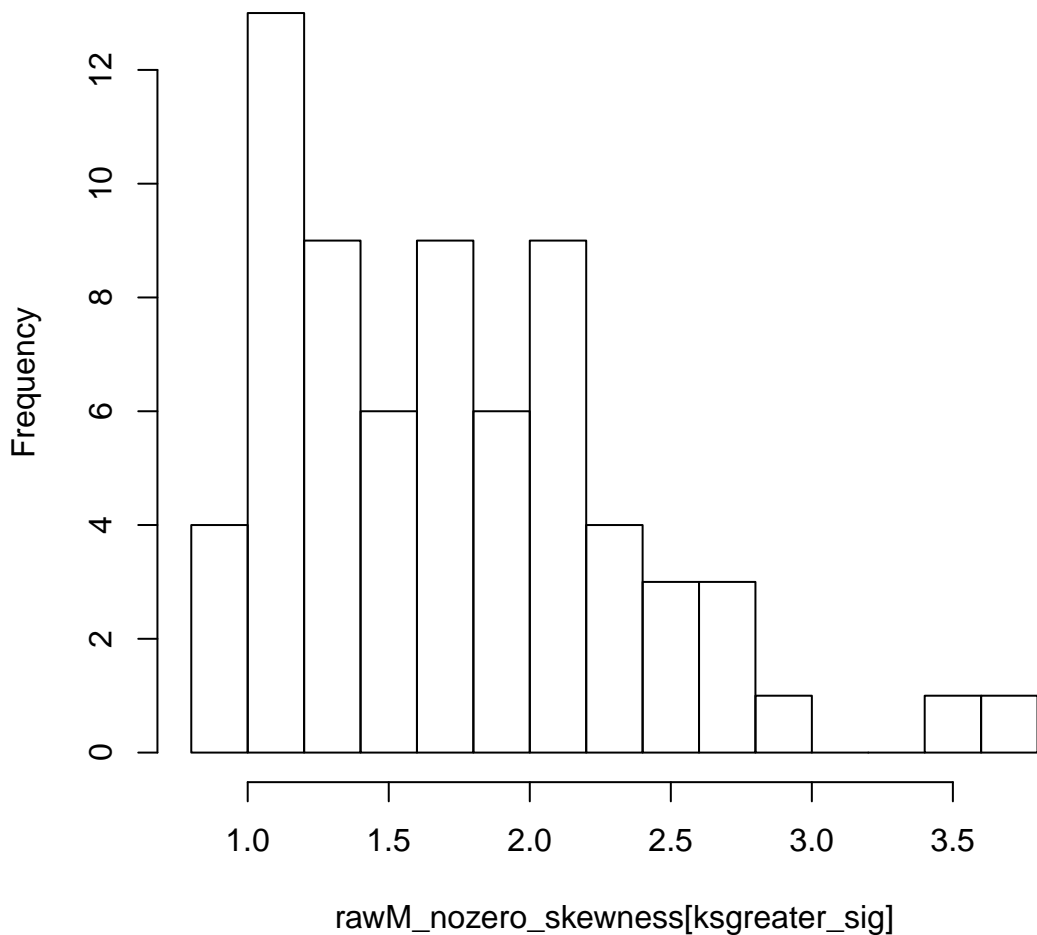
Frequency

rawM_nozero_skewness[ksgreater_sig]

skewness of nozero log−expres of genes,ks no sig

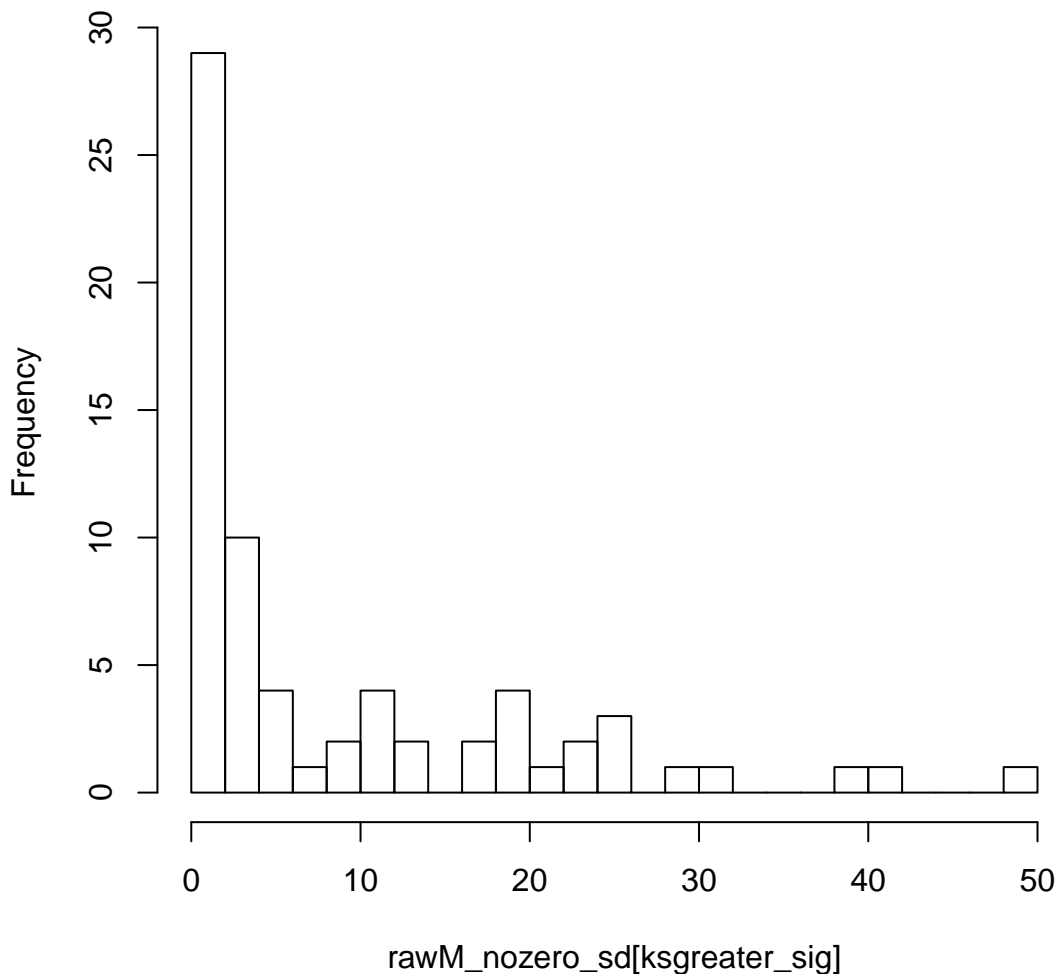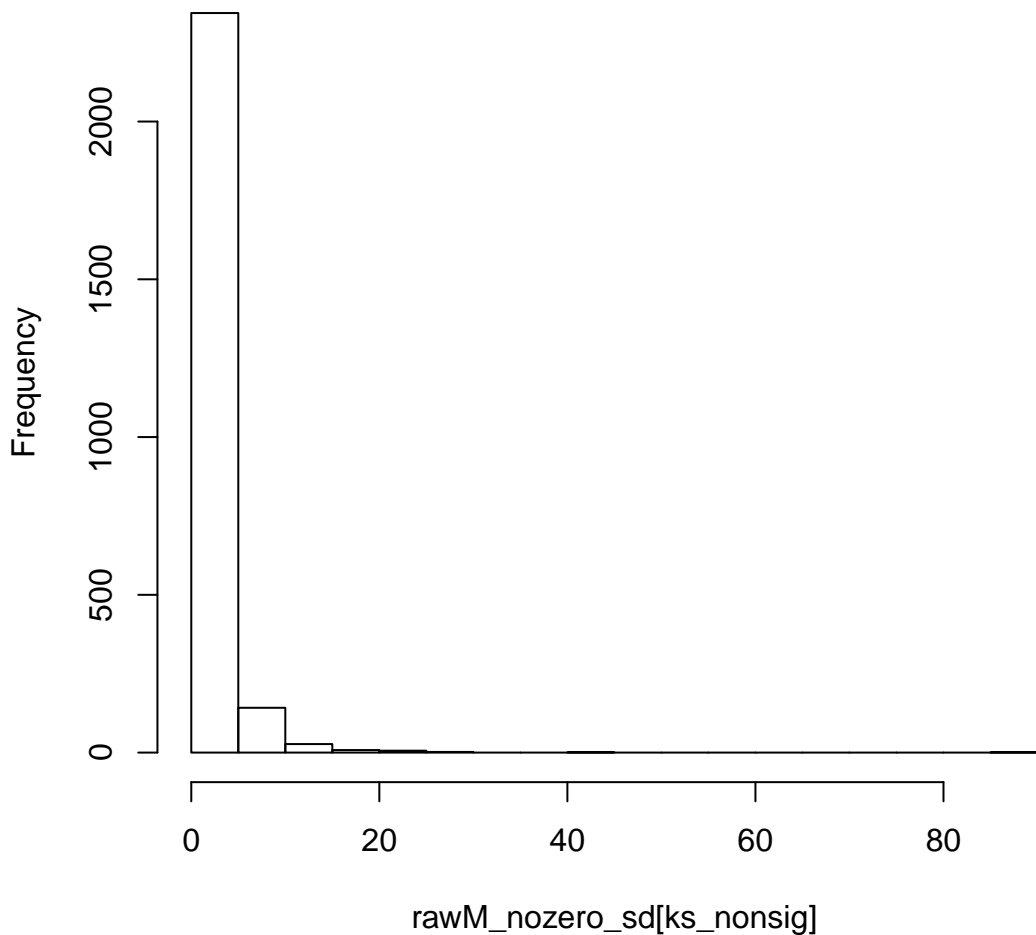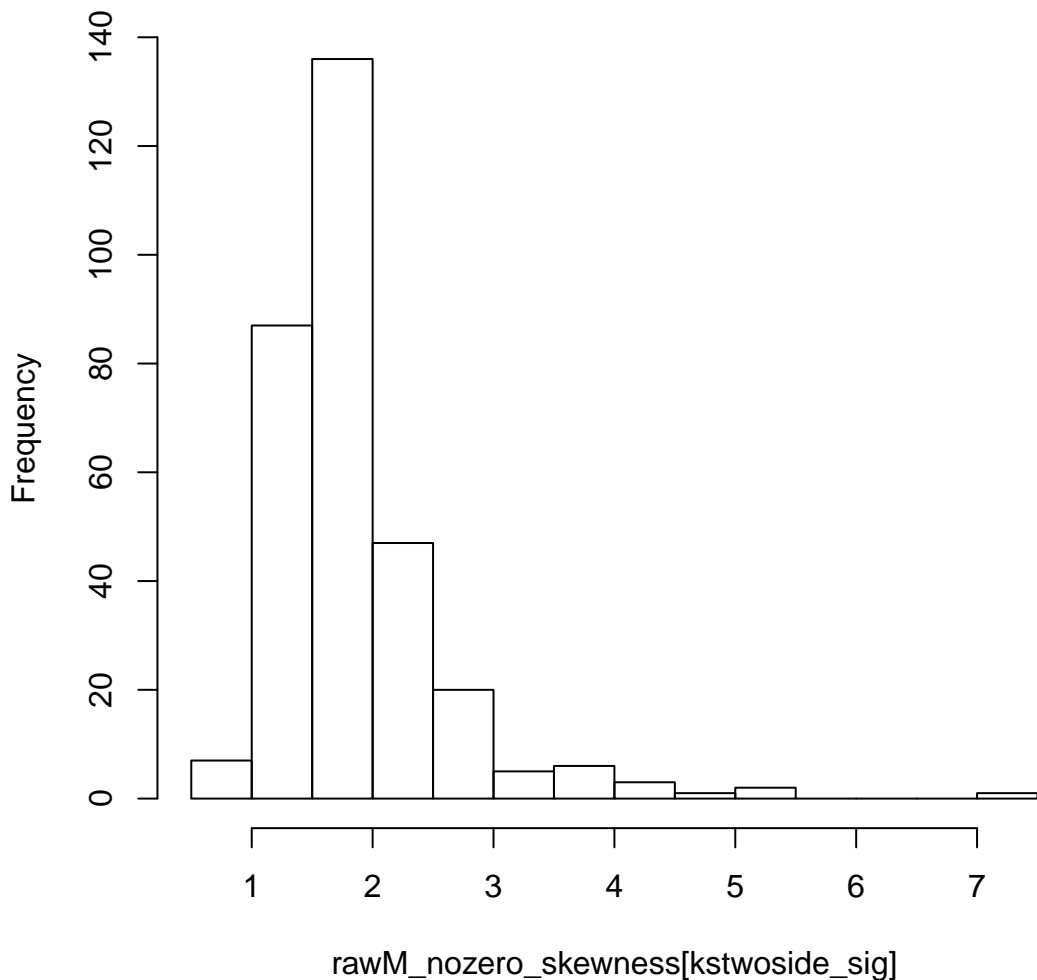Frequency

rawM_nozero_skewness[ks_nonsig]
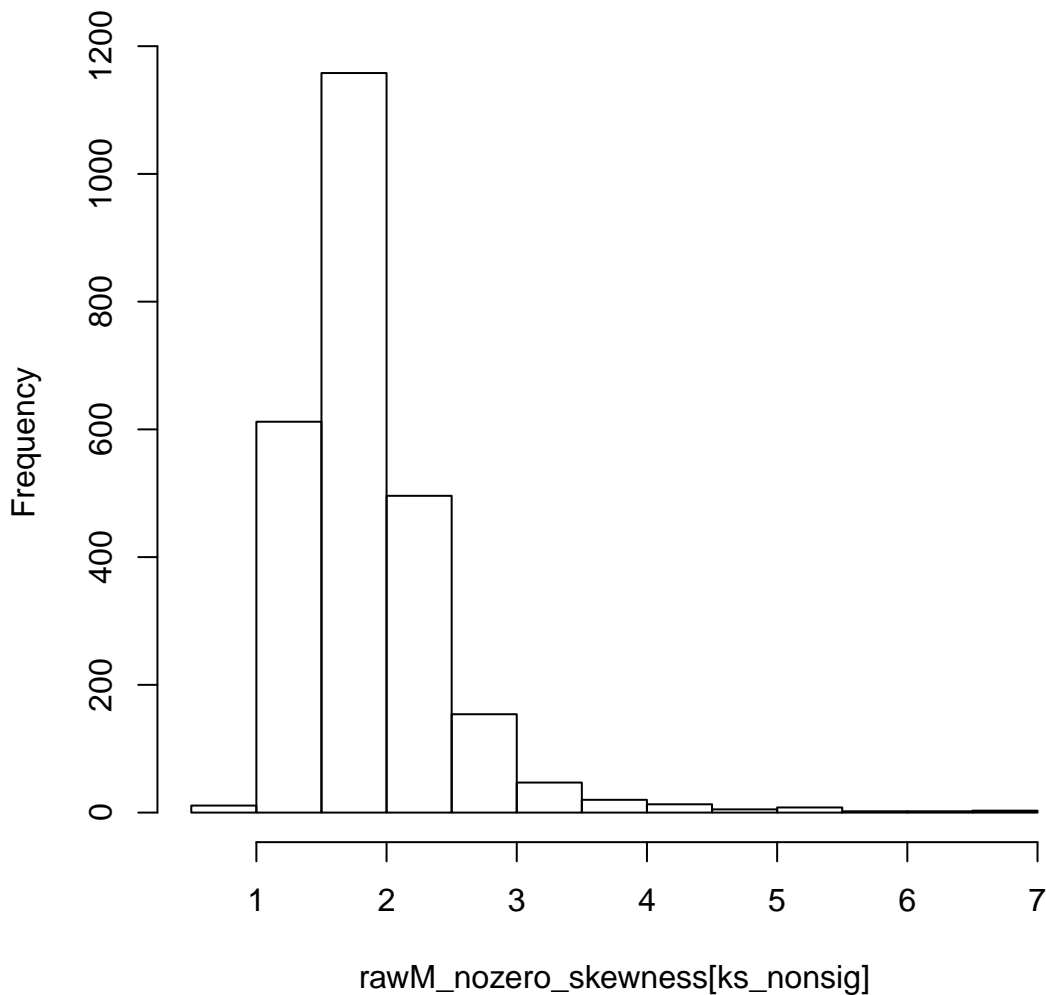
max of nozero log−expres of genes, kstwoside sig
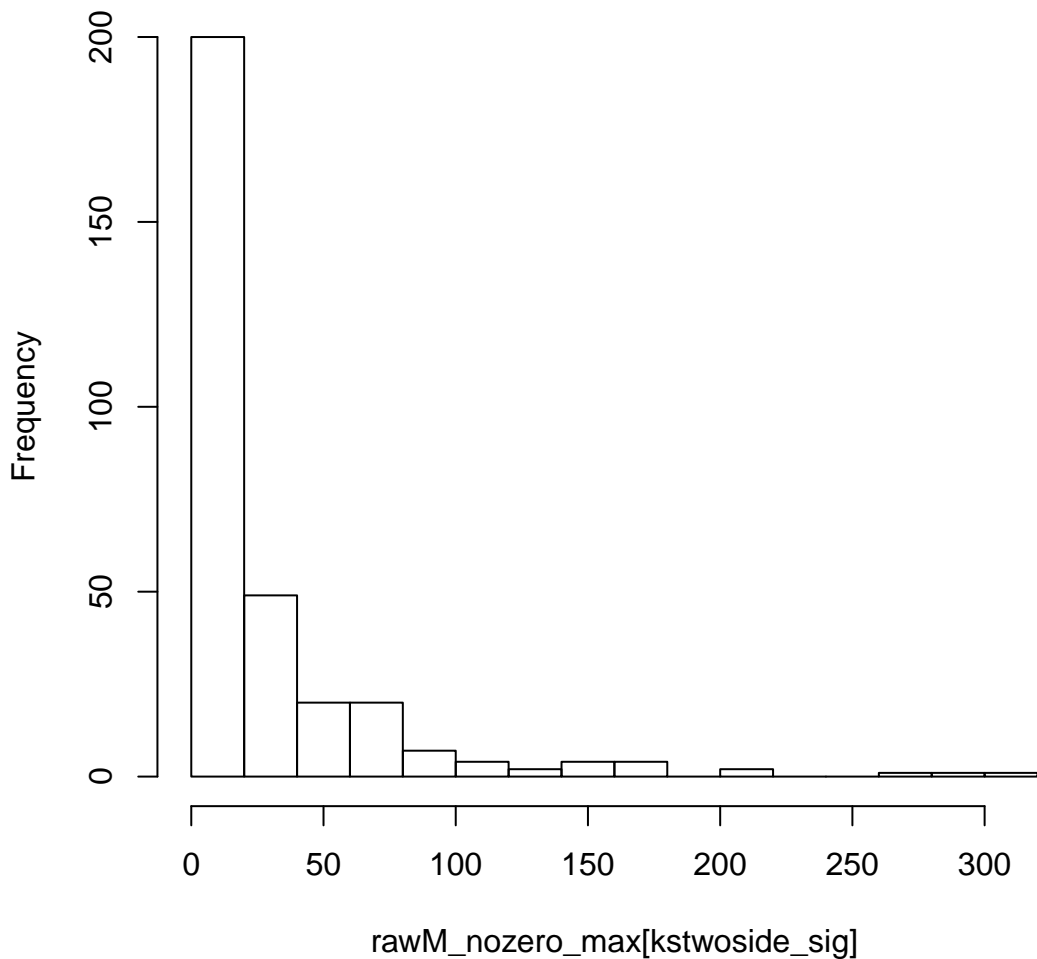
max of nozero log−expres of genes, ksless sig
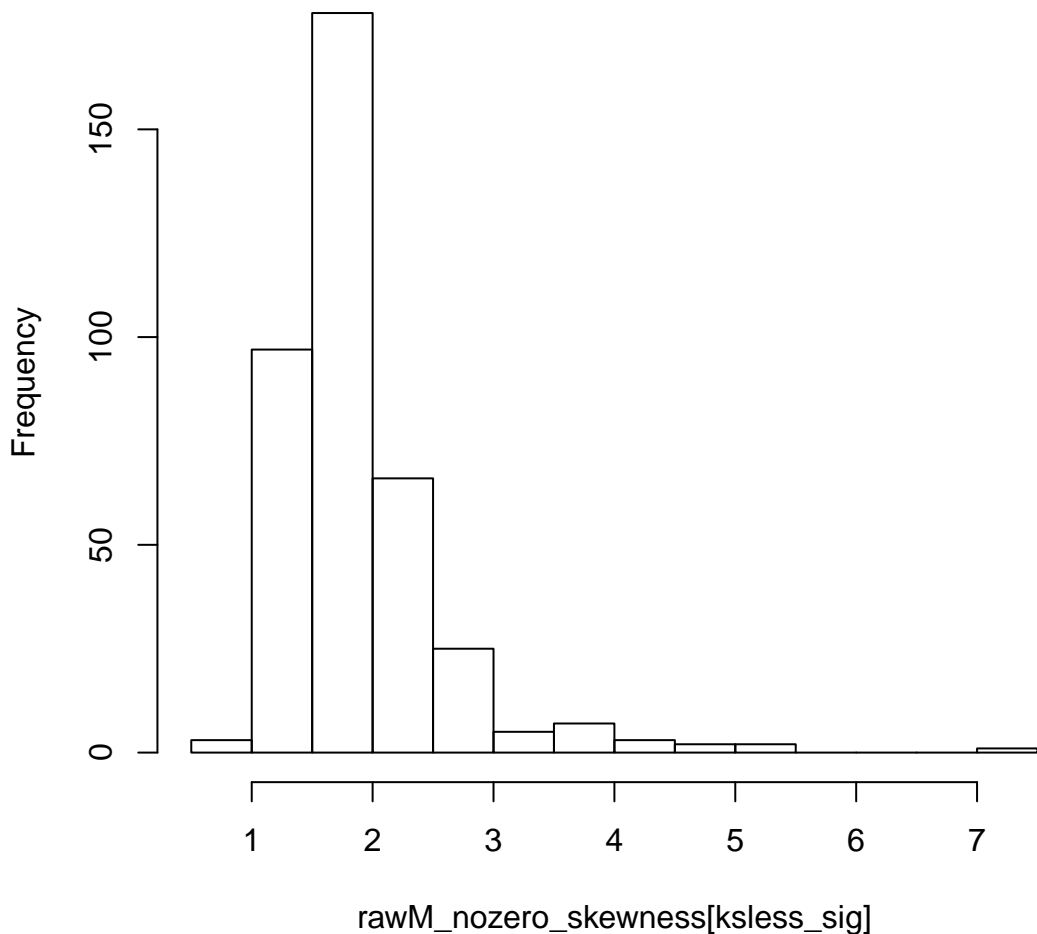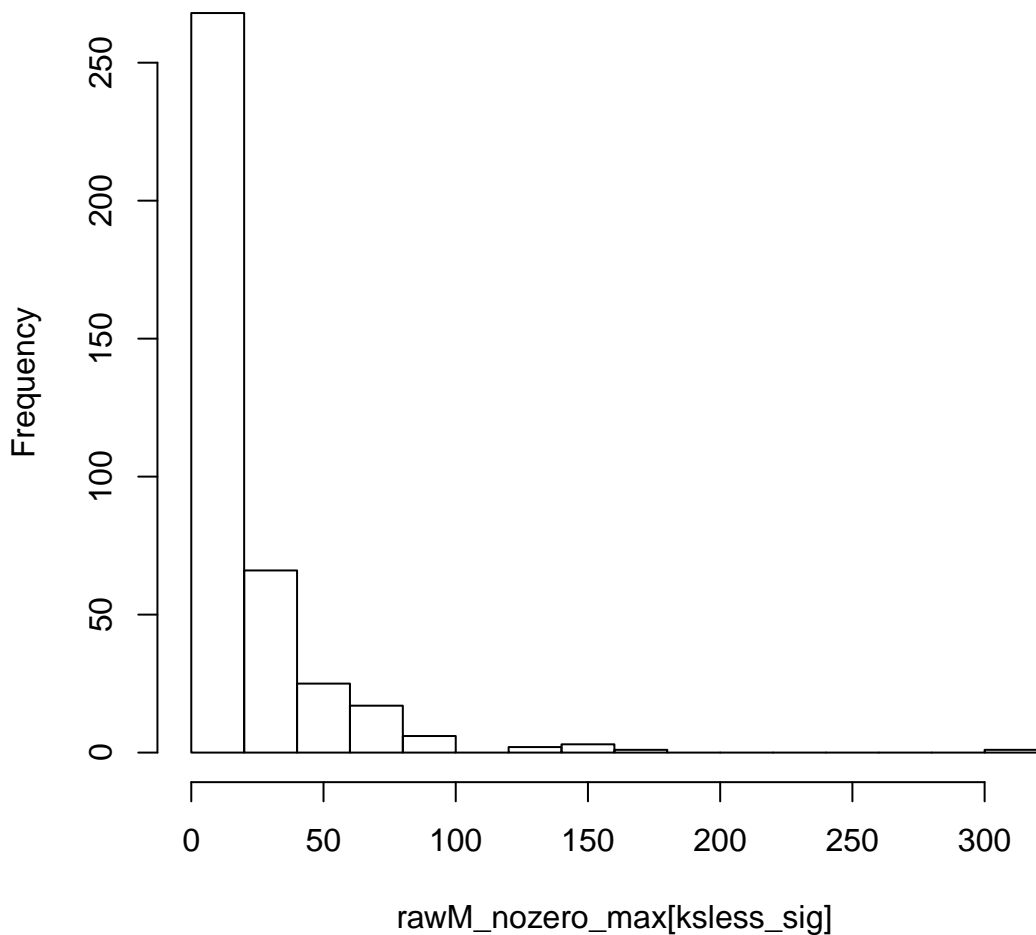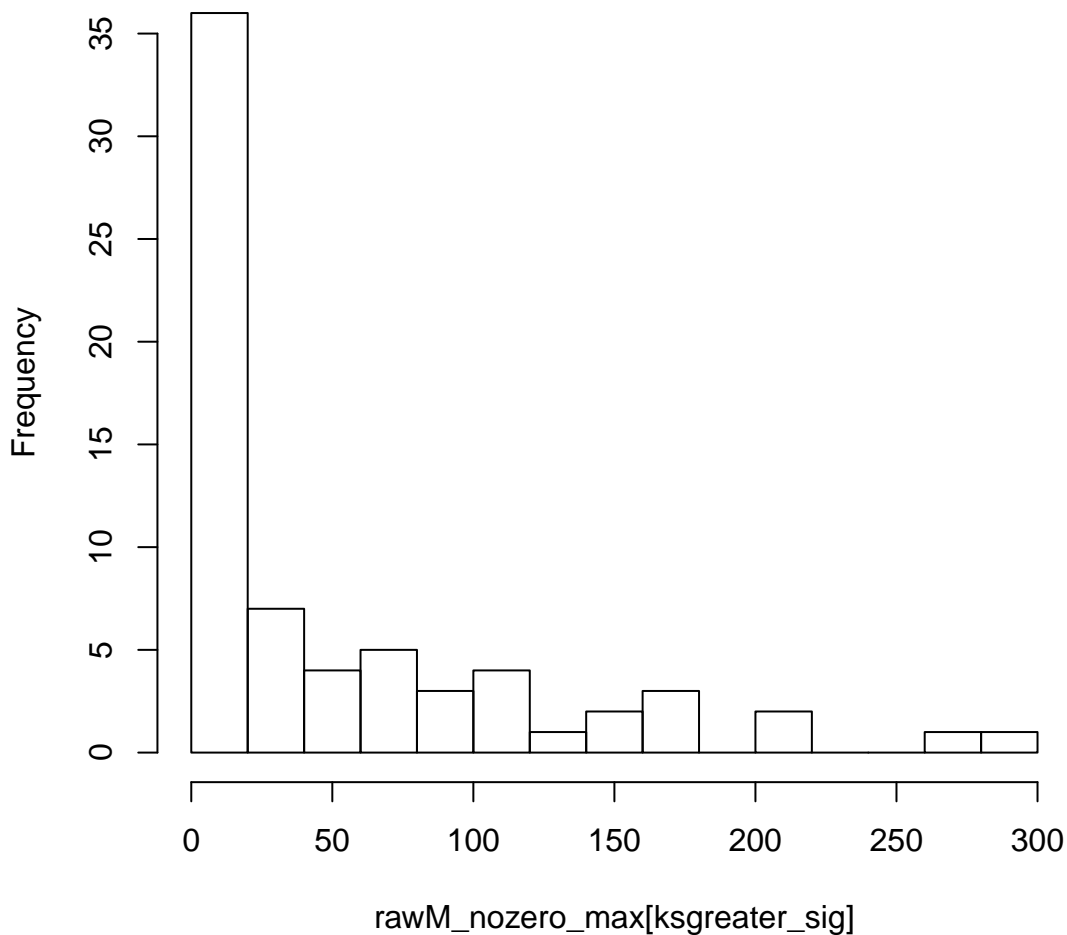
max of nozero log−expres of genes,ksgreater sig

Frequency

rawM_nozero_max[ksgreater_sig]

max of nozero log−expres of genes,ks no sig
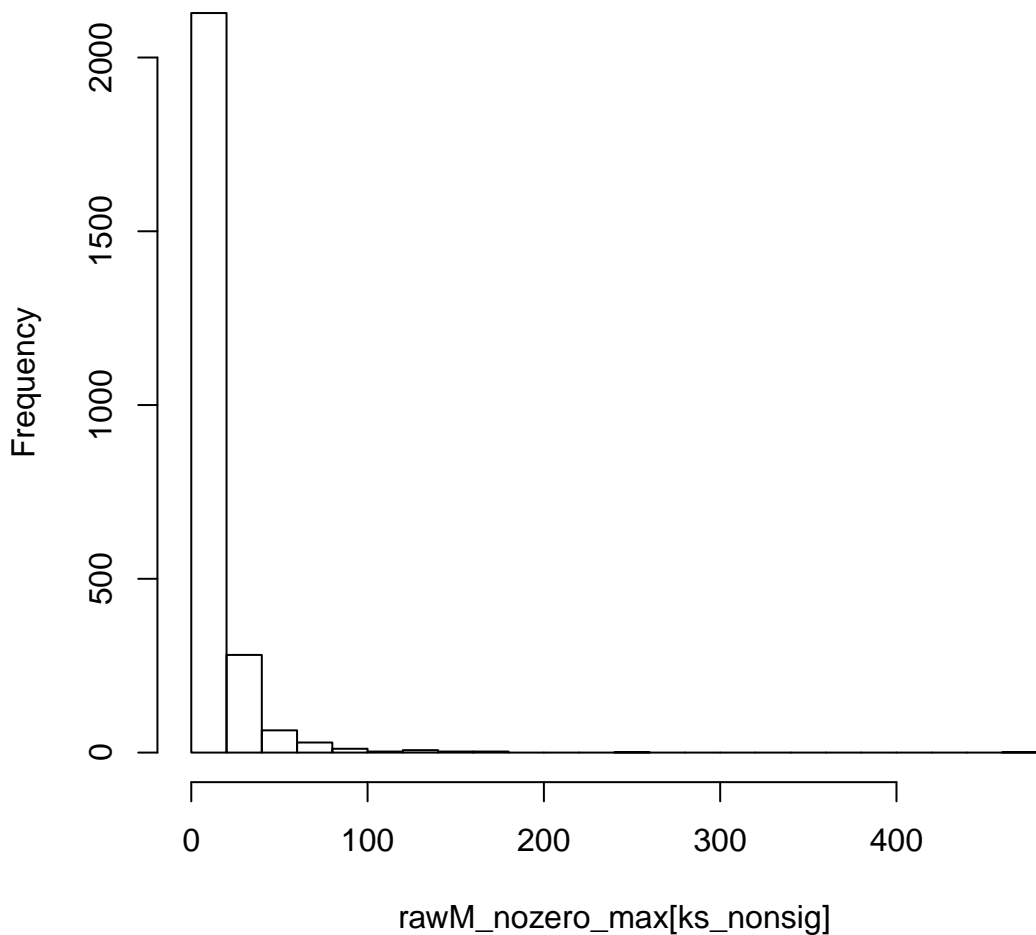
Sless sig: log expression of gene#2, pval ob=0.3094, non−zero nu

rawM[i, non_zero_flag]
ind#: 29, diag#: 2

KSless sig: individual expression cell count of gene#2

Frequency

table(meta$individual[non_zero_flag])
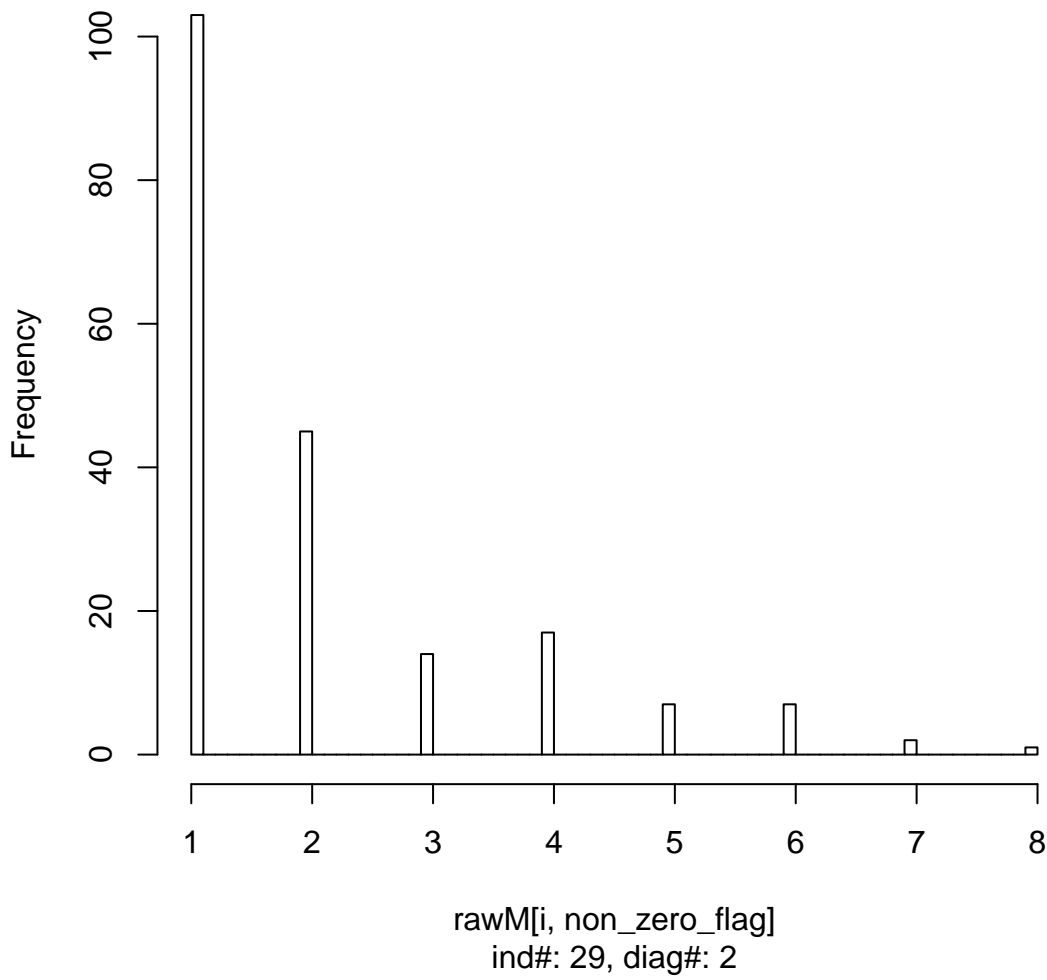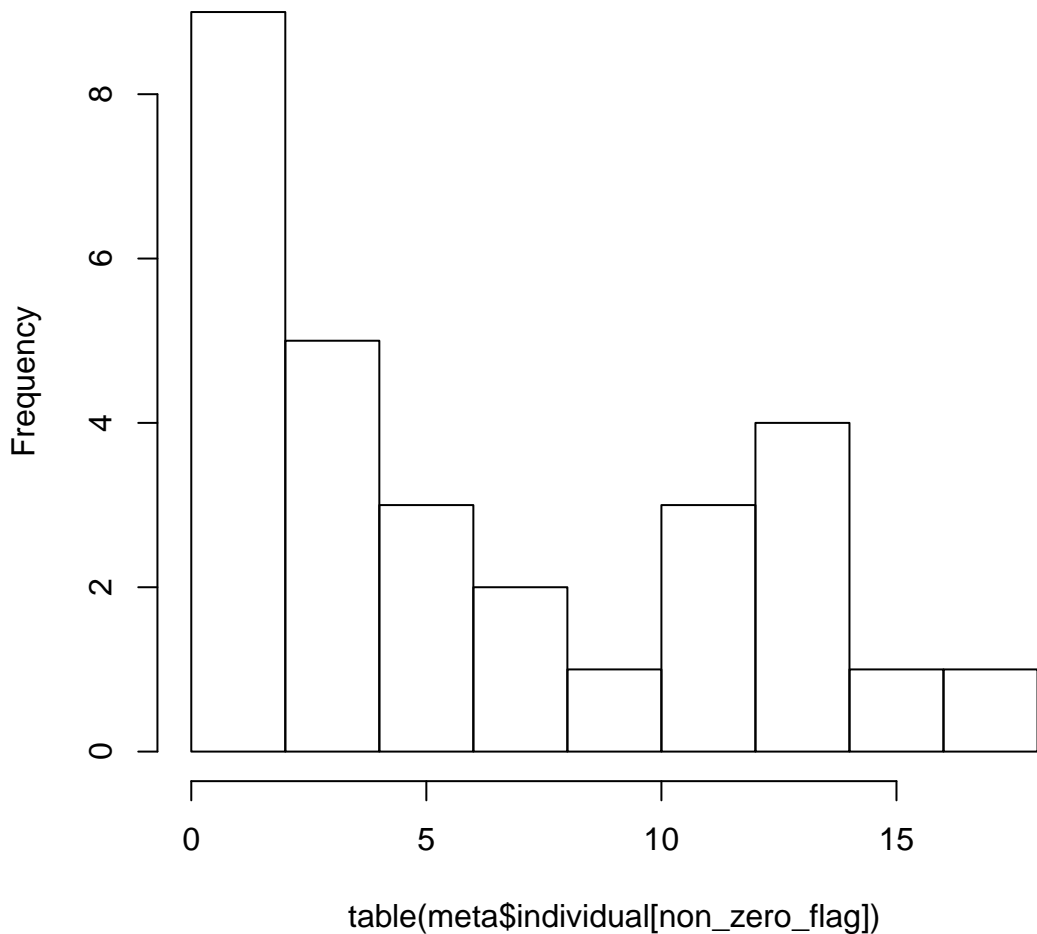
Sless sig: log expression of gene#6, pval ob=0.1472, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 30, diag#: 2

KSless sig: individual expression cell count of gene#6

Frequency

table(meta$individual[non_zero_flag])
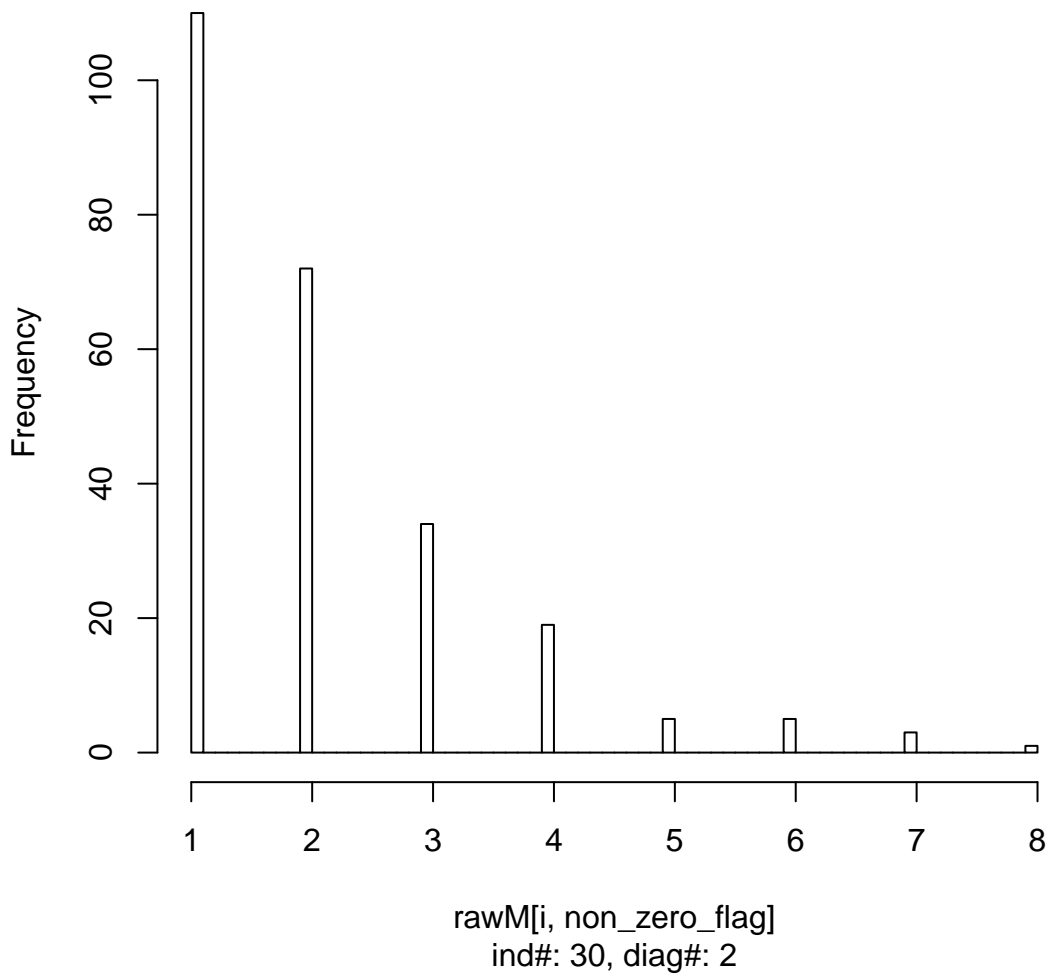
less sig: log expression of gene#20, pval ob=0.1931, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 29, diag#: 2

KSless sig: individual expression cell count of gene#20

Frequency

table(meta$individual[non_zero_flag])
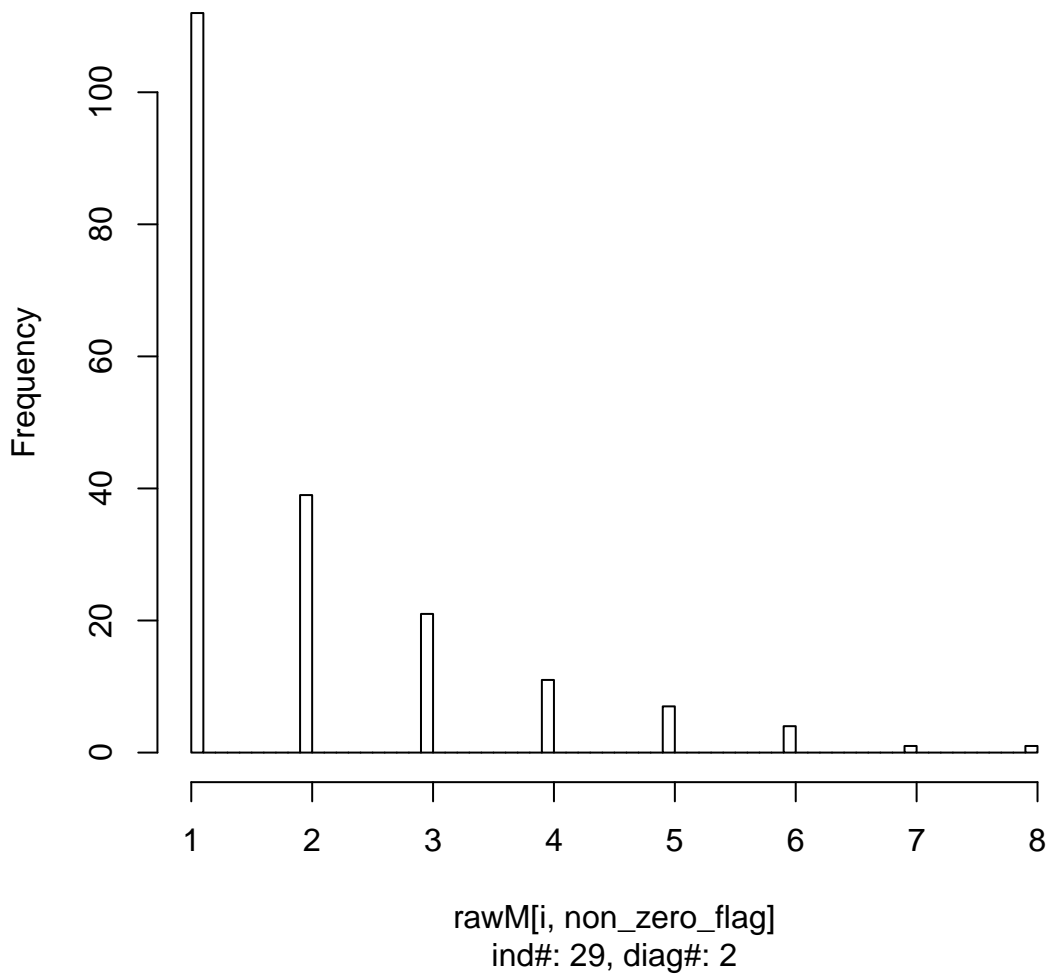
less sig: log expression of gene#34, pval ob=0.5831, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 28, diag#: 2

KSless sig: individual expression cell count of gene#34

Frequency

table(meta$individual[non_zero_flag])
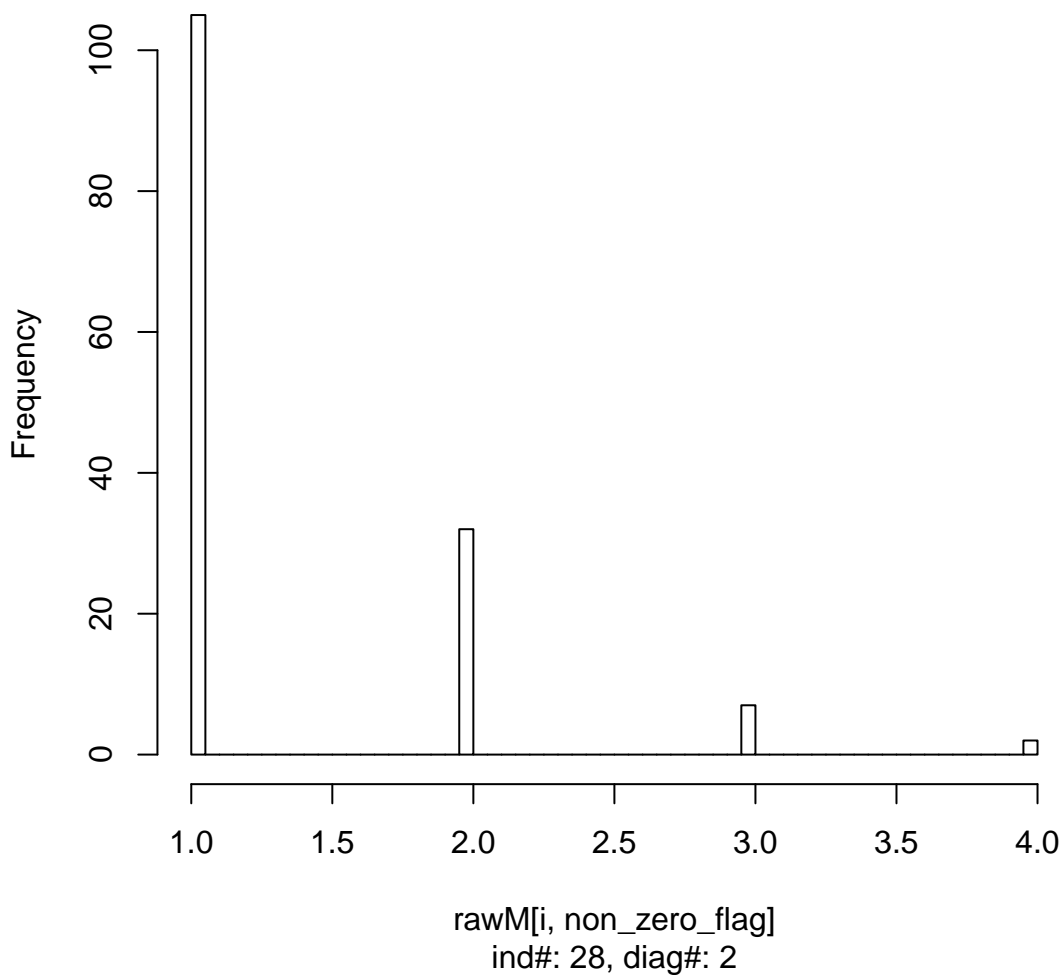
less sig: log expression of gene#41, pval ob=0.2008, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 30, diag#: 2
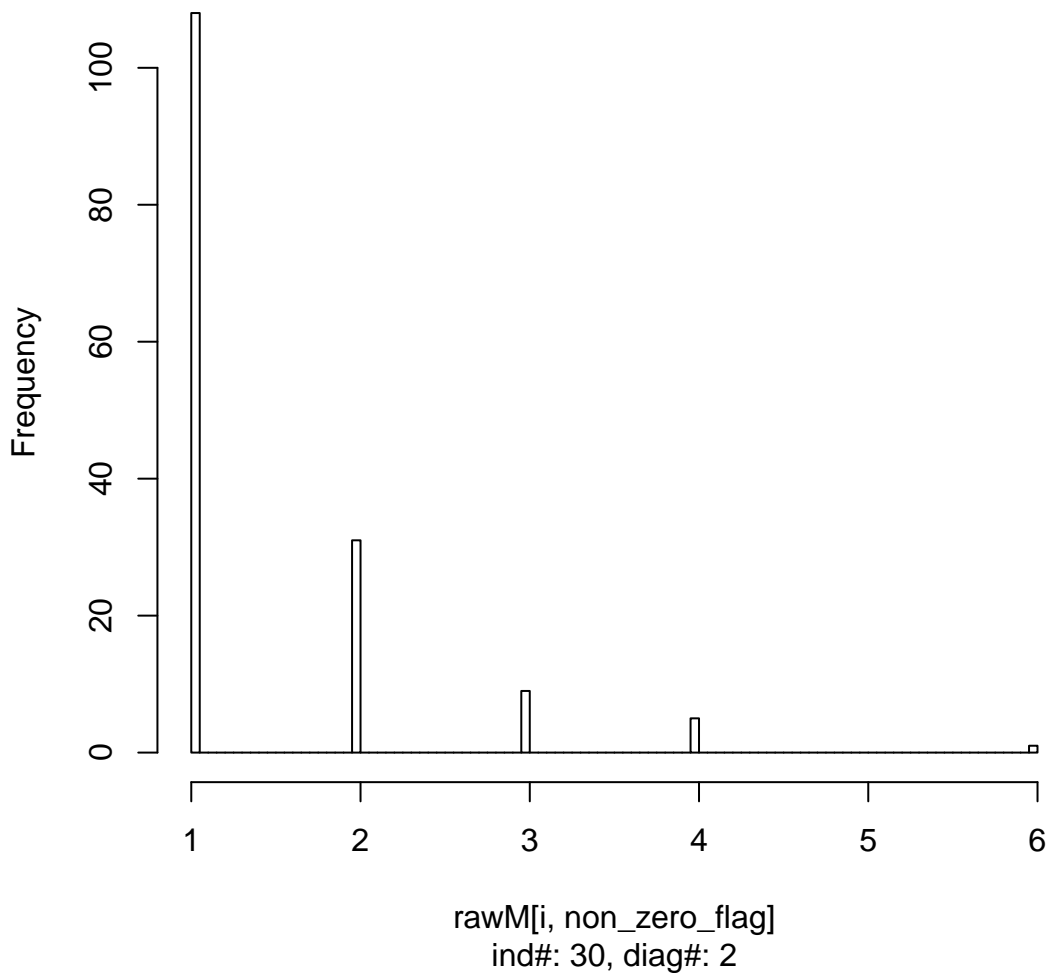
KSless sig: individual expression cell count of gene#41

less sig: log expression of gene#45, pval ob=0.2714, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 28, diag#: 2
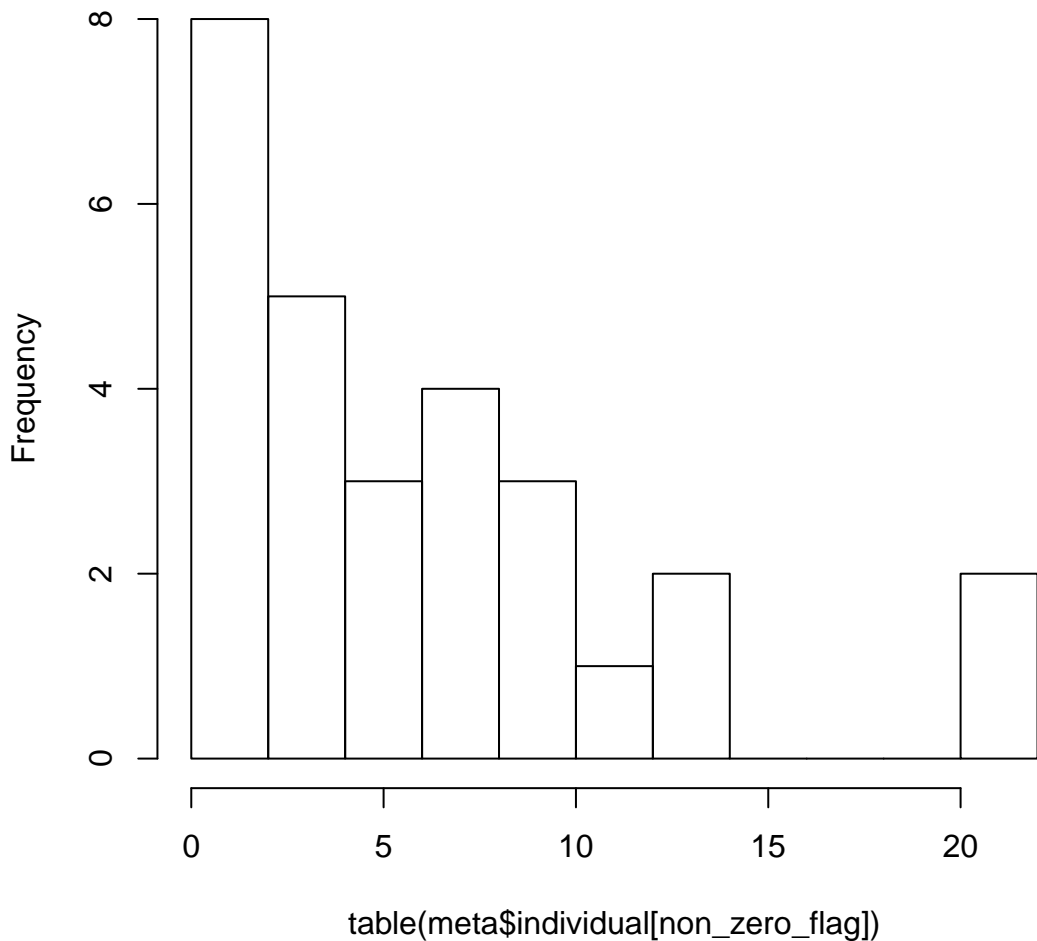
KSless sig: individual expression cell count of gene#45

Frequency

table(meta$individual[non_zero_flag])
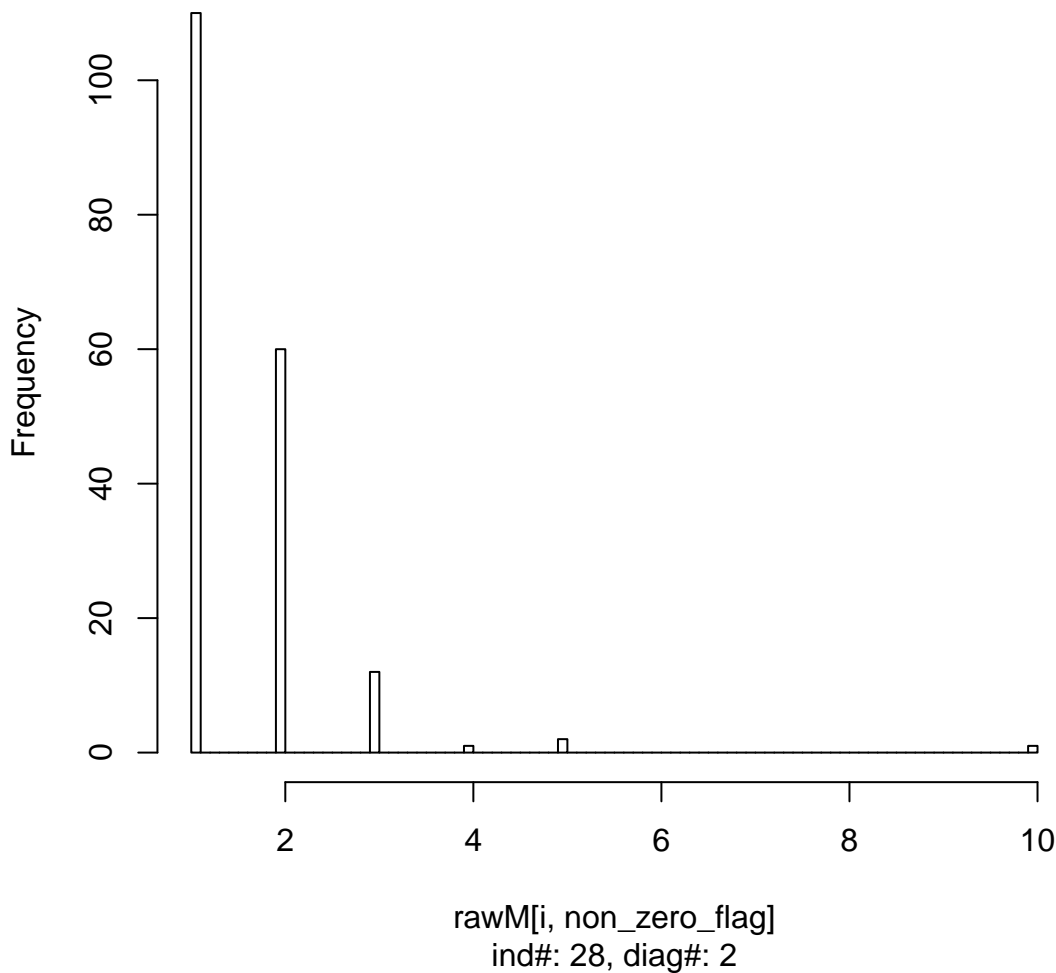
less sig: log expression of gene#46, pval ob=0.0353, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 24, diag#: 2

KSless sig: individual expression cell count of gene#46

Frequency

table(meta$individual[non_zero_flag])
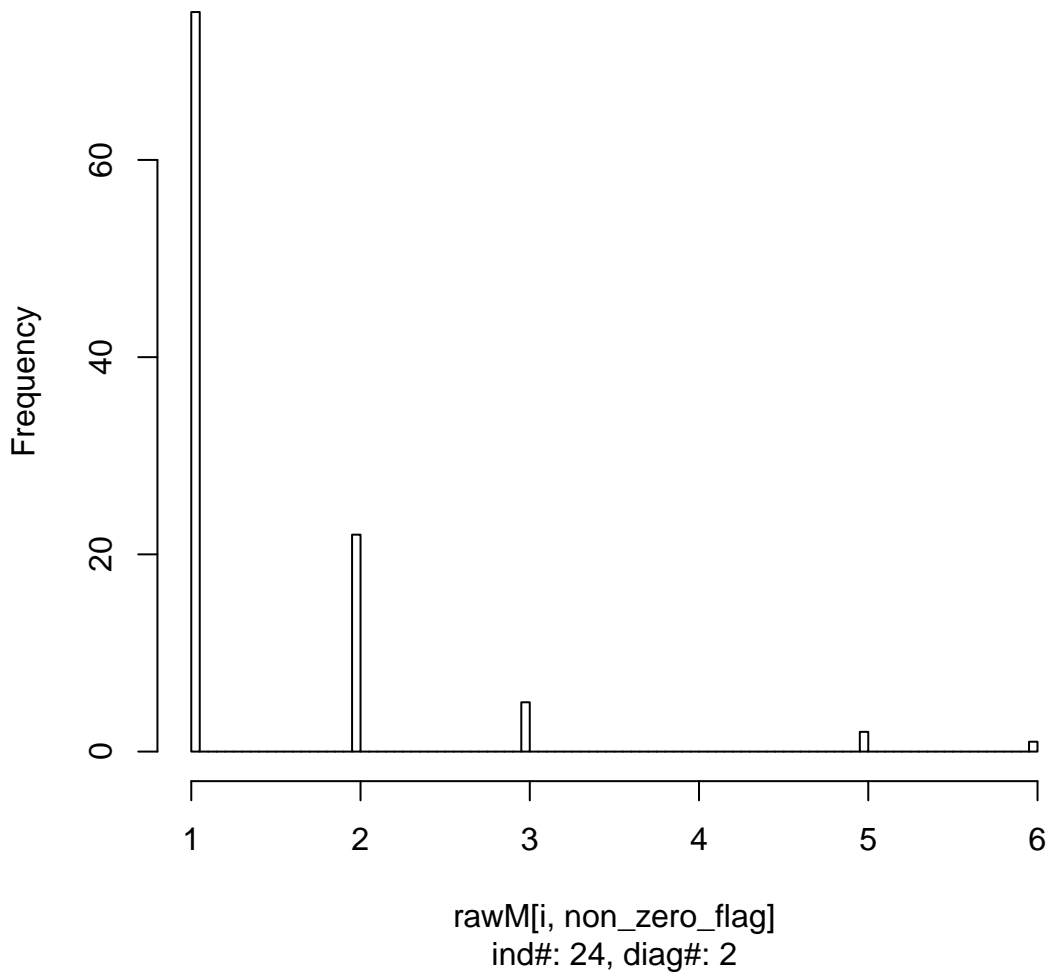
less sig: log expression of gene#47, pval ob=0.1931, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 30, diag#: 2

KSless sig: individual expression cell count of gene#47

Frequency

table(meta$individual[non_zero_flag])

less sig: log expression of gene#51, pval ob=0.1994, non−zero nu

KSless sig: individual expression cell count of gene#51

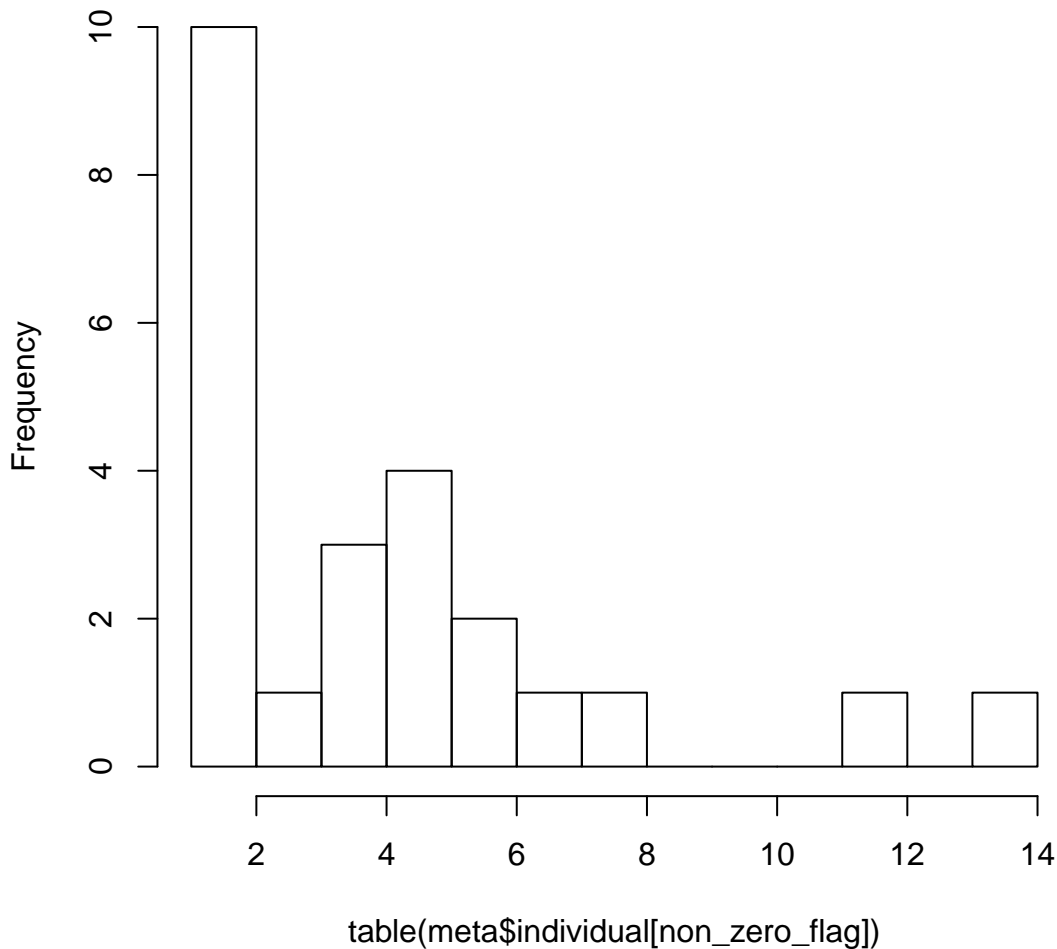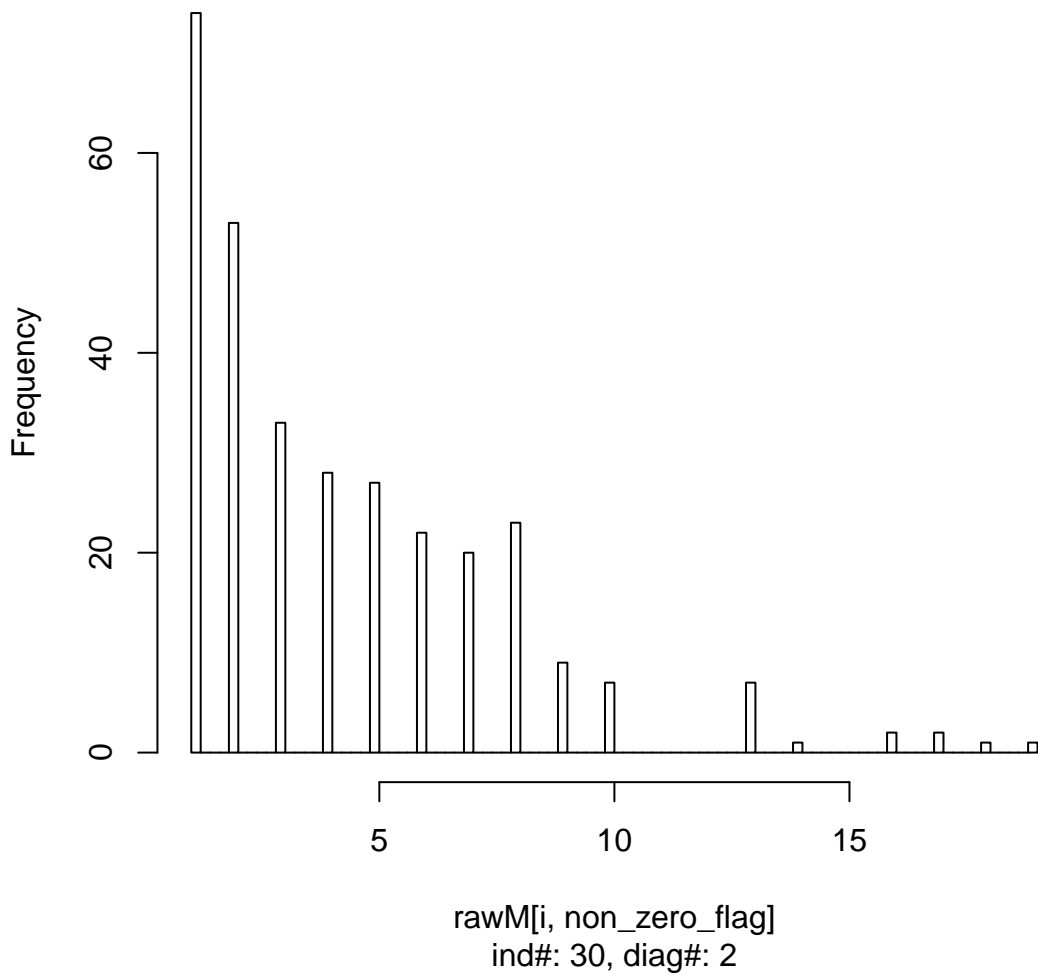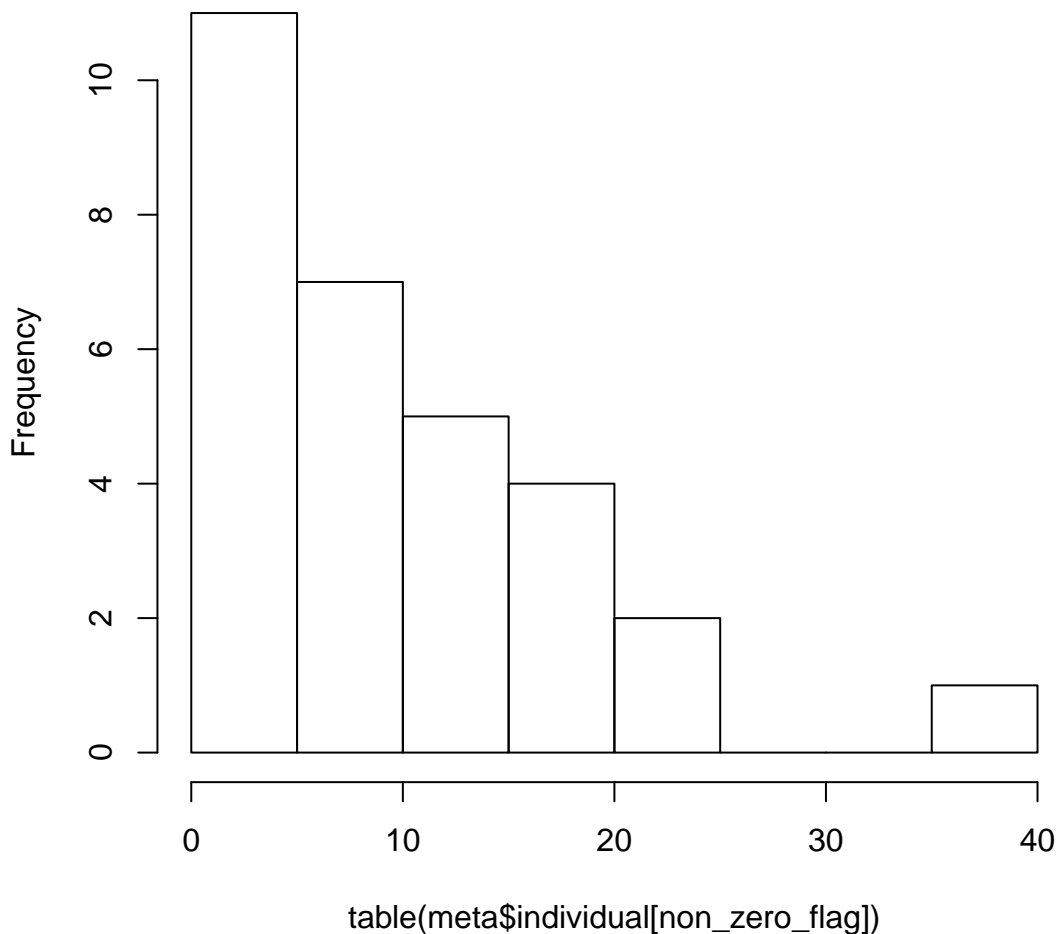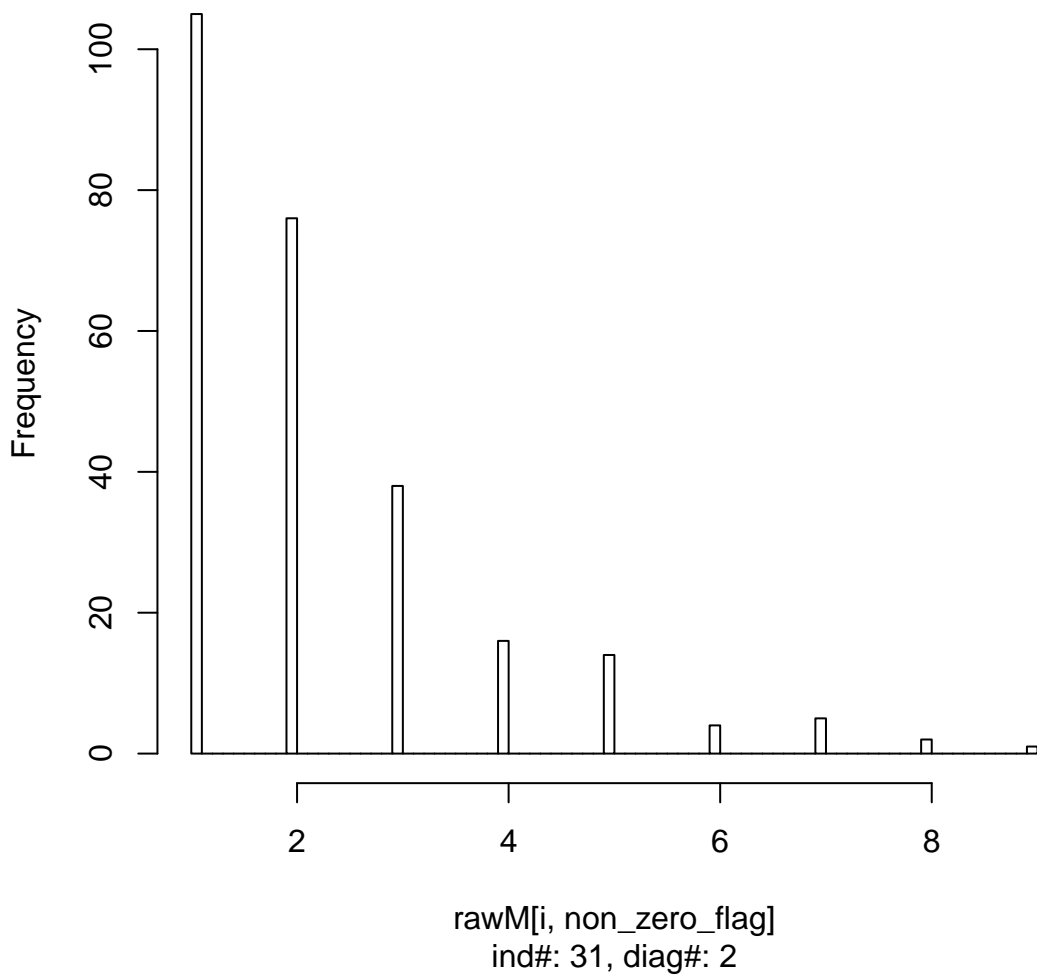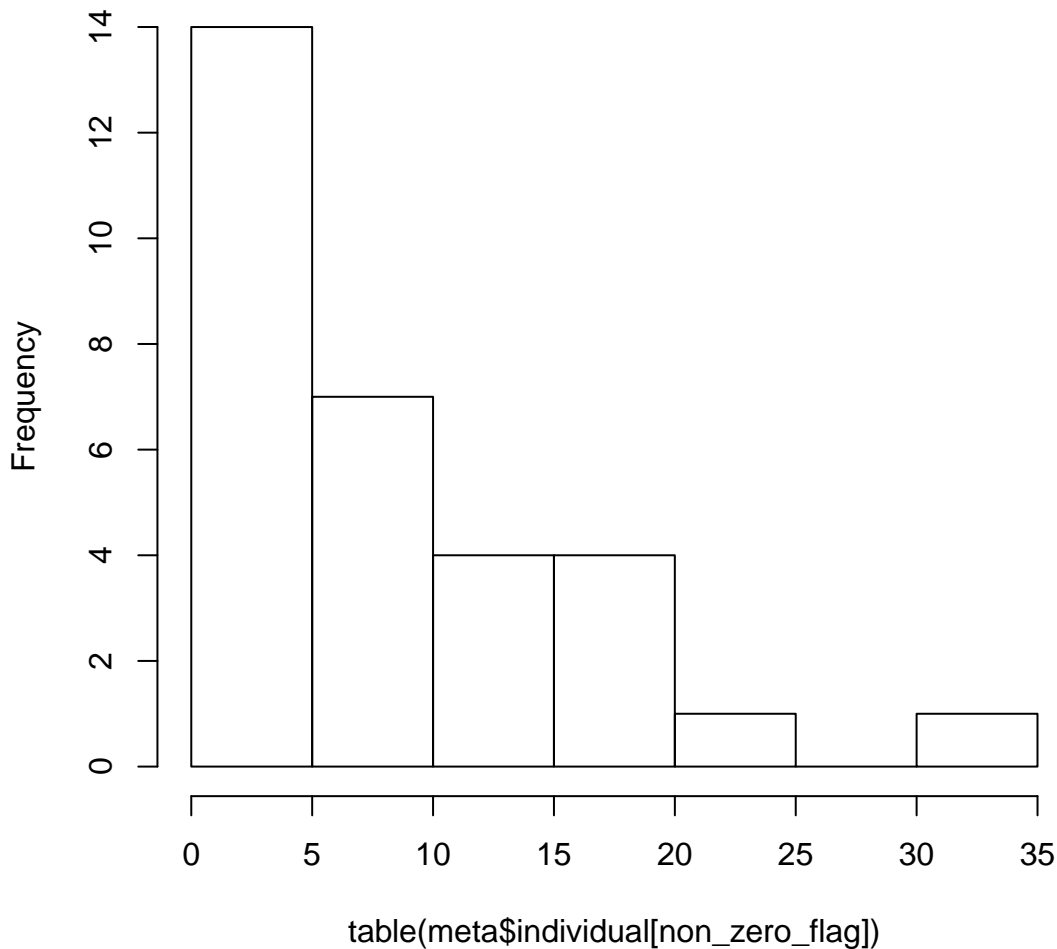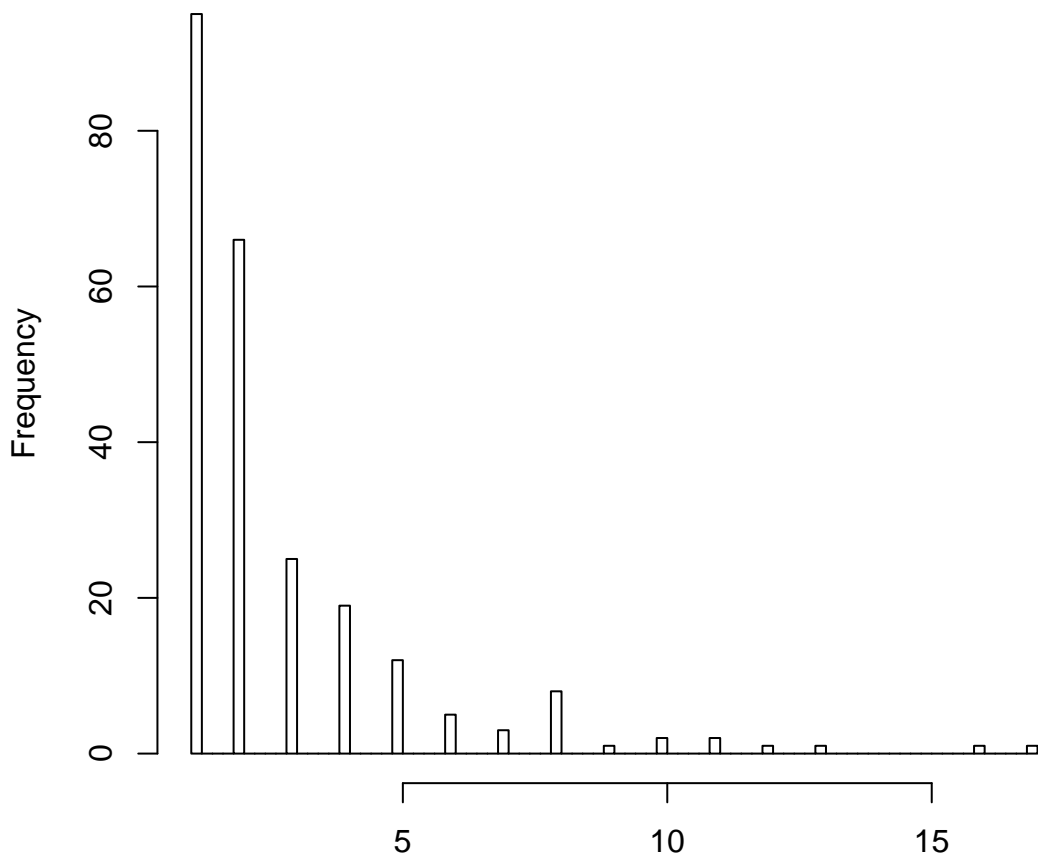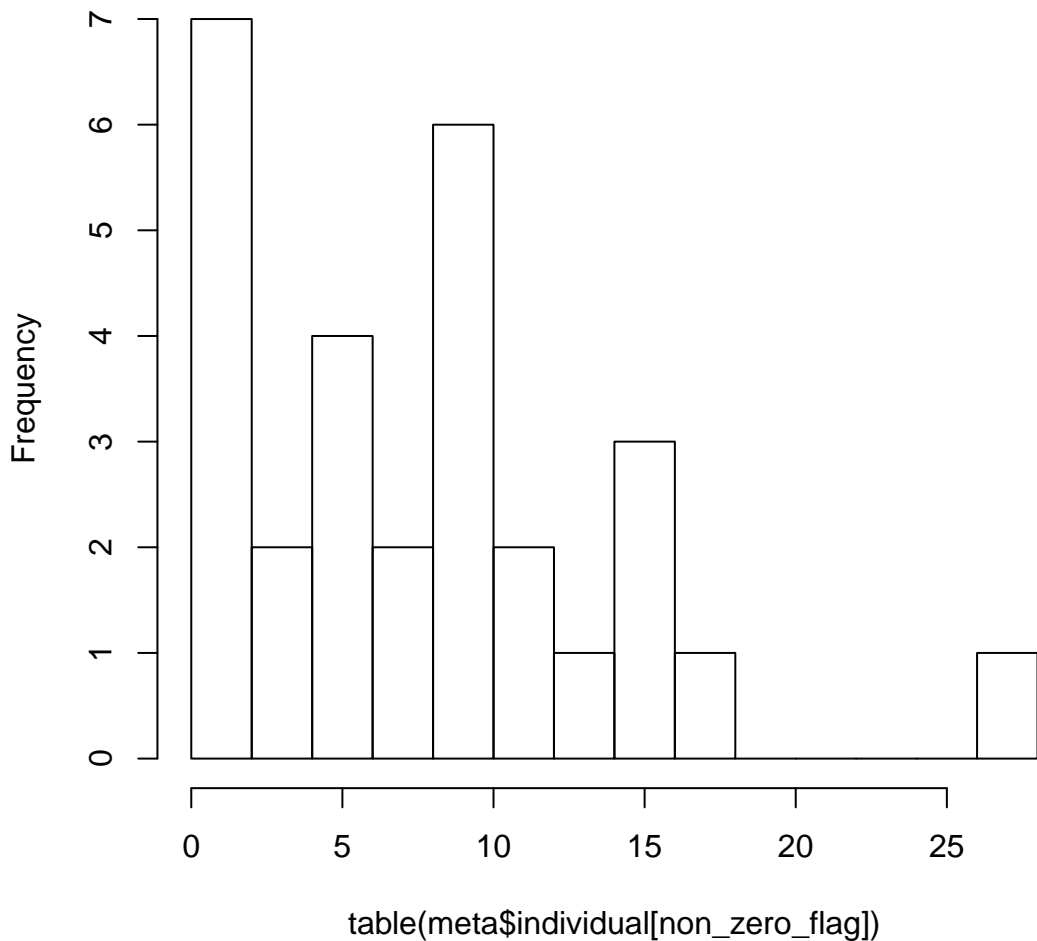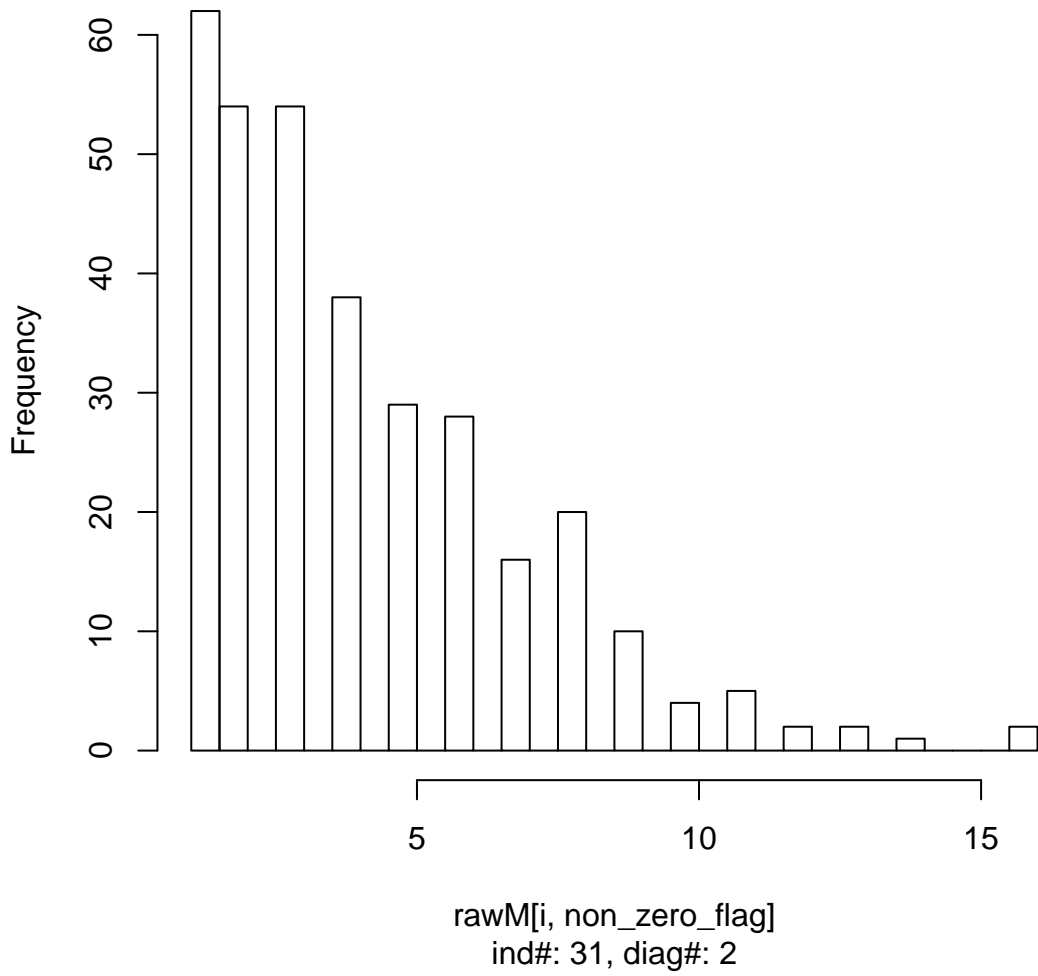**less sig: log expression of gene#52, pval ob=0.9793, non−zero nu**
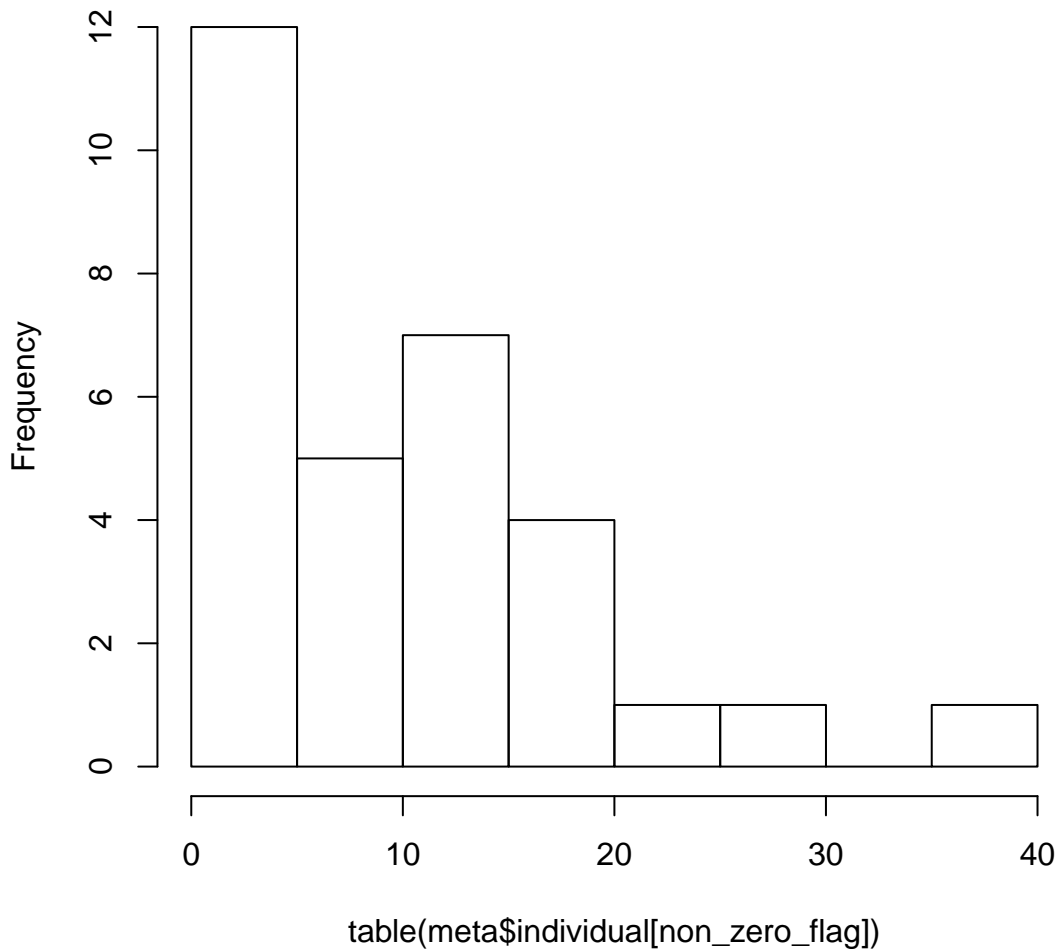
rawM[i, non_zero_flag]
ind#: 29, diag#: 2
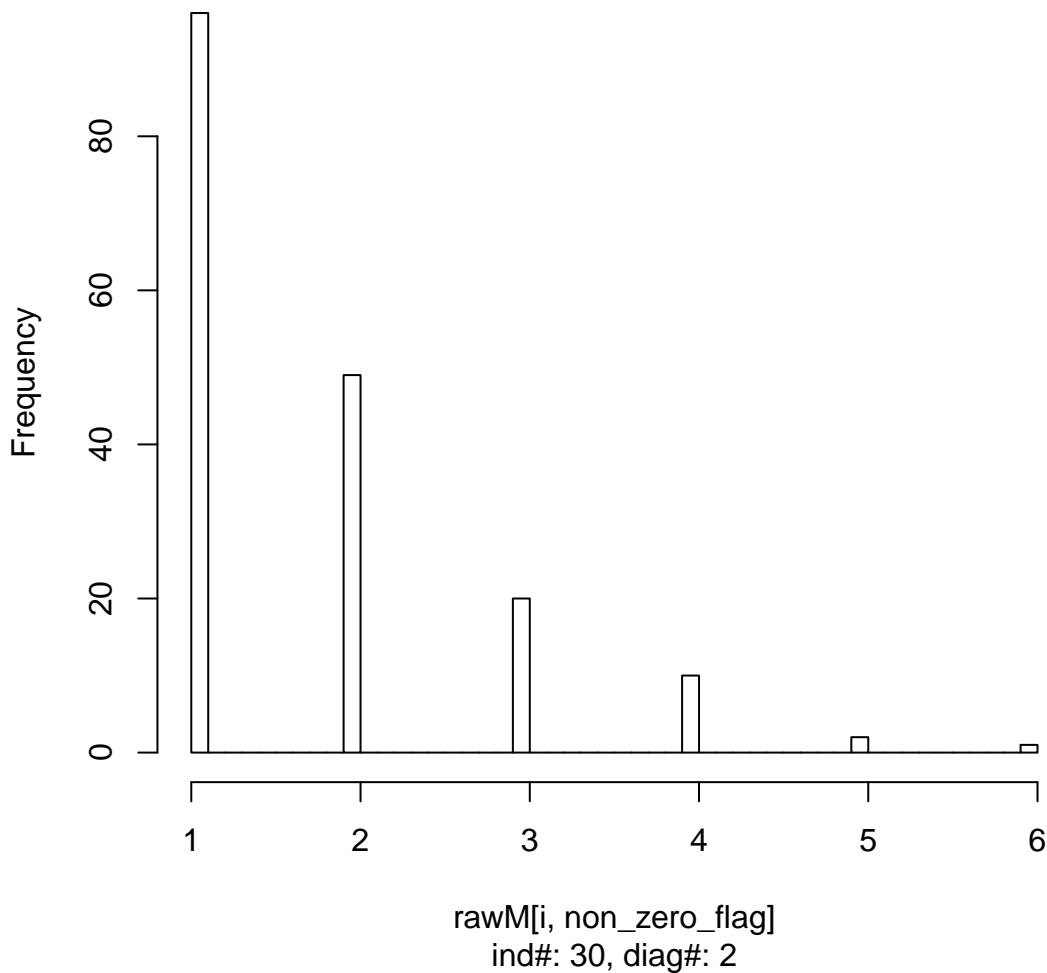
KSless sig: individual expression cell count of gene#52

S nonsig: log expression of gene#1, pval ob=0.9918, non−zero num
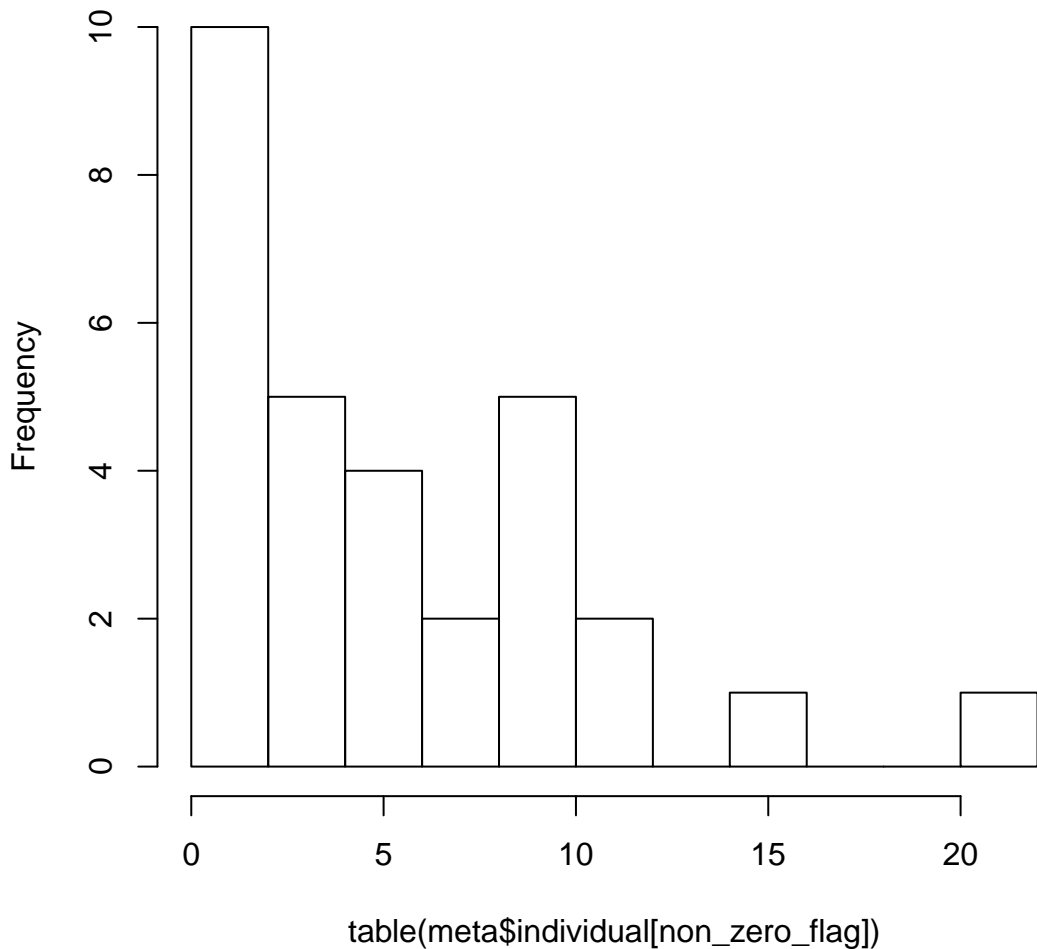
Frequency

rawM[i, non_zero_flag]
ind#: 31, diag#: 2

KSless nonsig: individual expression cell count of gene#1

S nonsig: log expression of gene#4, pval ob=0.7225, non−zero nur

rawM[i, non_zero_flag]
ind#: 30, diag#: 2

KSless nonsig: individual expression cell count of gene#4

Frequency

table(meta$individual[non_zero_flag])

S nonsig: log expression of gene#7, pval ob=0.3251, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 30, diag#: 2

KSless nonsig: individual expression cell count of gene#7

Frequency

table(meta$individual[non_zero_flag])
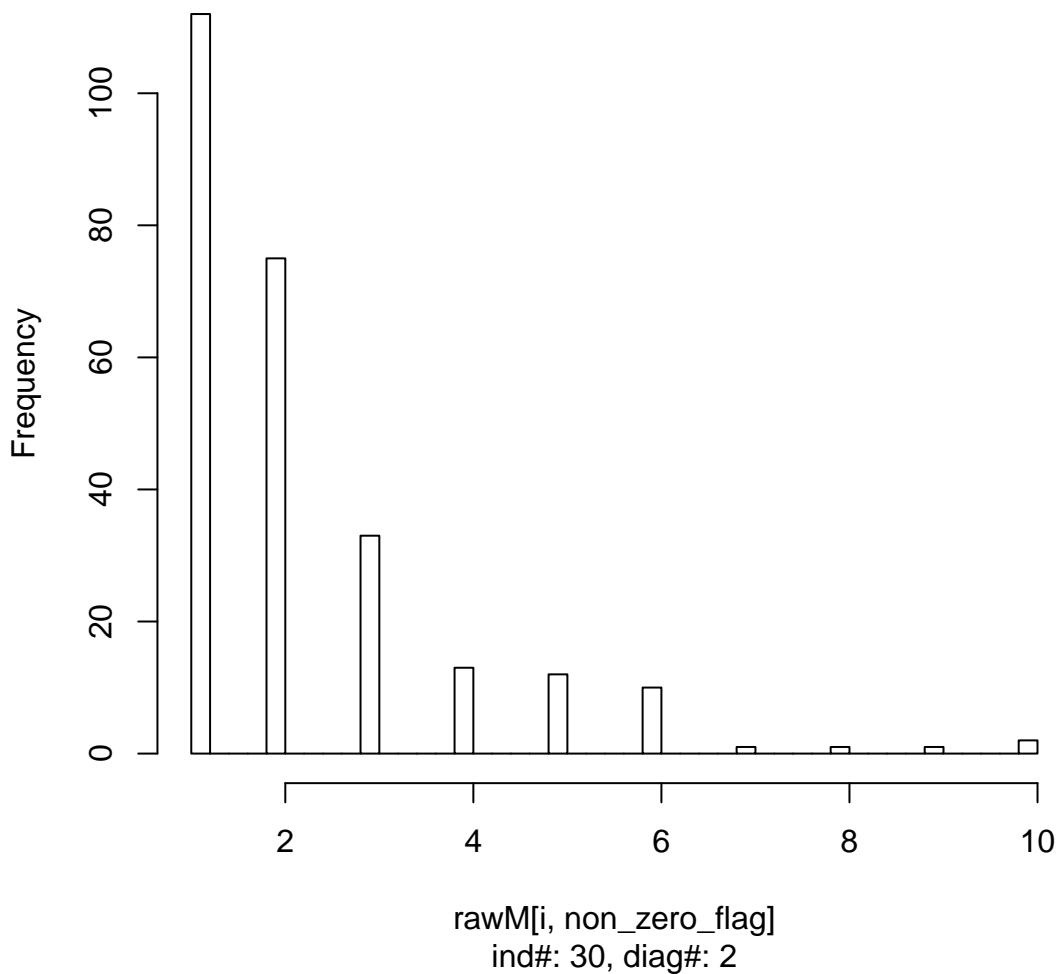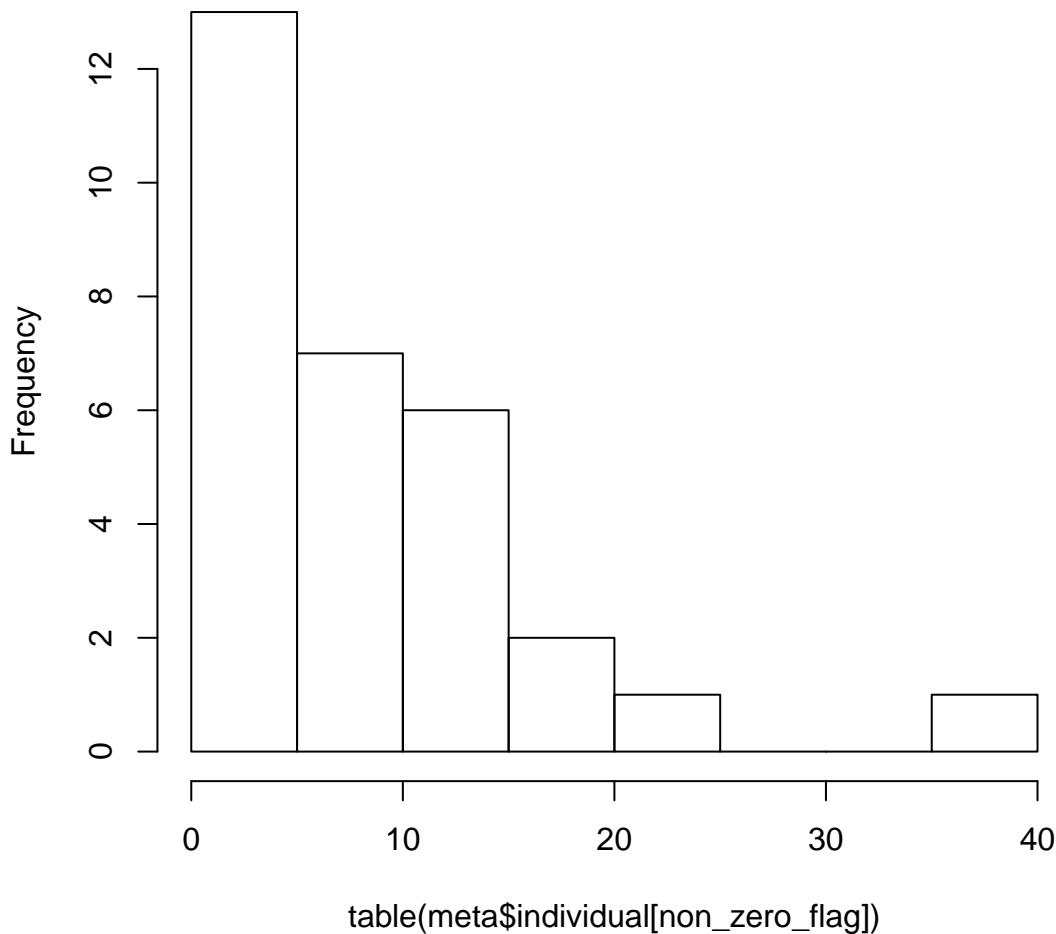
S nonsig: log expression of gene#9, pval ob=0.2614, non−zero num

Frequency

rawM[i, non_zero_flag]
ind#: 27, diag#: 2

KSless nonsig: individual expression cell count of gene#9

Frequency

table(meta$individual[non_zero_flag])
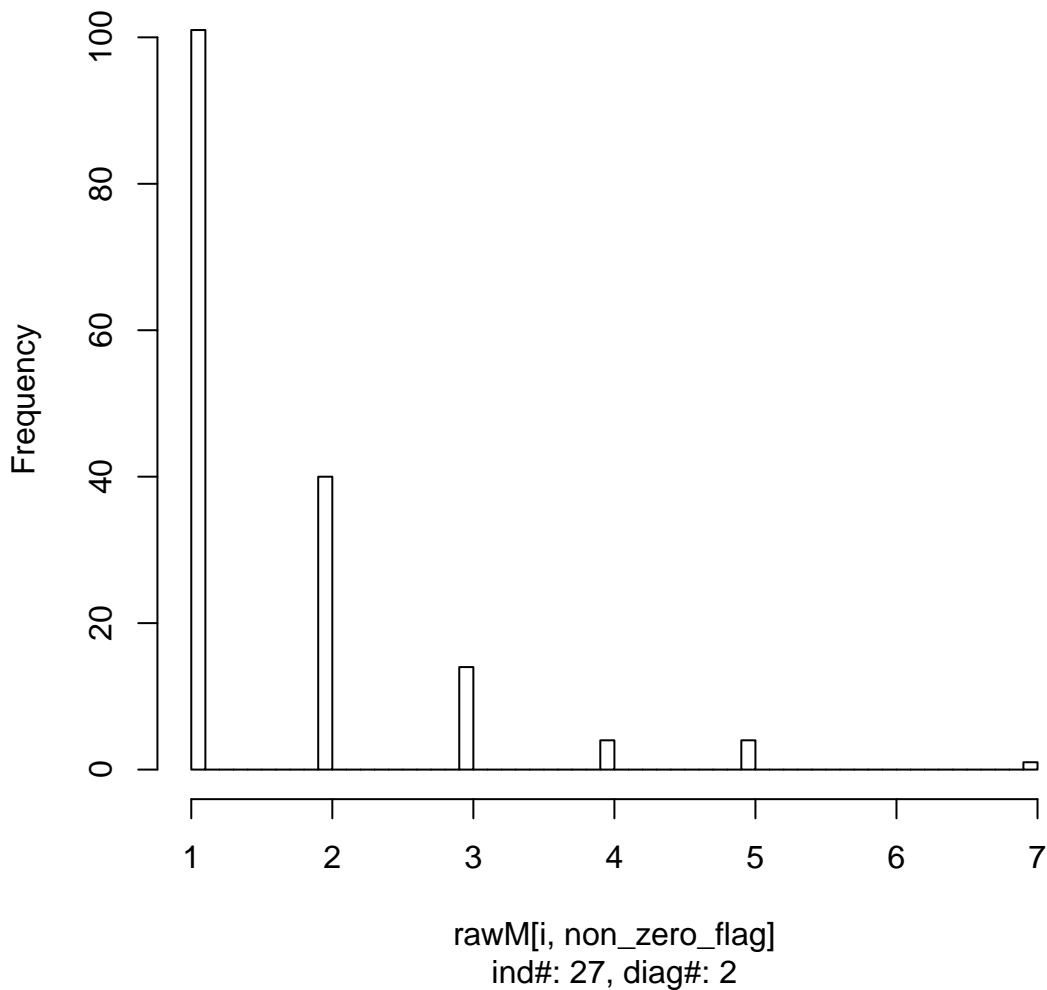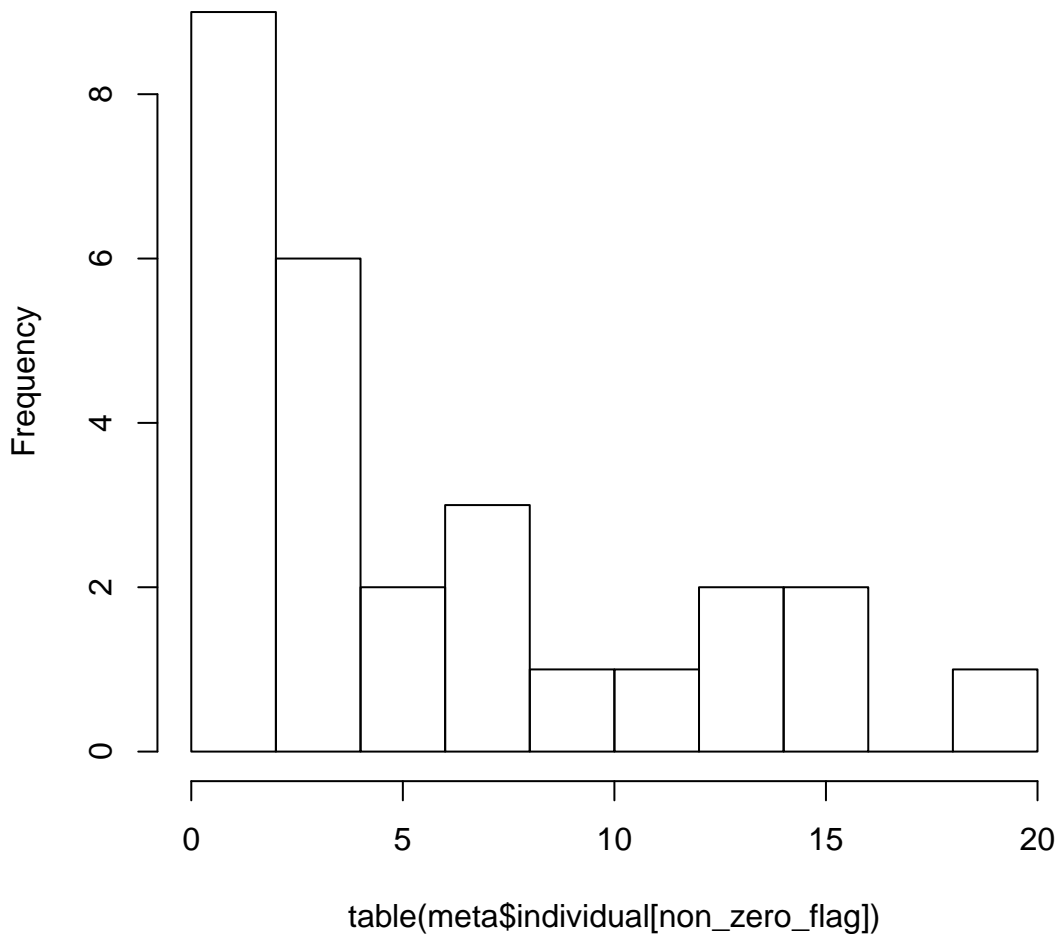
6 nonsig: log expression of gene#13, pval ob=0.6178, non−zero nu
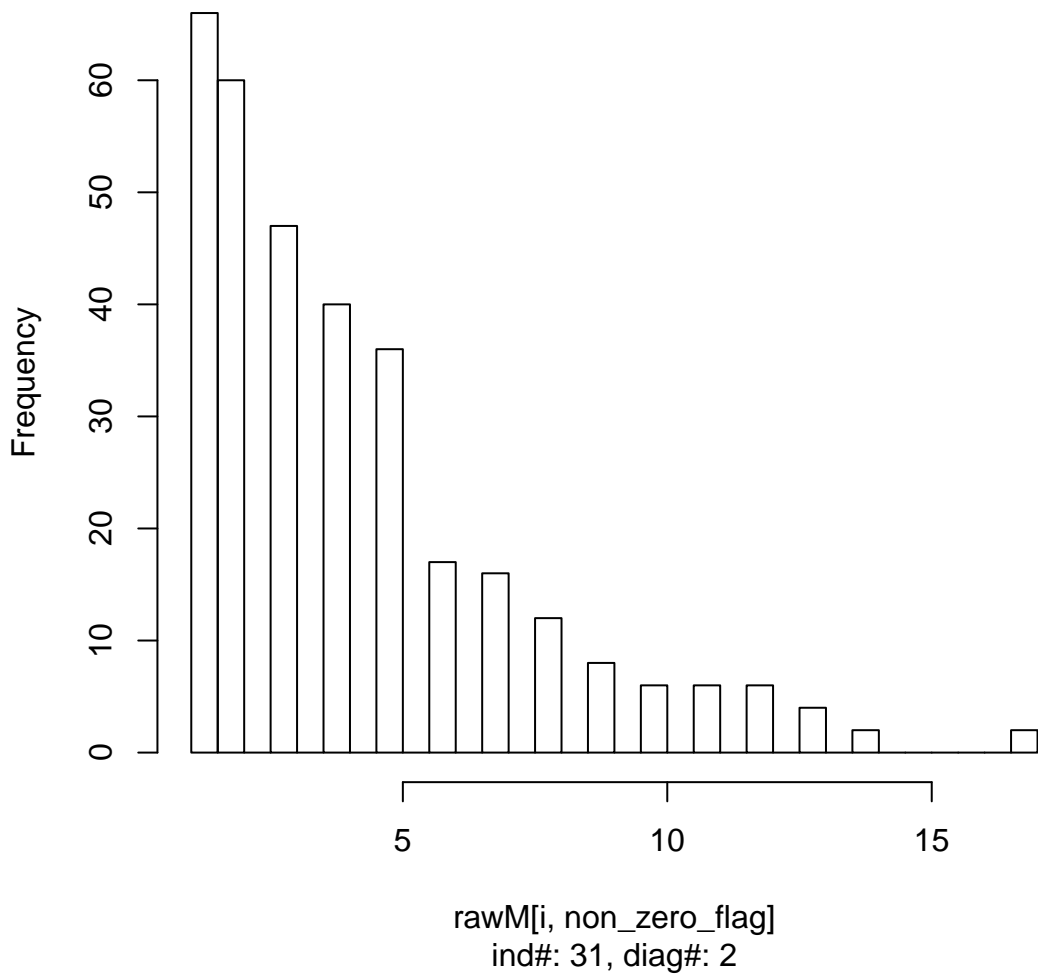
Frequency

rawM[i, non_zero_flag]
ind#: 31, diag#: 2

KSless nonsig: individual expression cell count of gene#13

Frequency

table(meta$individual[non_zero_flag])
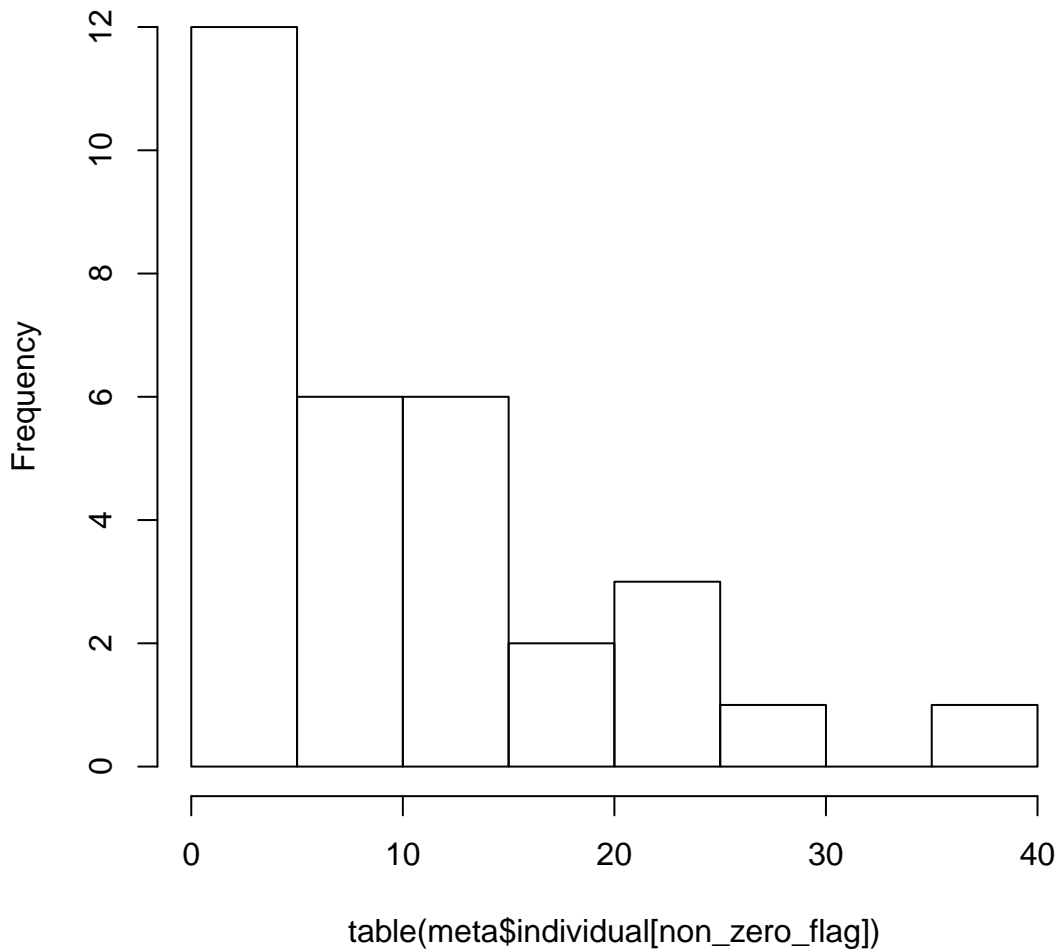
S nonsig: log expression of gene#14, pval ob=0.232, non−zero nur

rawM[i, non_zero_flag]
ind#: 28, diag#: 2

KSless nonsig: individual expression cell count of gene#14

Frequency

table(meta$individual[non_zero_flag])
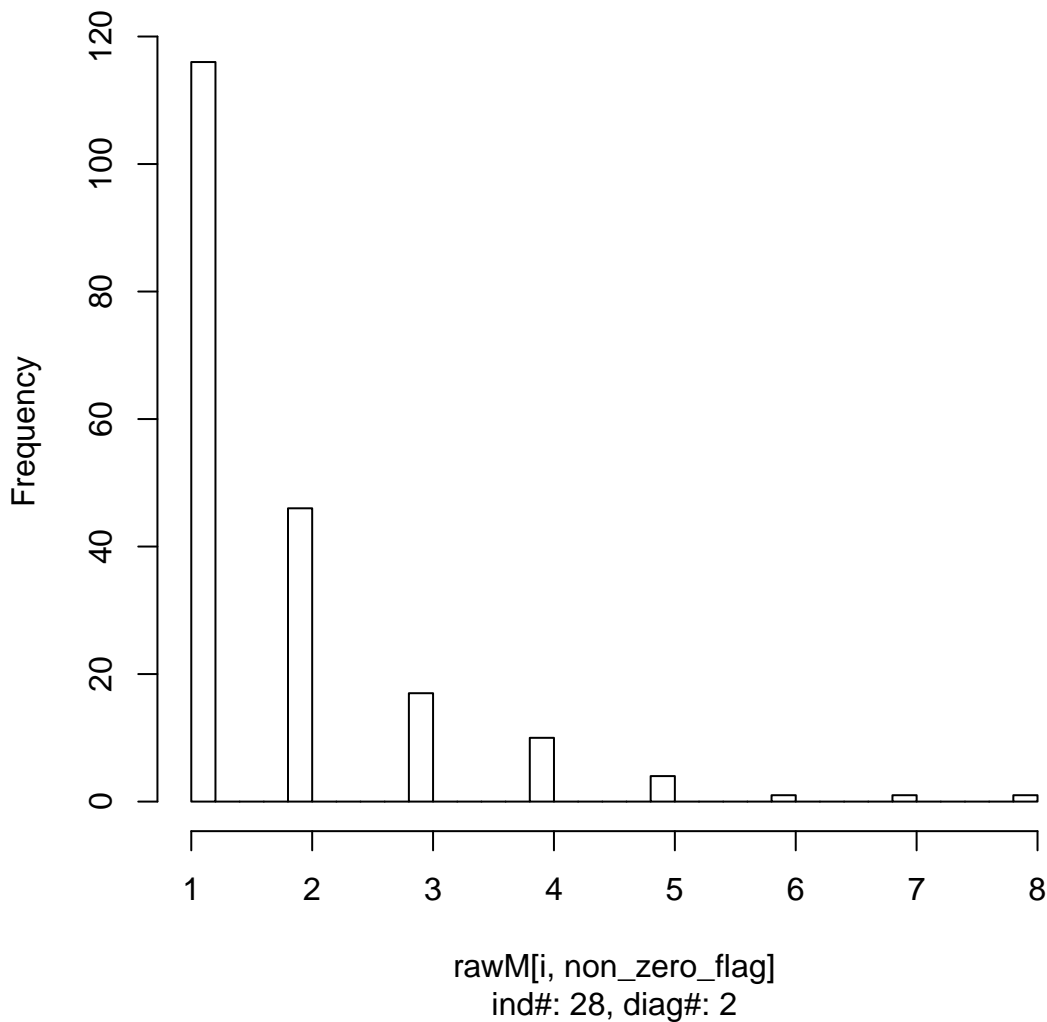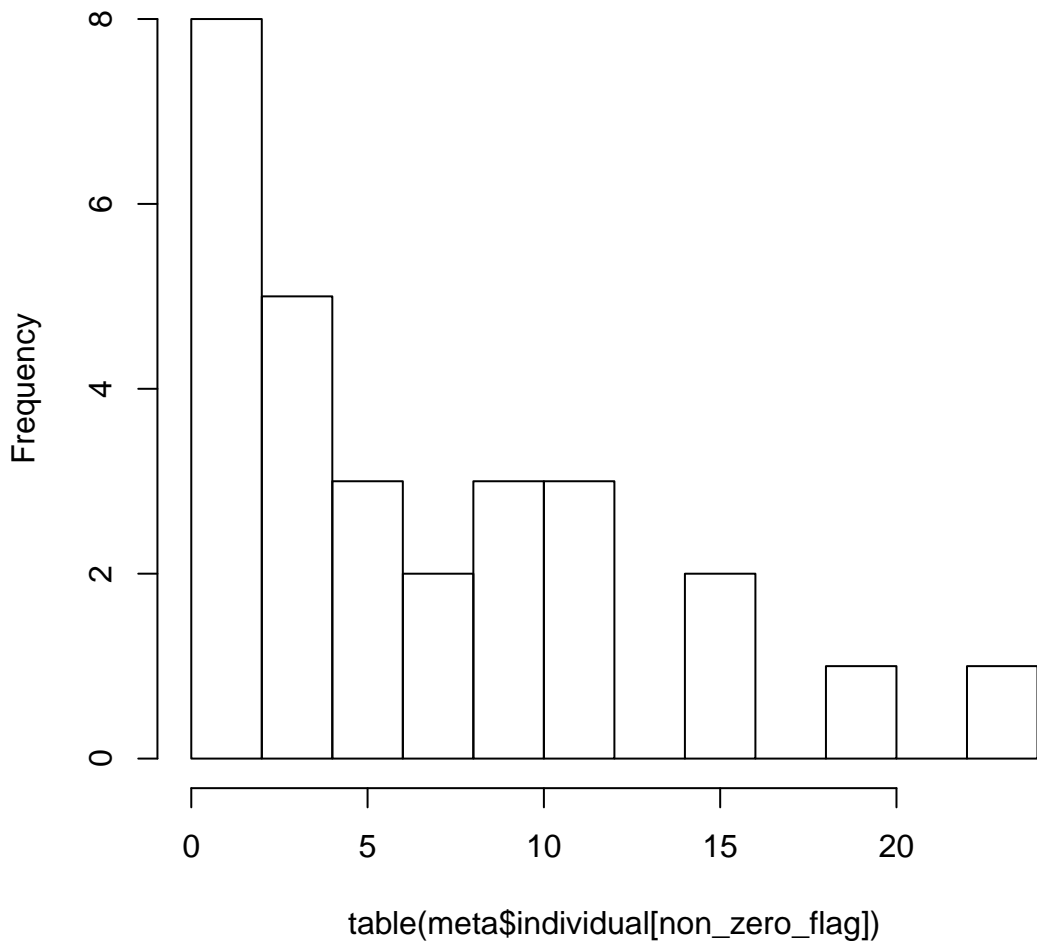
nonsig: log expression of gene#16, pval ob=0.1451, non−zero nu

Frequency

rawM[i, non_zero_flag]
ind#: 31, diag#: 2

KSless nonsig: individual expression cell count of gene#16

Frequency

table(meta$individual[non_zero_flag])
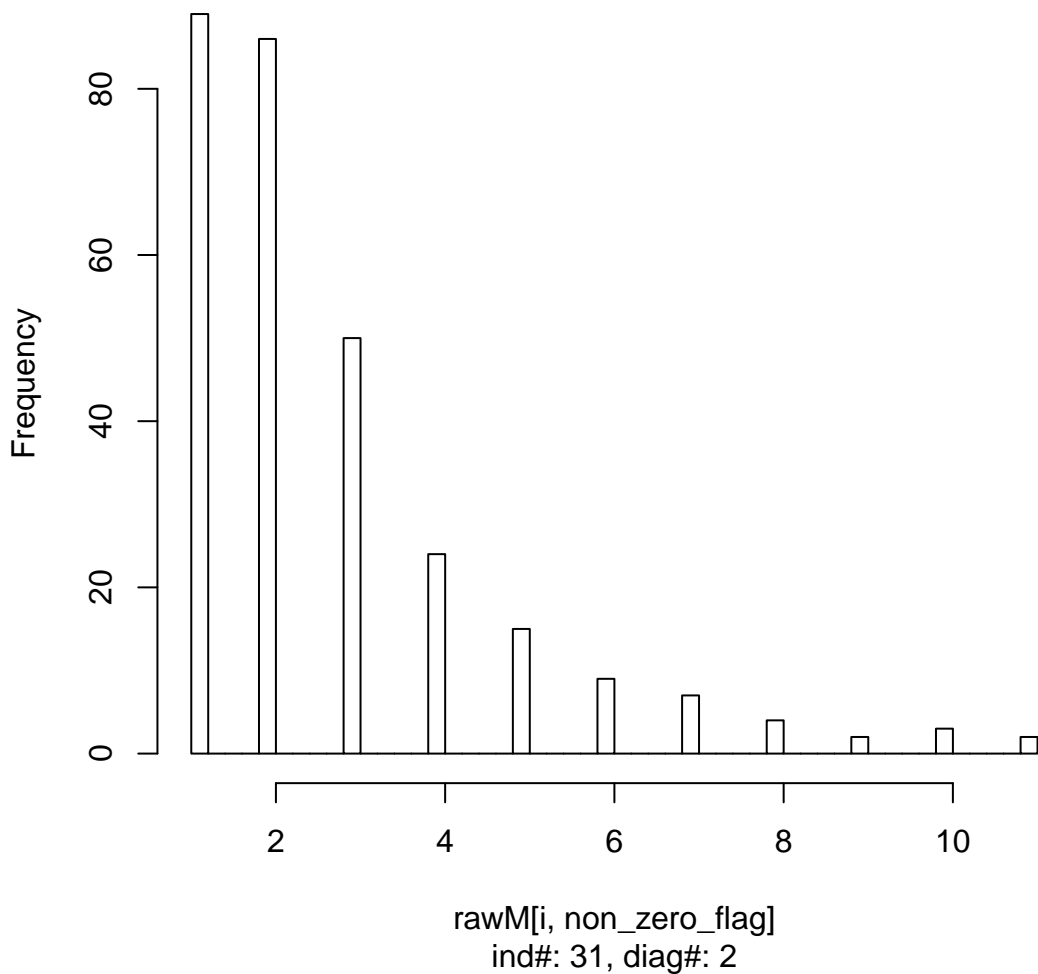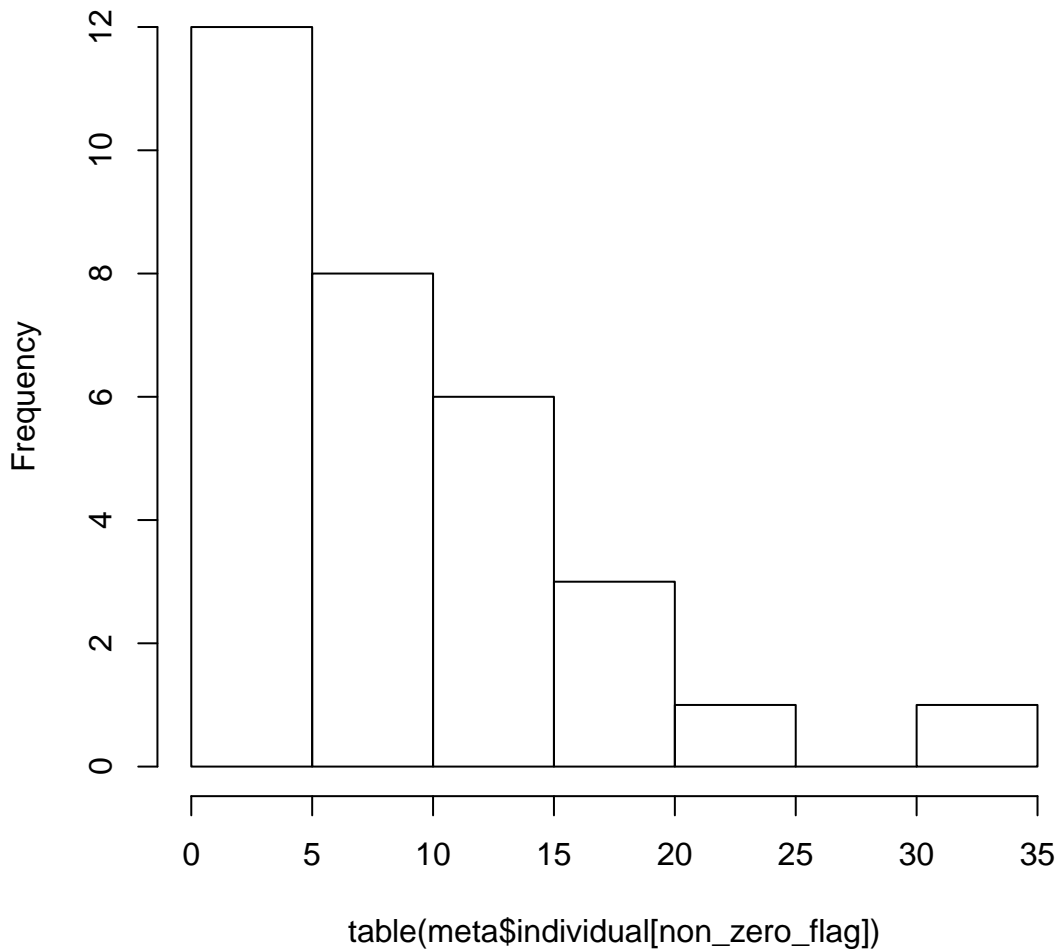
nonsig: log expression of gene#17, pval ob=0.8925, non−zero nu

rawM[i, non_zero_flag]
ind#: 30, diag#: 2
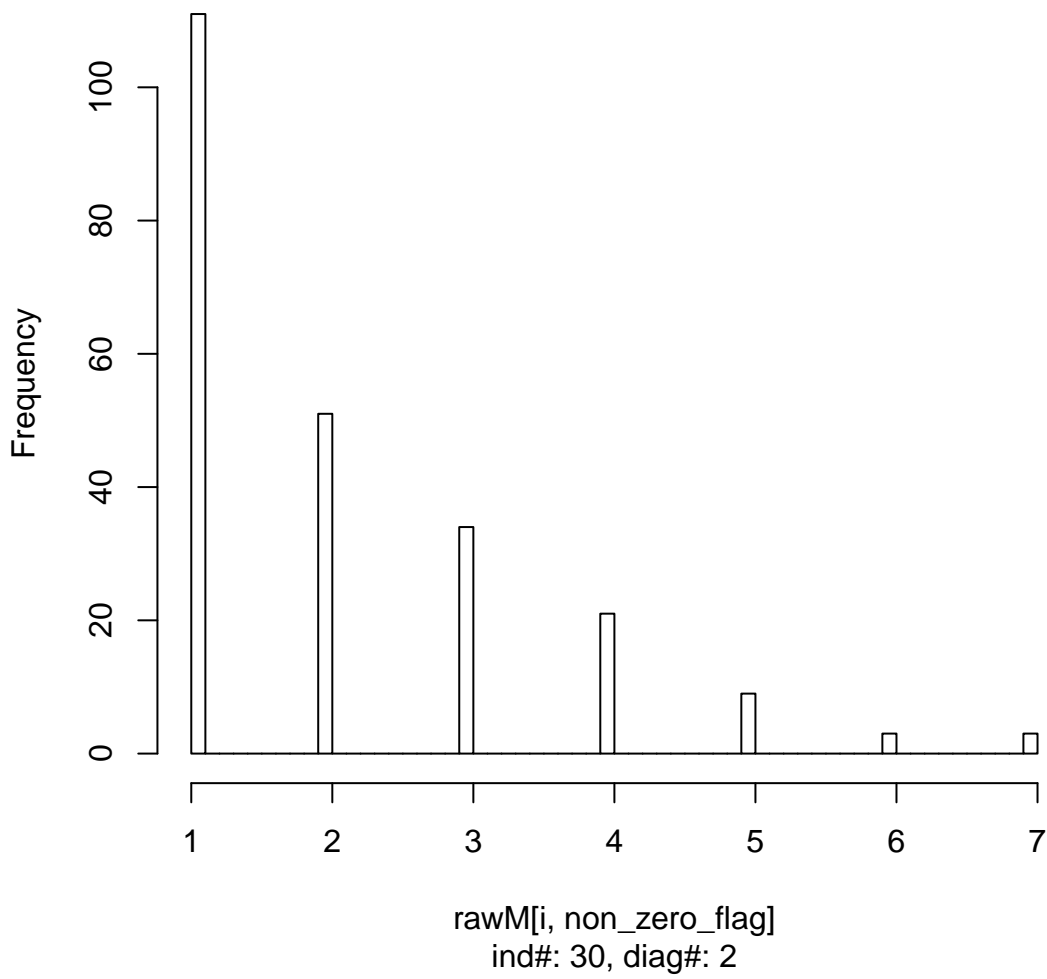
KSless nonsig: individual expression cell count of gene#17
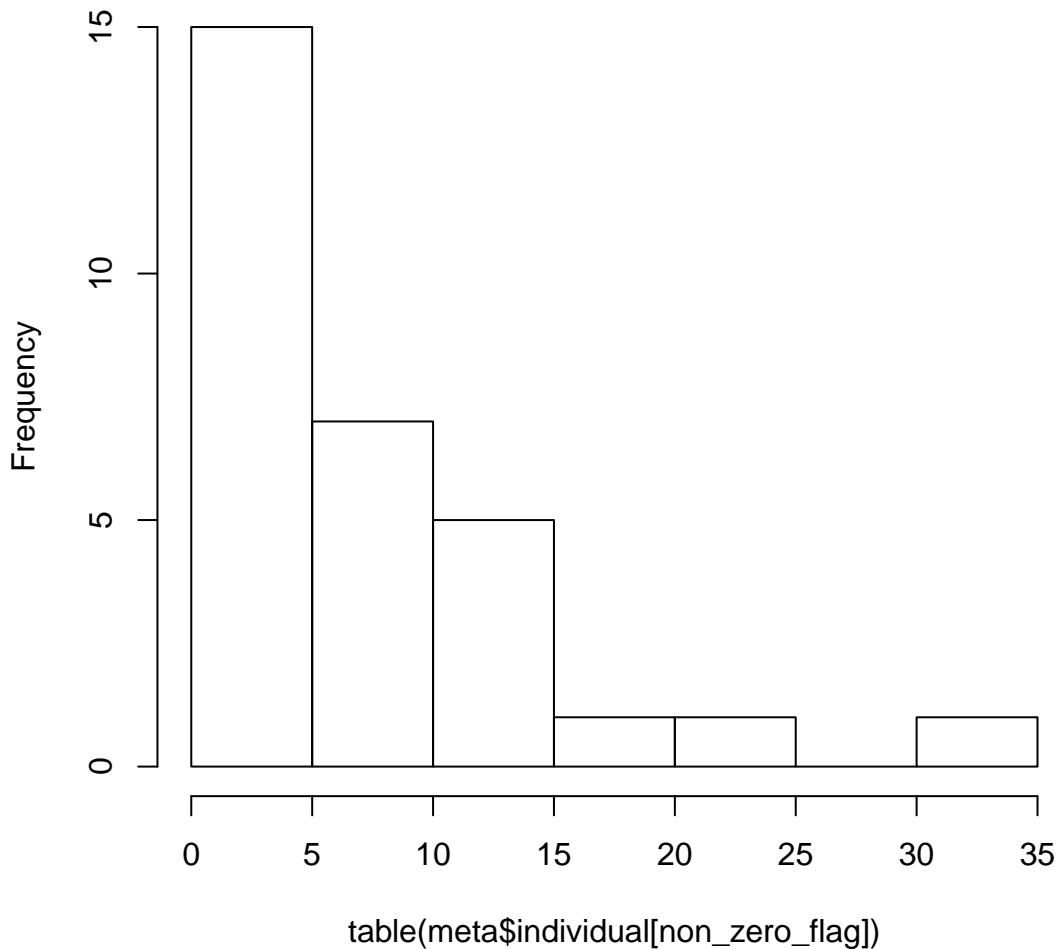
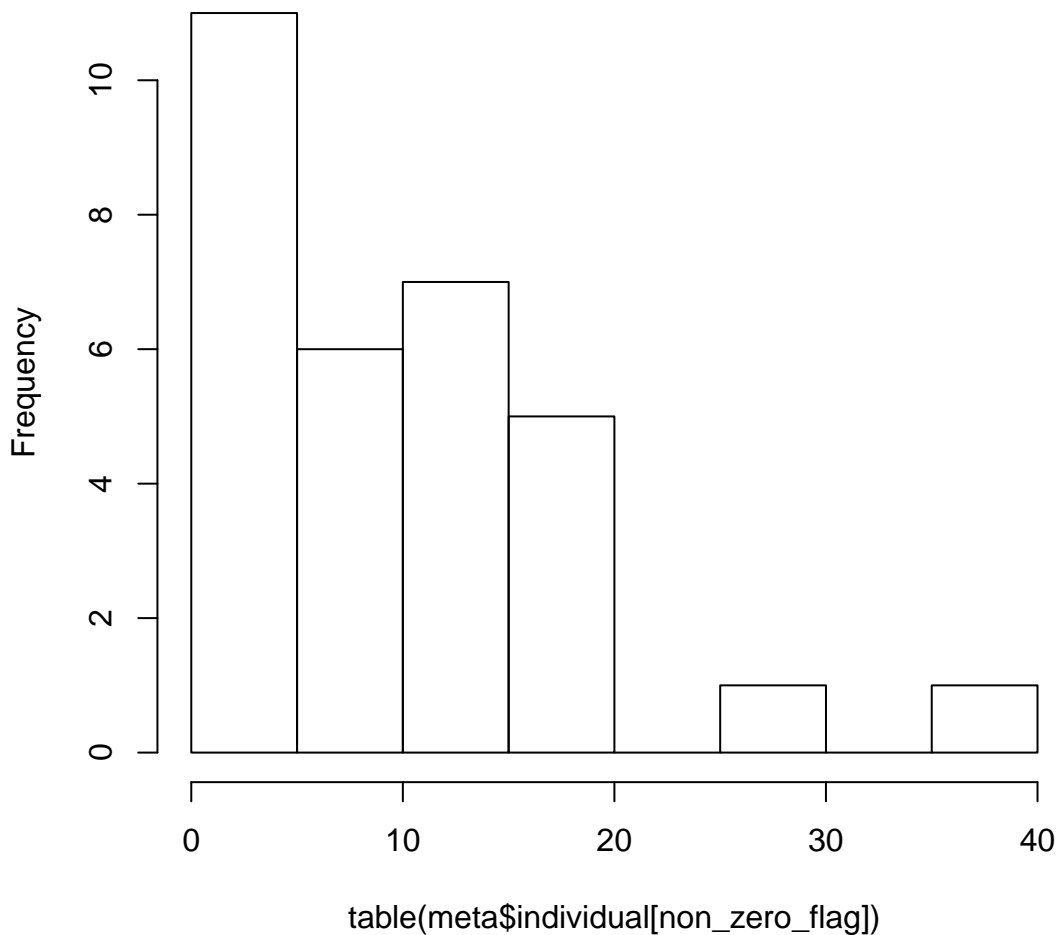**nonsig: log expression of gene#19, pval ob=0.5411, non−zero nu**

rawM[i, non_zero_flag]
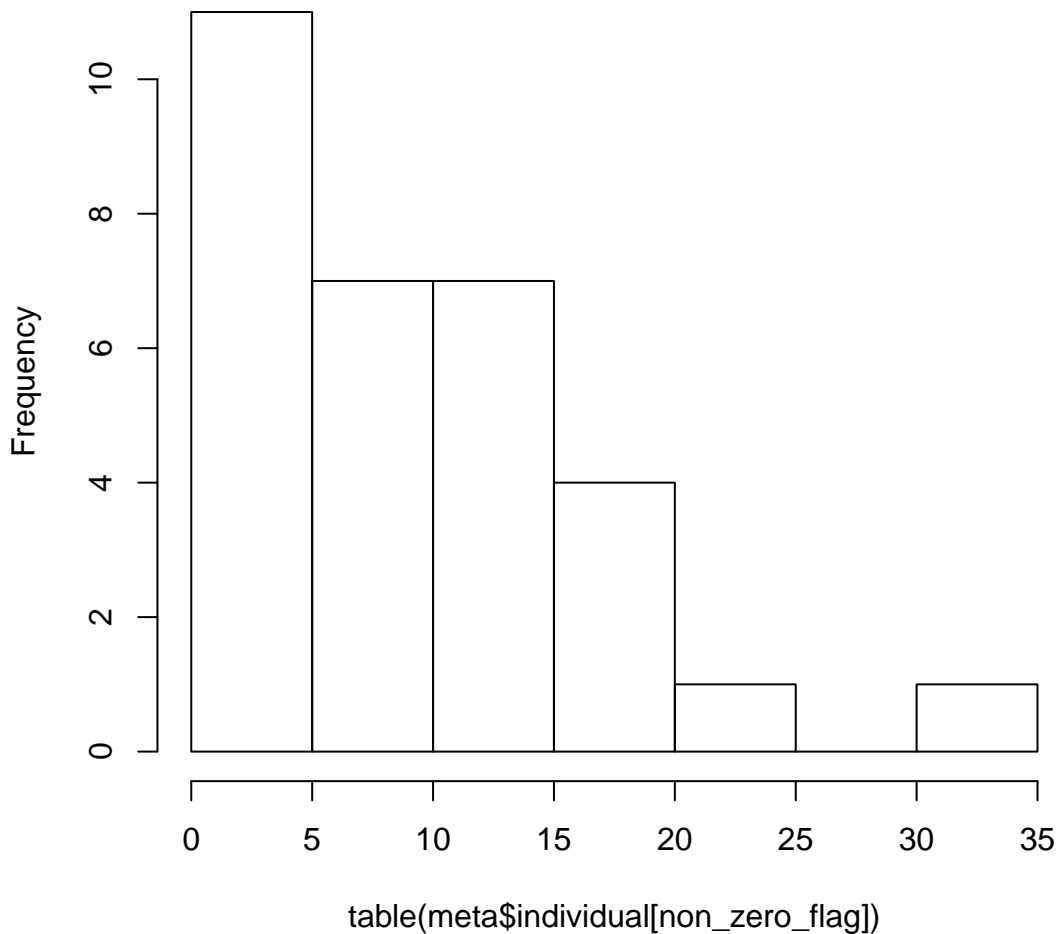ind#: 31, diag#: 2

KSless nonsig: individual expression cell count of gene#19

Frequency

table(meta$individual[non_zero_flag])
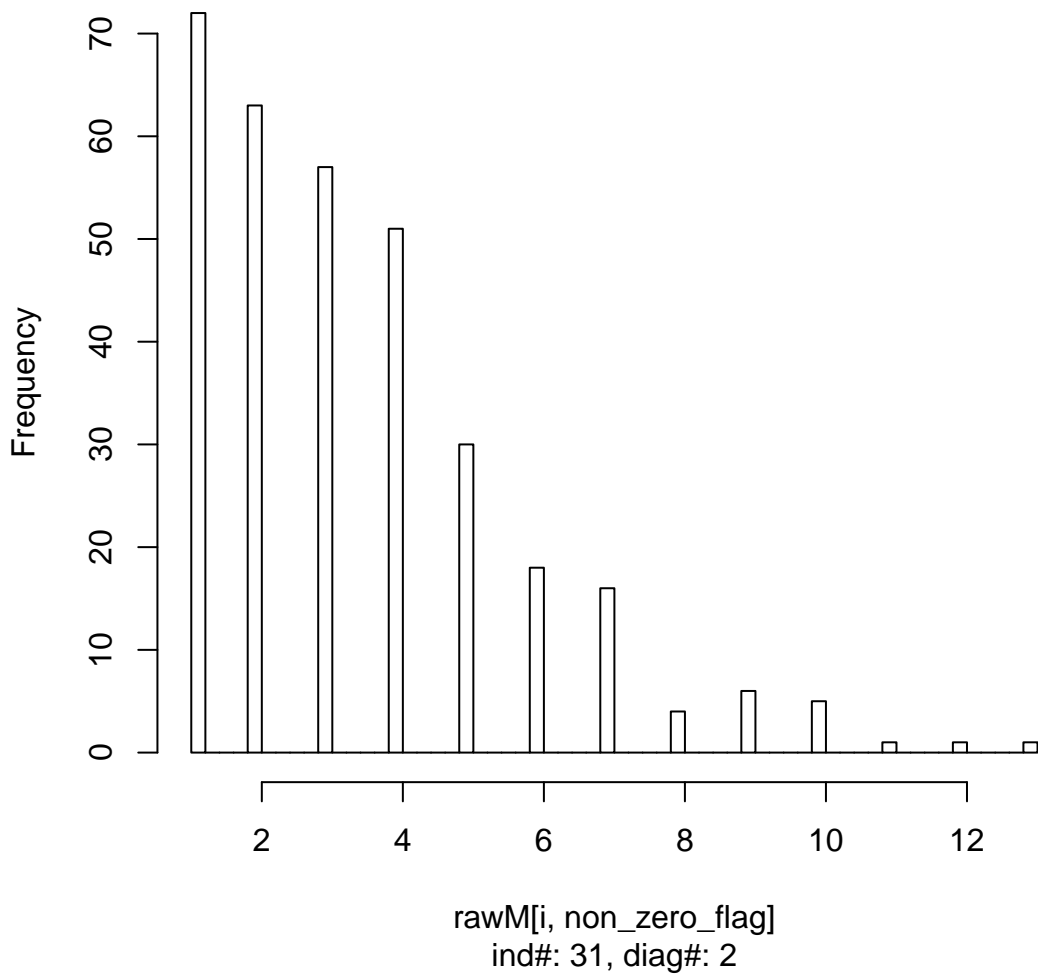
nonsig: log expression of gene#21, pval ob=0.3071, non−zero nu
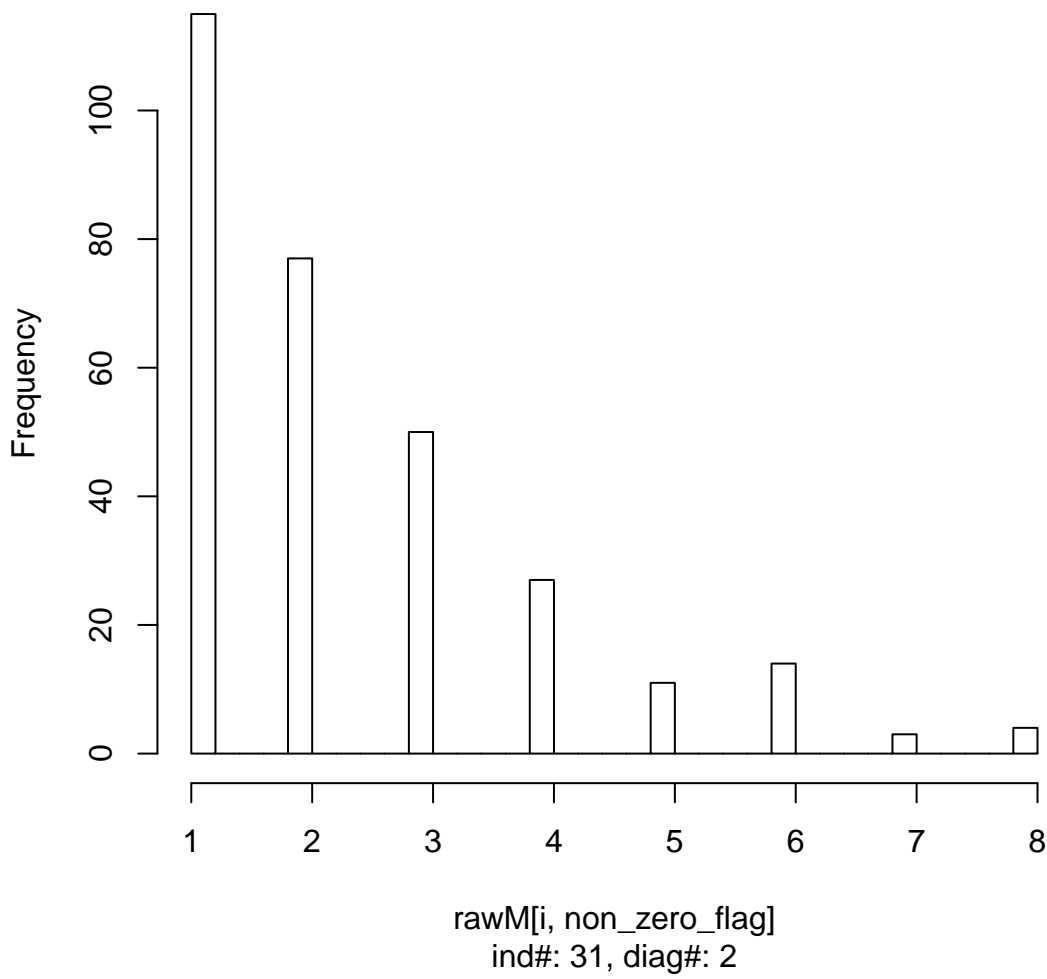
Frequency

rawM[i, non_zero_flag]
ind#: 31, diag#: 2

KSless nonsig: individual expression cell count of gene#21

Frequency

table(meta$individual[non_zero_flag])

Histogram of rawM_nozero_mean[rawM_0zero_num > 50 & kstwoside

Frequency

rawM_nozero_mean[rawM_0zero_num > 50 & kstwoside > 0.2]

Histogram of rawM_nozero_median[rawM_0zero_num > 50 & kstwosi...

Frequency

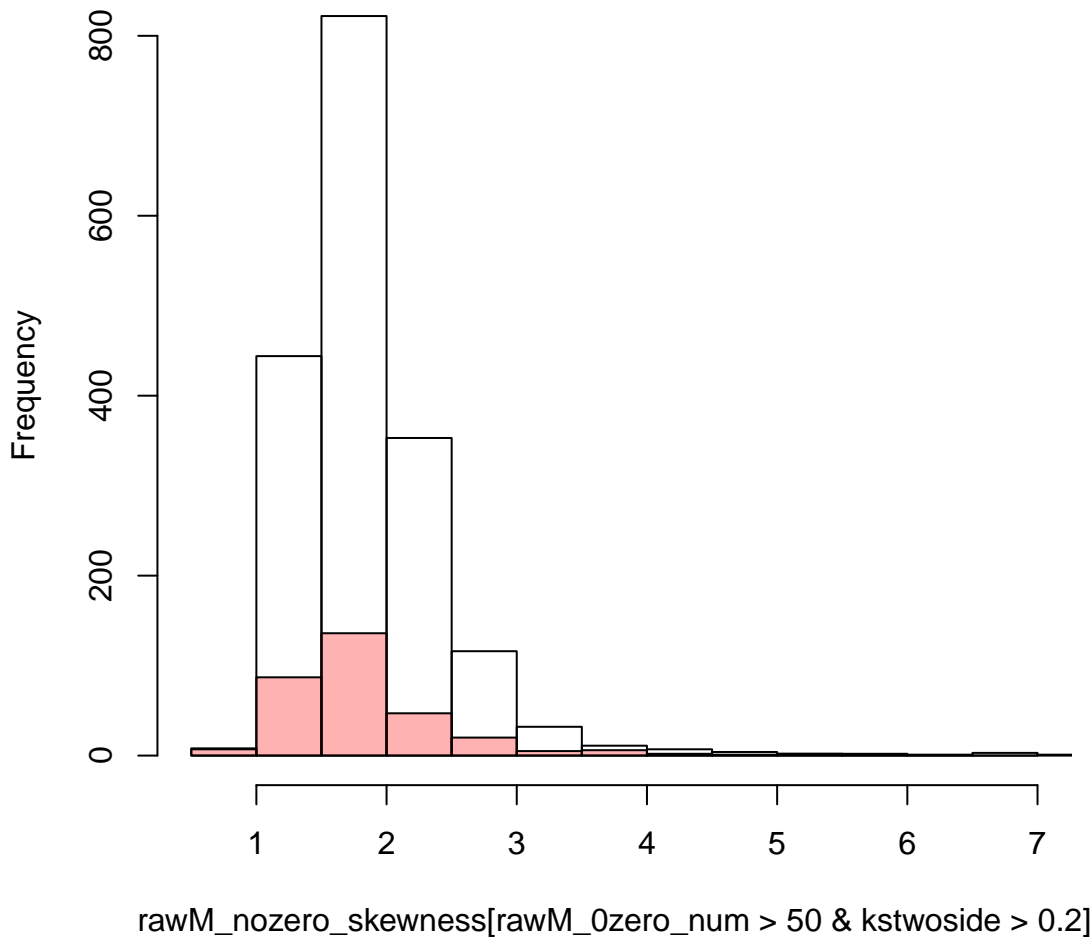rawM_nozero_median[rawM_0zero_num > 50 & kstwoside > 0.2]

istogram of rawM_nozero_sd[rawM_0zero_num > 50 & kstwoside

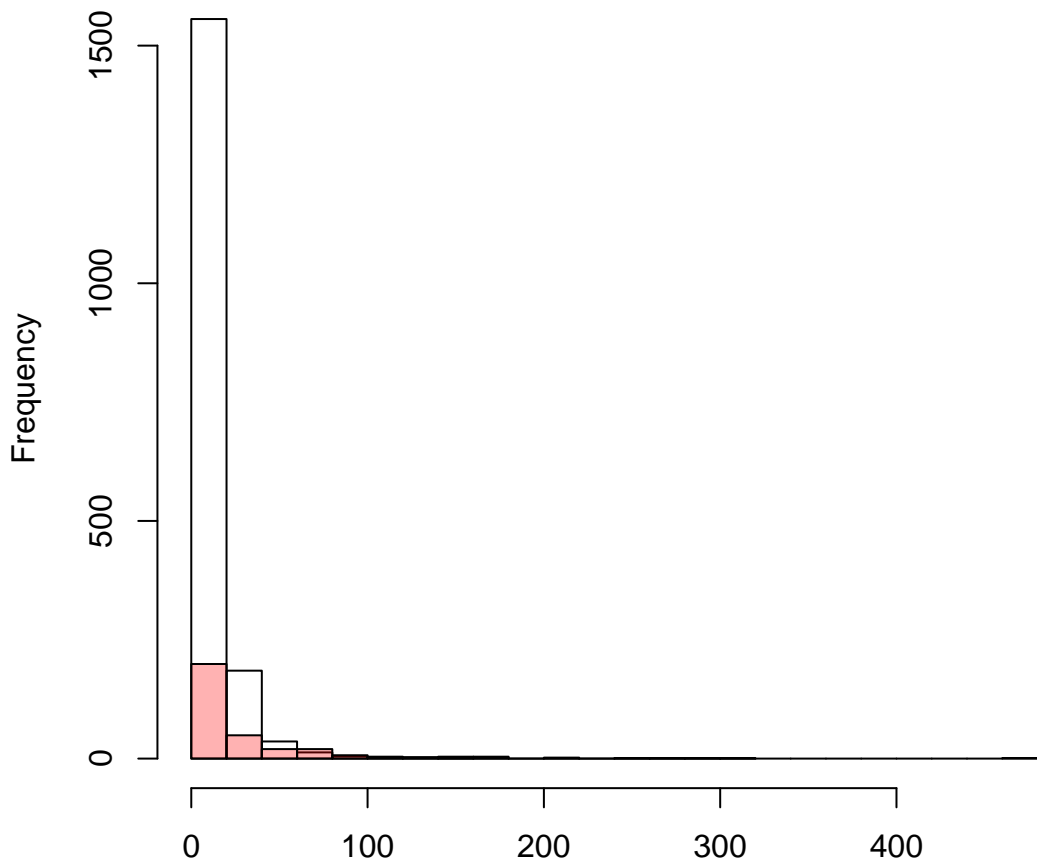rawM_nozero_sd[rawM_0zero_num > 50 & kstwoside > 0.2]

gram of rawM_nozero_skewness[rawM_0zero_num > 50 & kstwos

rawM_nozero_skewness[rawM_0zero_num > 50 & kstwoside > 0.2]
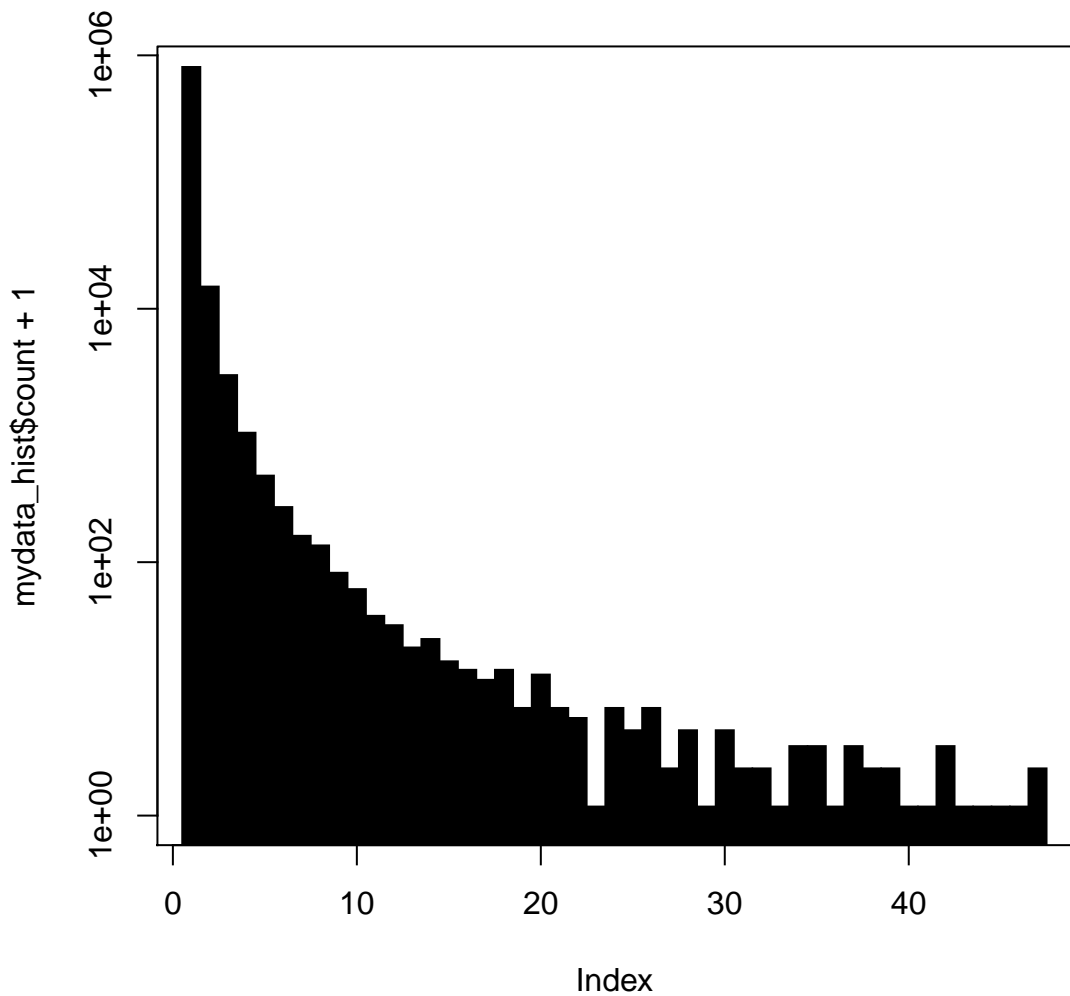
Histogram of rawM_nozero_max[rawM_0zero_num > 50 & kstwoside

Frequency
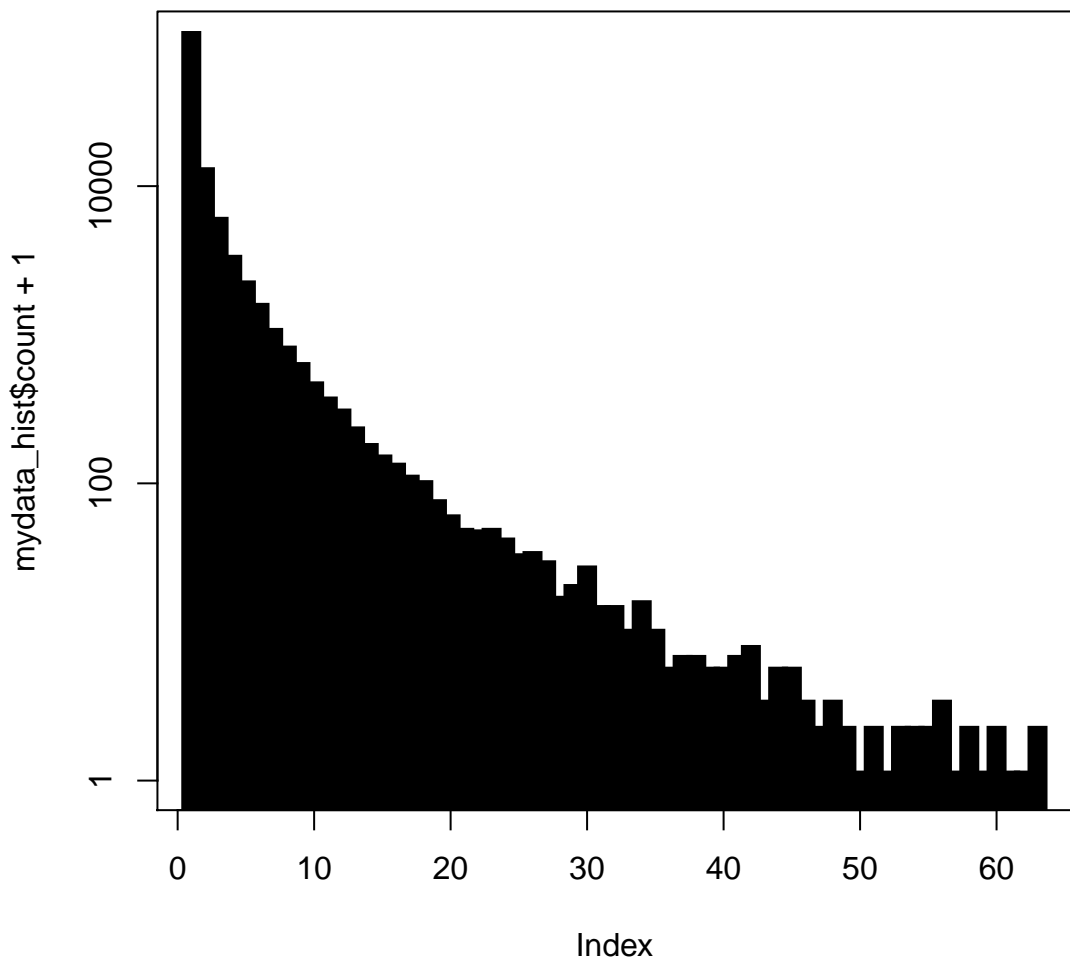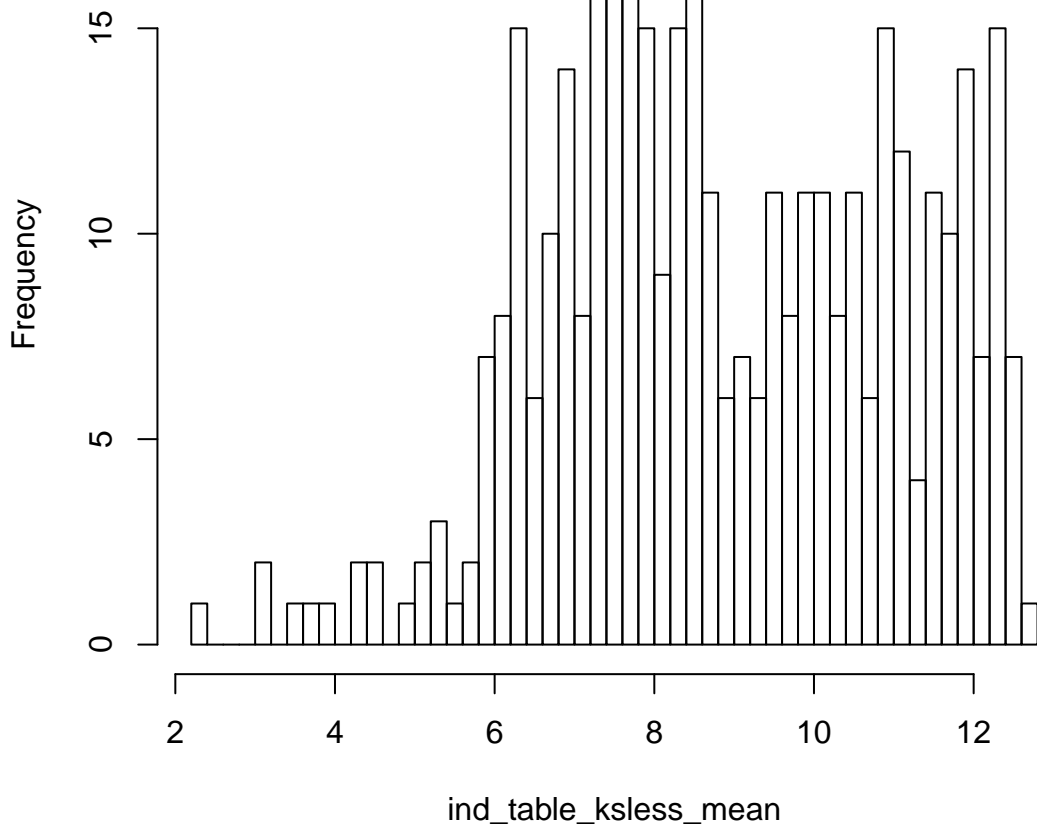
rawM_nozero_max[rawM_0zero_num > 50 & kstwoside > 0.2]

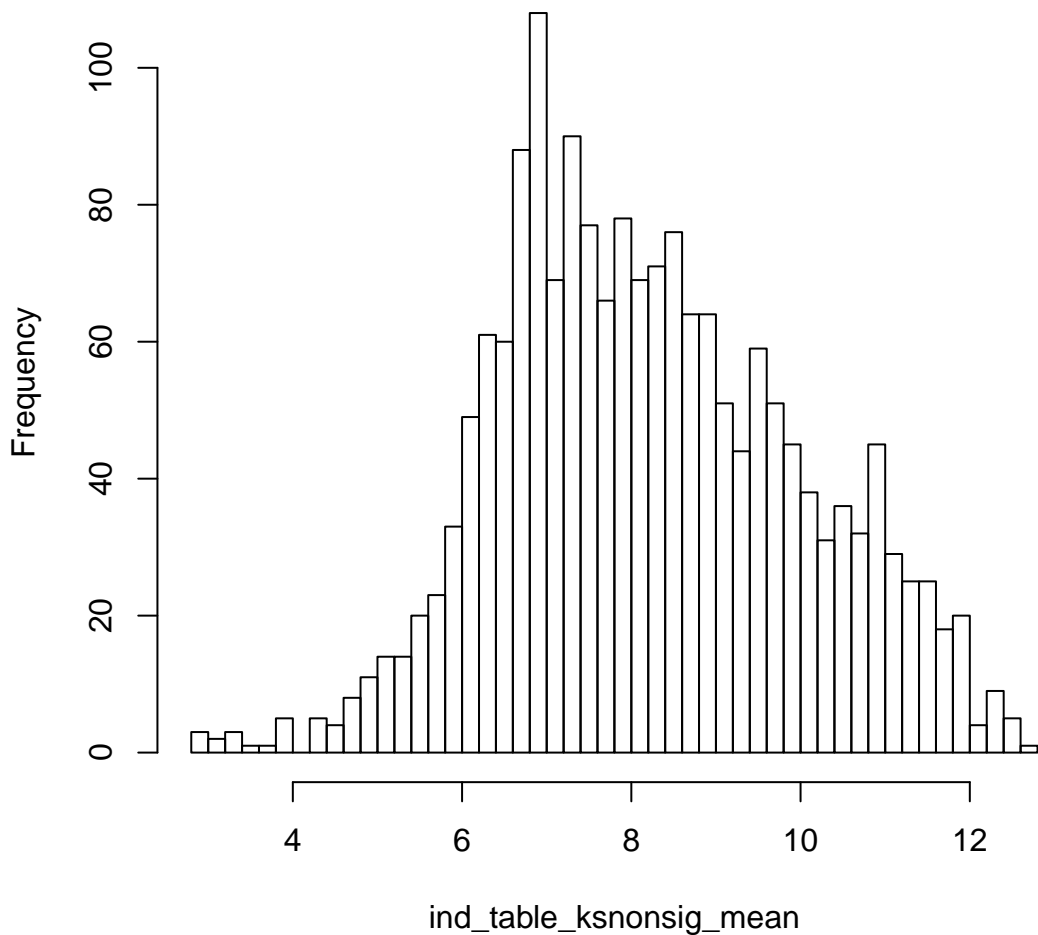genes log(expression +1) with least 50 cell expression and kstwosic

nes log(expression +1) with least 50 cell expression and kstwosid

Histogram of ind_table_ksless_mean

Frequency
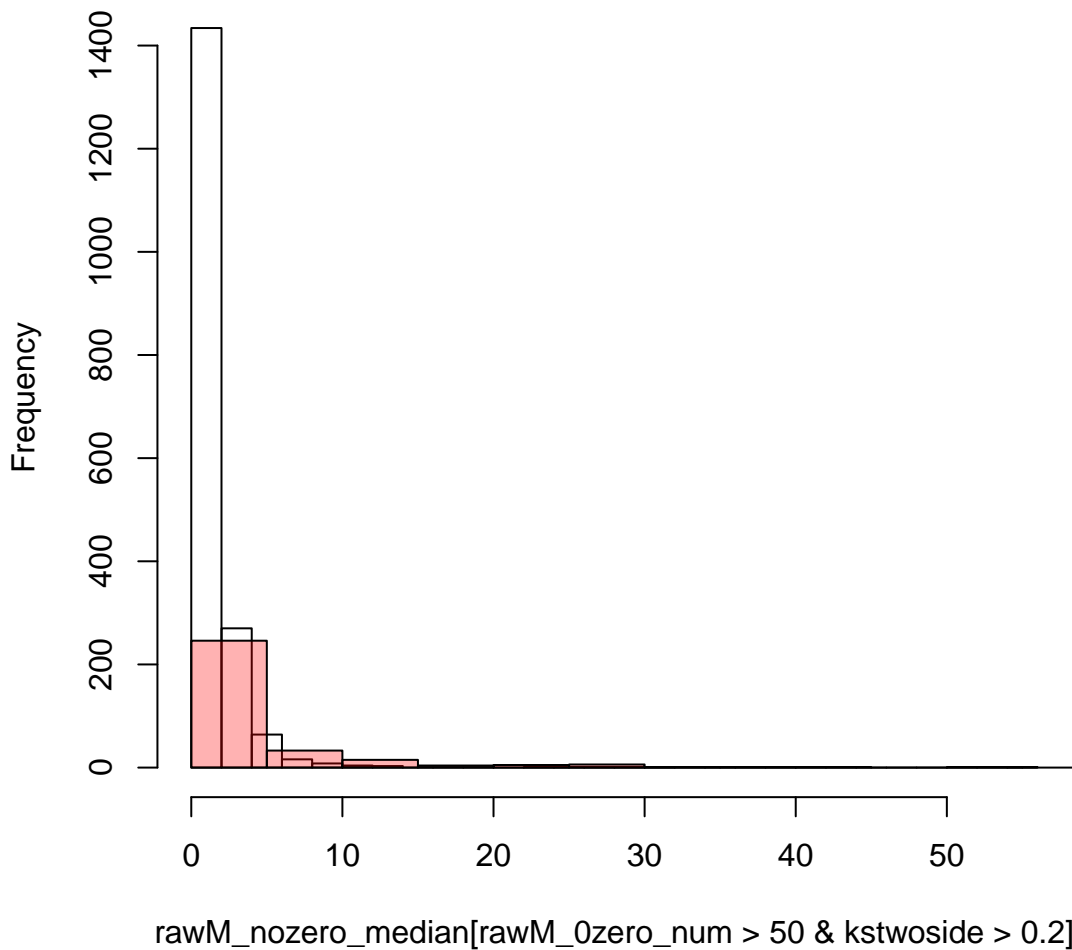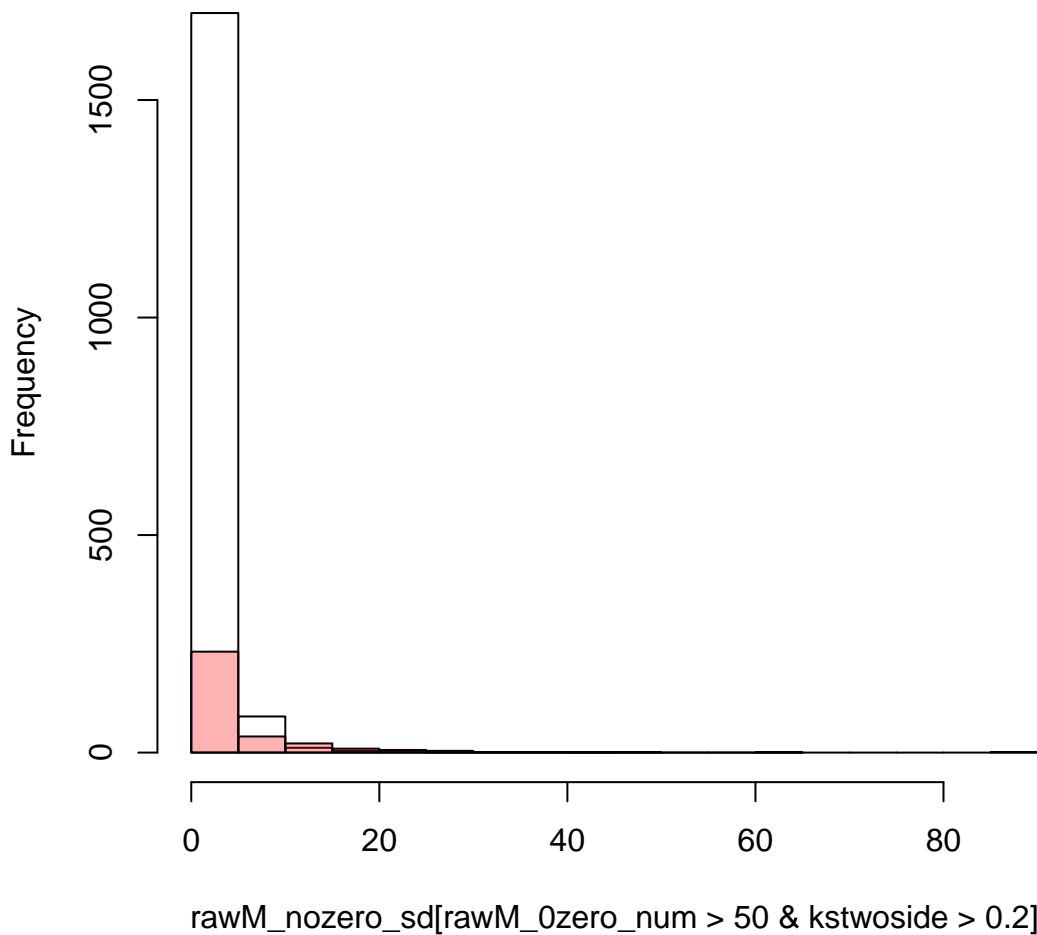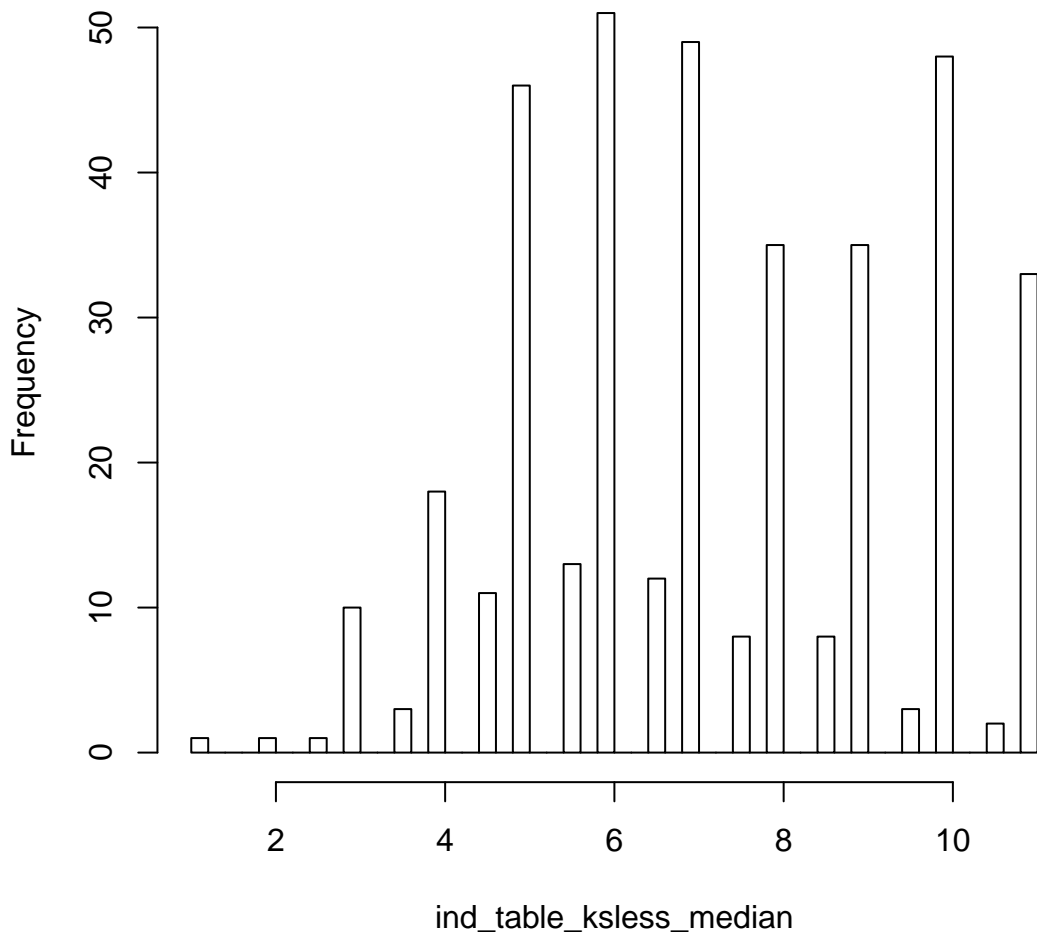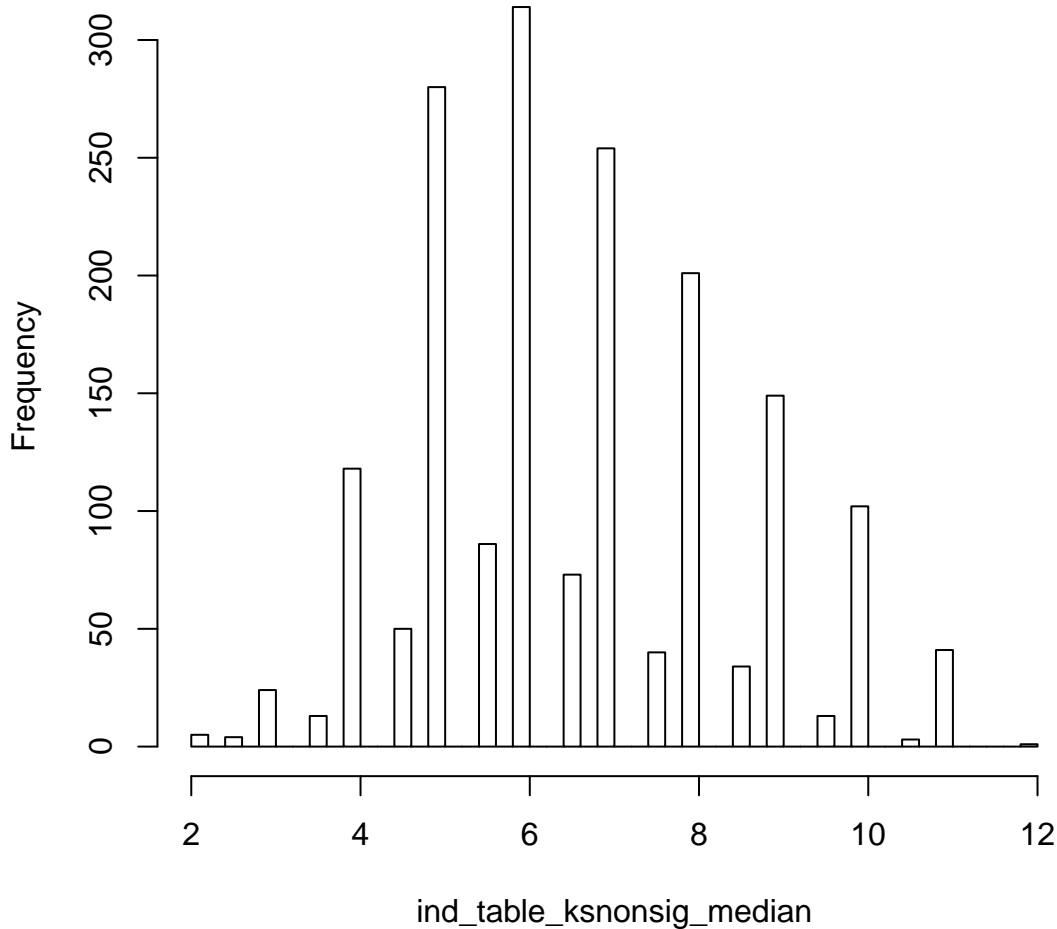
ind_table_ksless_mean
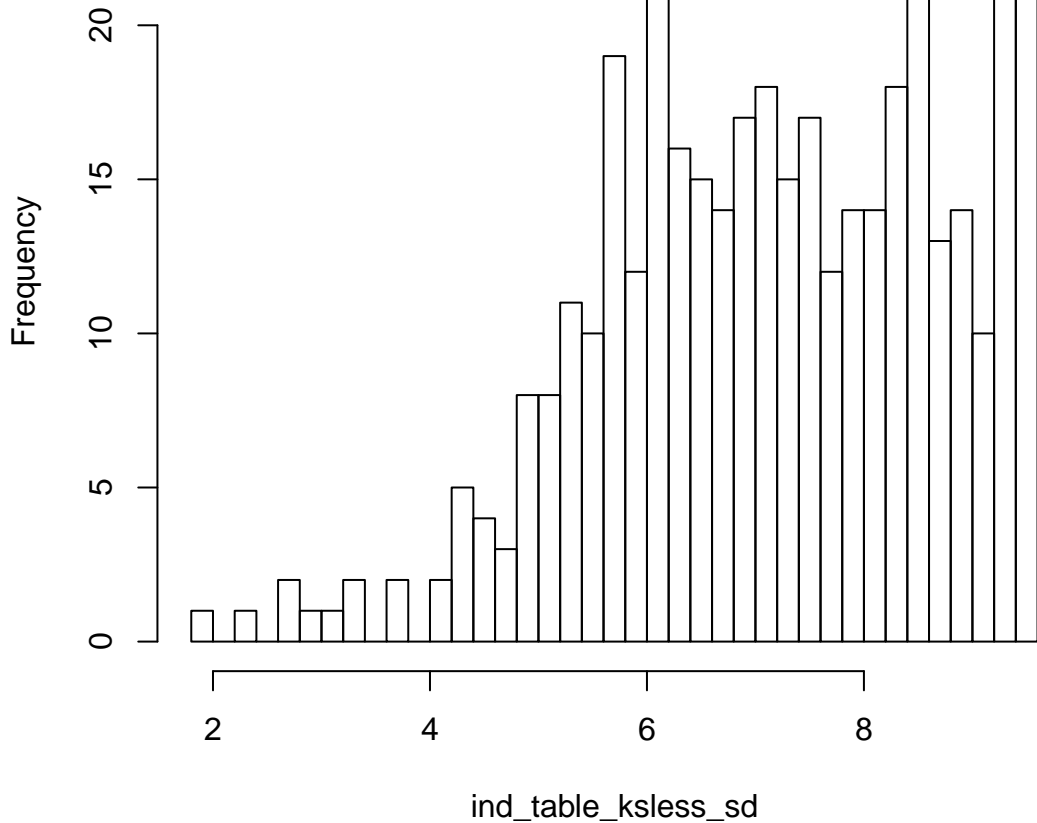
Histogram of ind_table_ksnonsig_mean
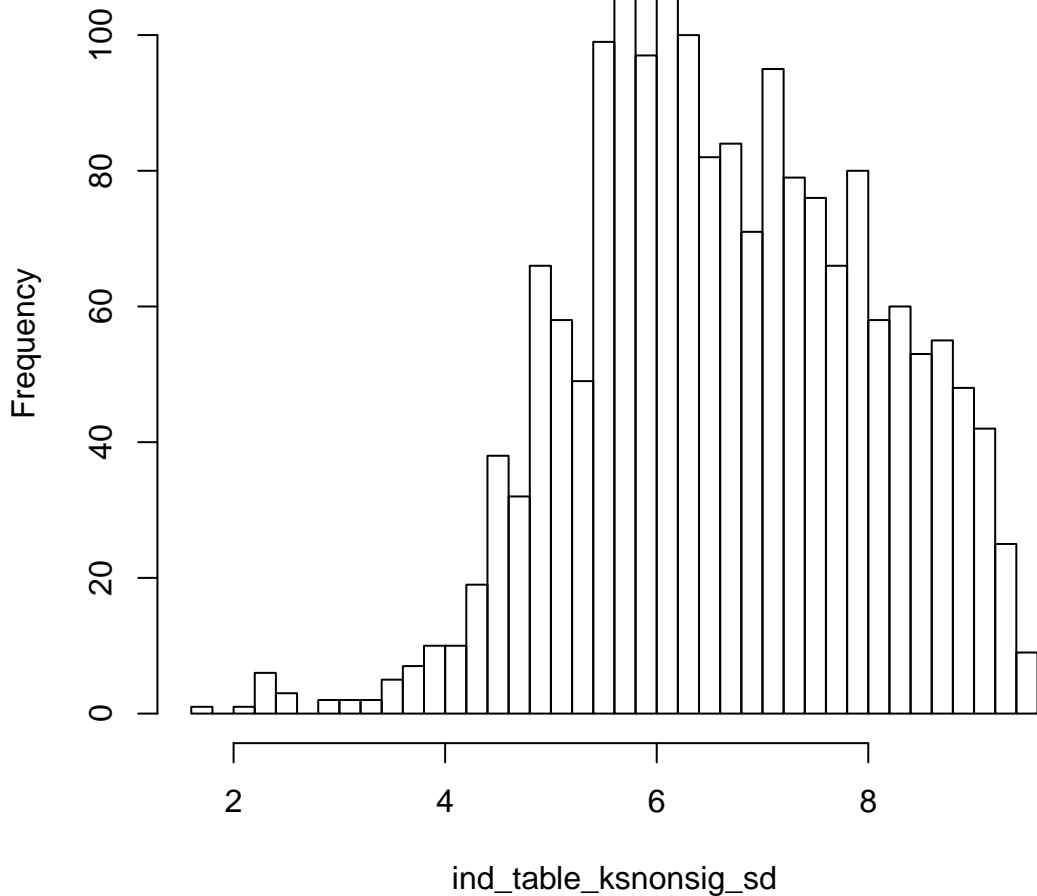
Histogram of ind_table_ksless_median

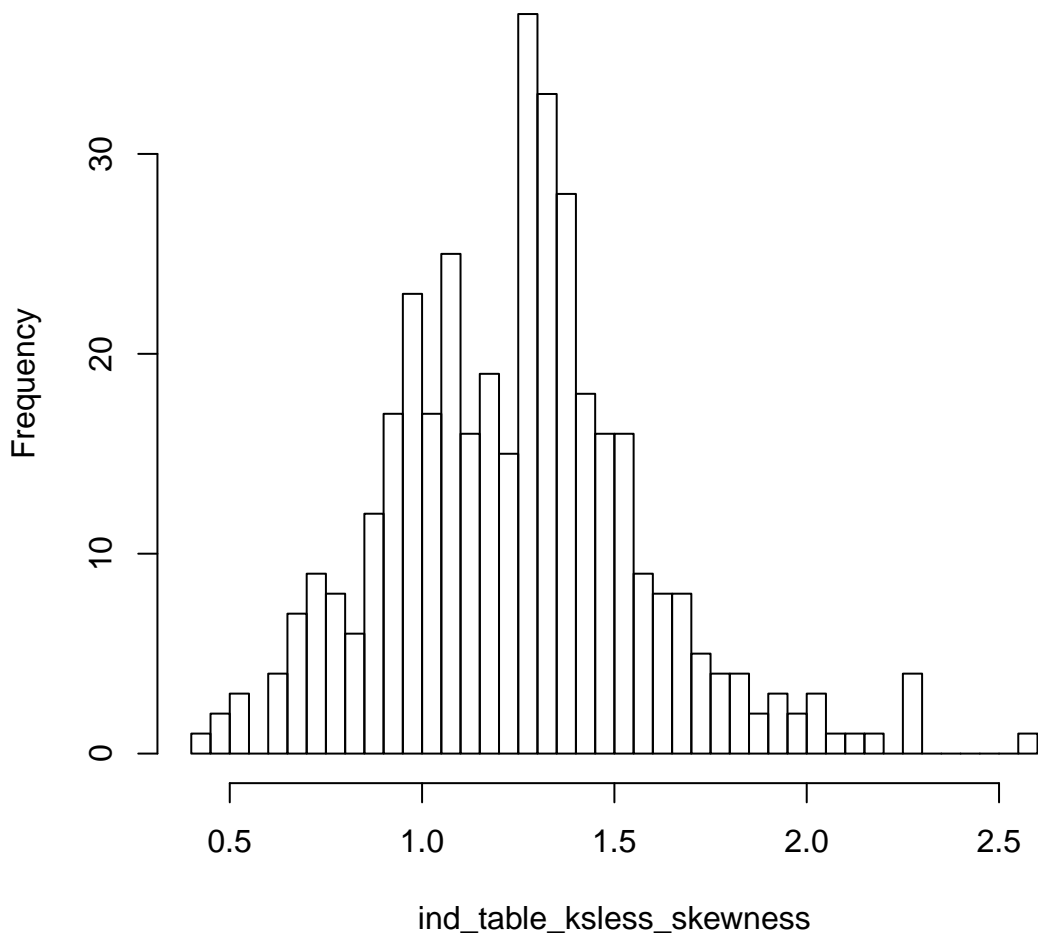**Histogram of ind_table_ksnonsig_median**
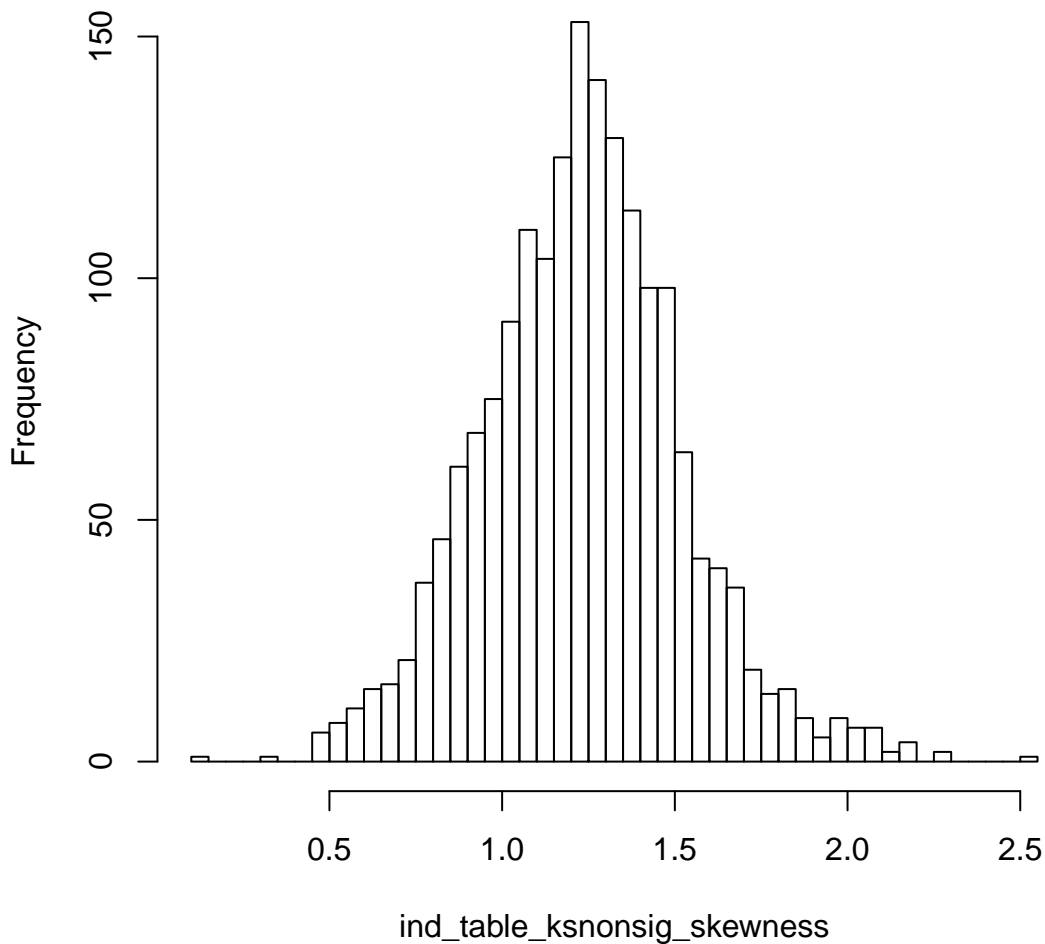
Histogram of ind_table_ksless_sd

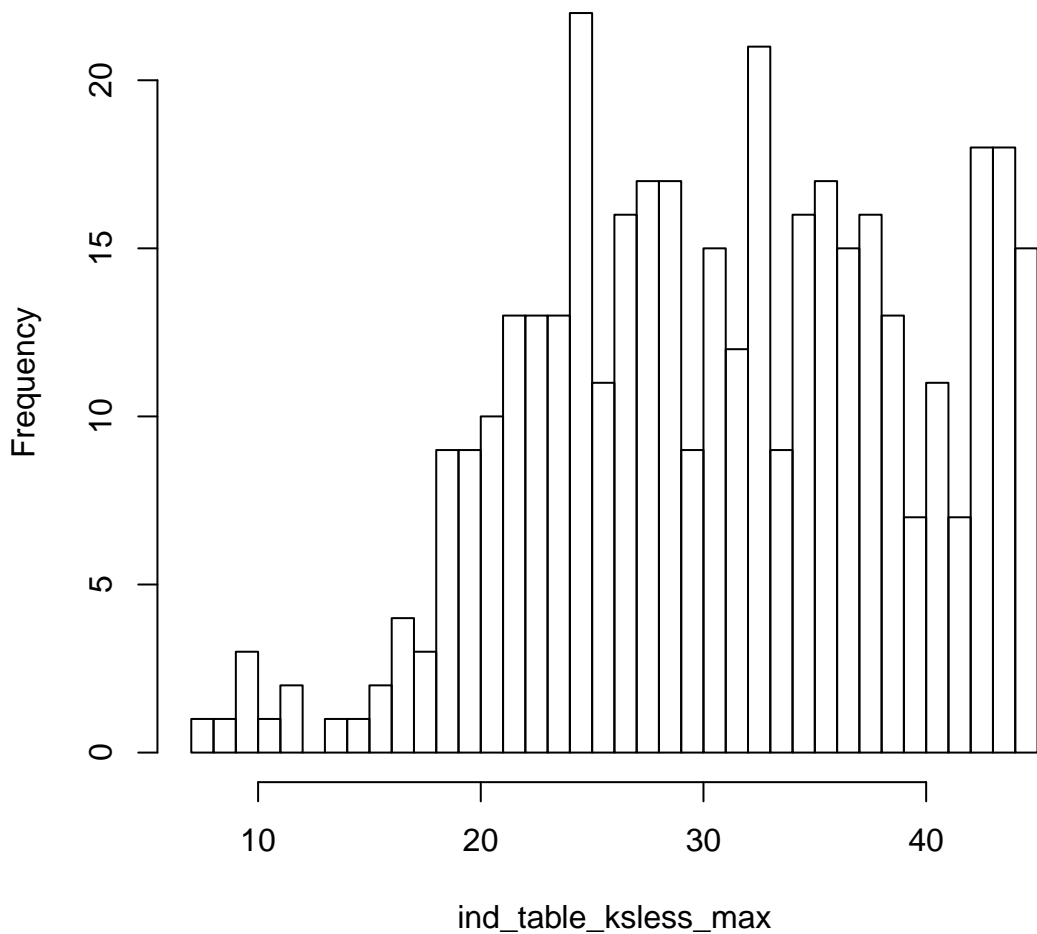**Histogram of ind_table_ksnonsig_sd**

Histogram of ind_table_ksless_skewness

Histogram of ind_table_ksnonsig_skewness

Histogram of ind_table_ksless_max

Histogram of ind_table_ksnonsig_max