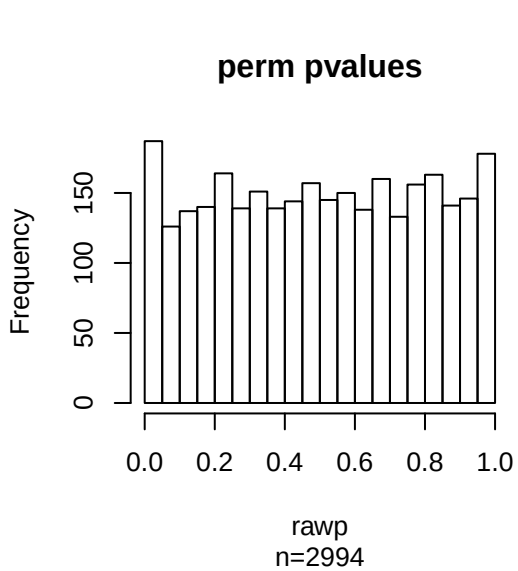
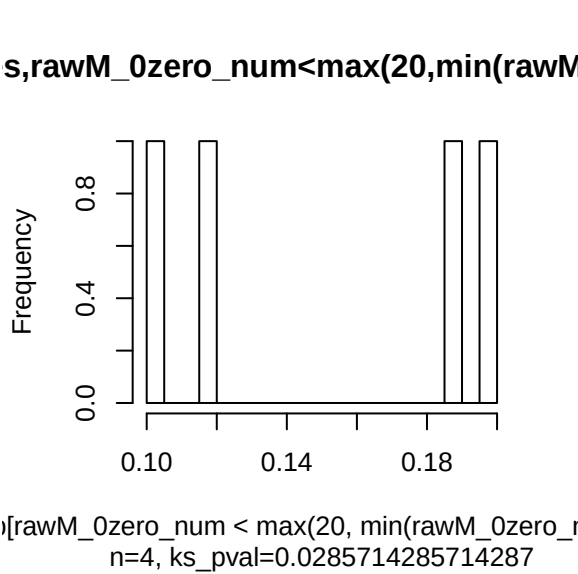
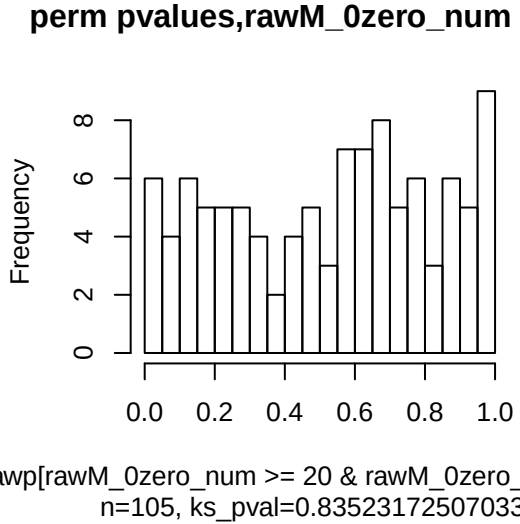
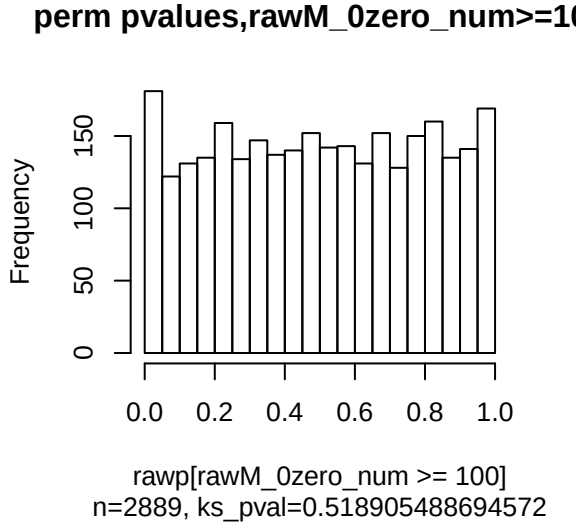
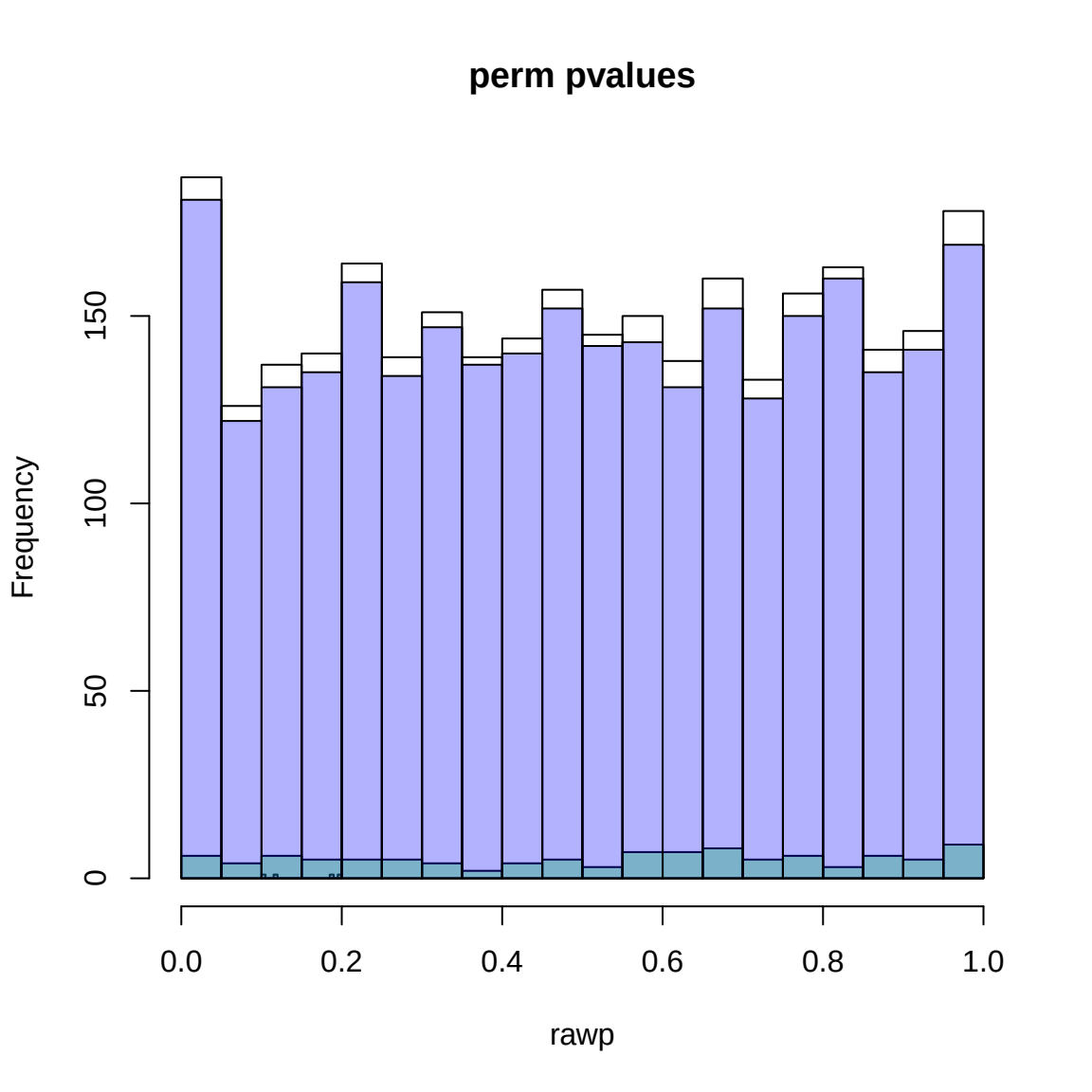
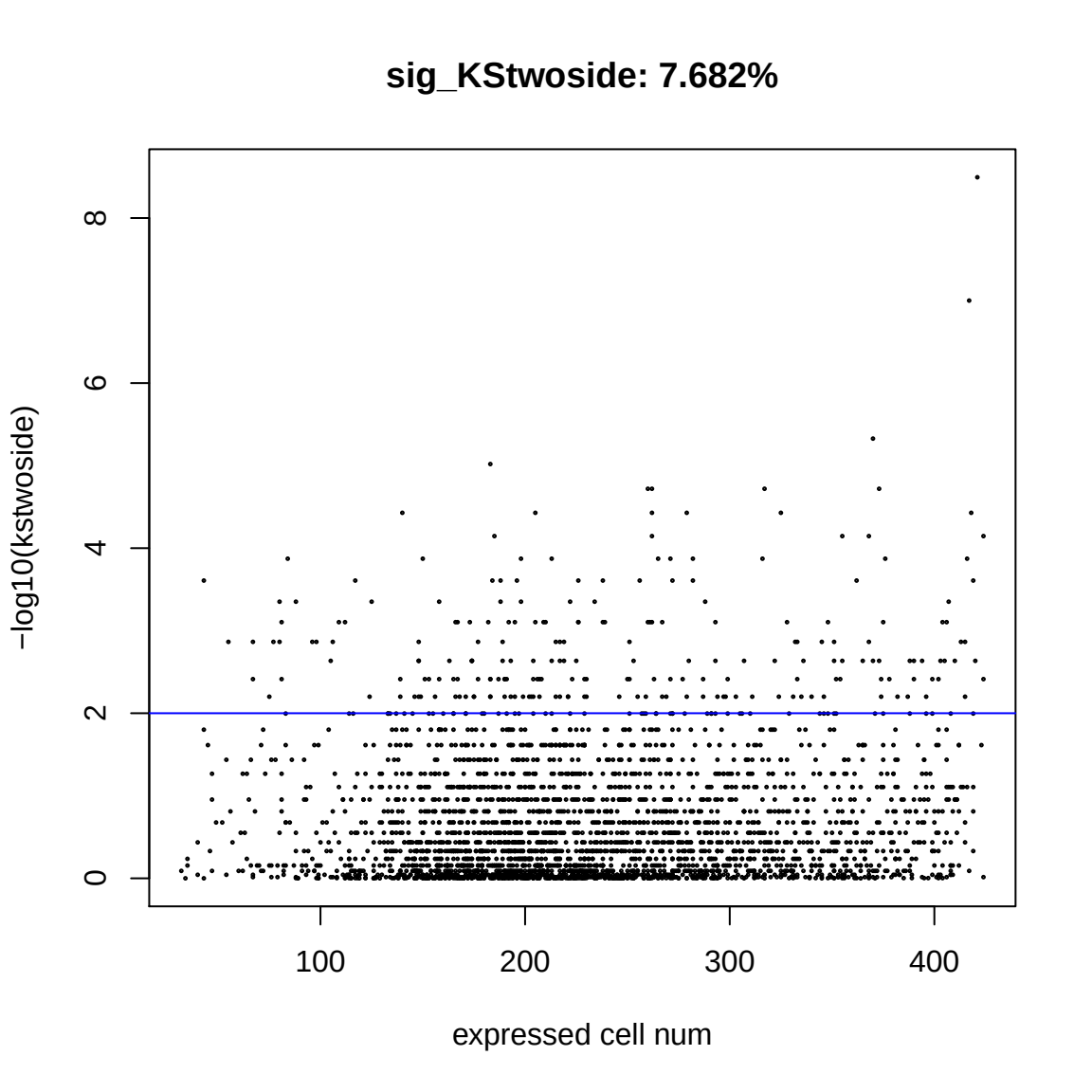

perm pvalues
Frequency
0
50
100
150
0.0
0.2
0.4
0.6
0.8
1.0
rawp
n=2994

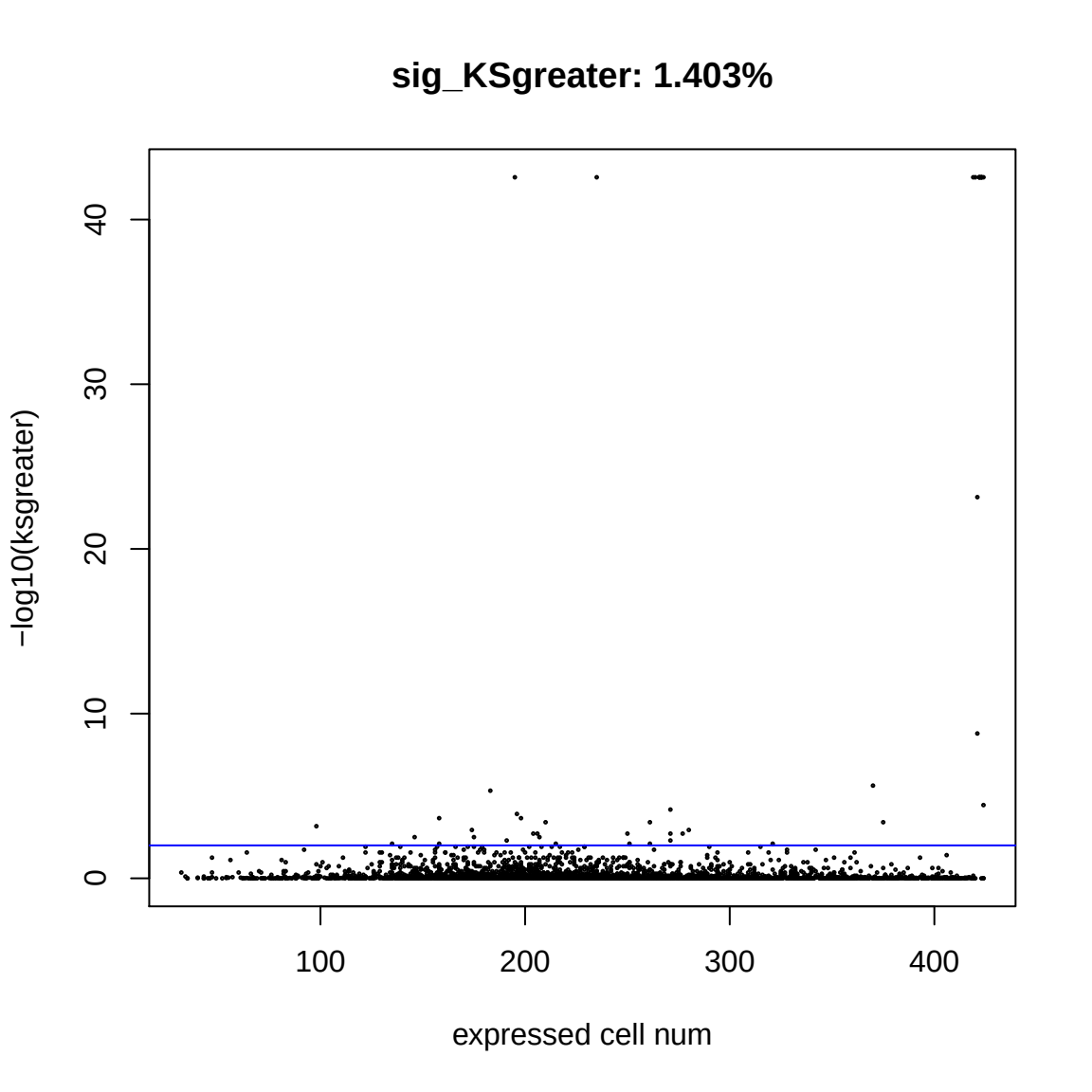

s,rawM_0zero_num<max(20,min(rawM
Frequency
0.0
0.4
0.8
0.10
0.14
0.18
[rawM_0zero_num < max(20, min(rawM_0zero_
n=4, ks_pval=0.0285714285714287

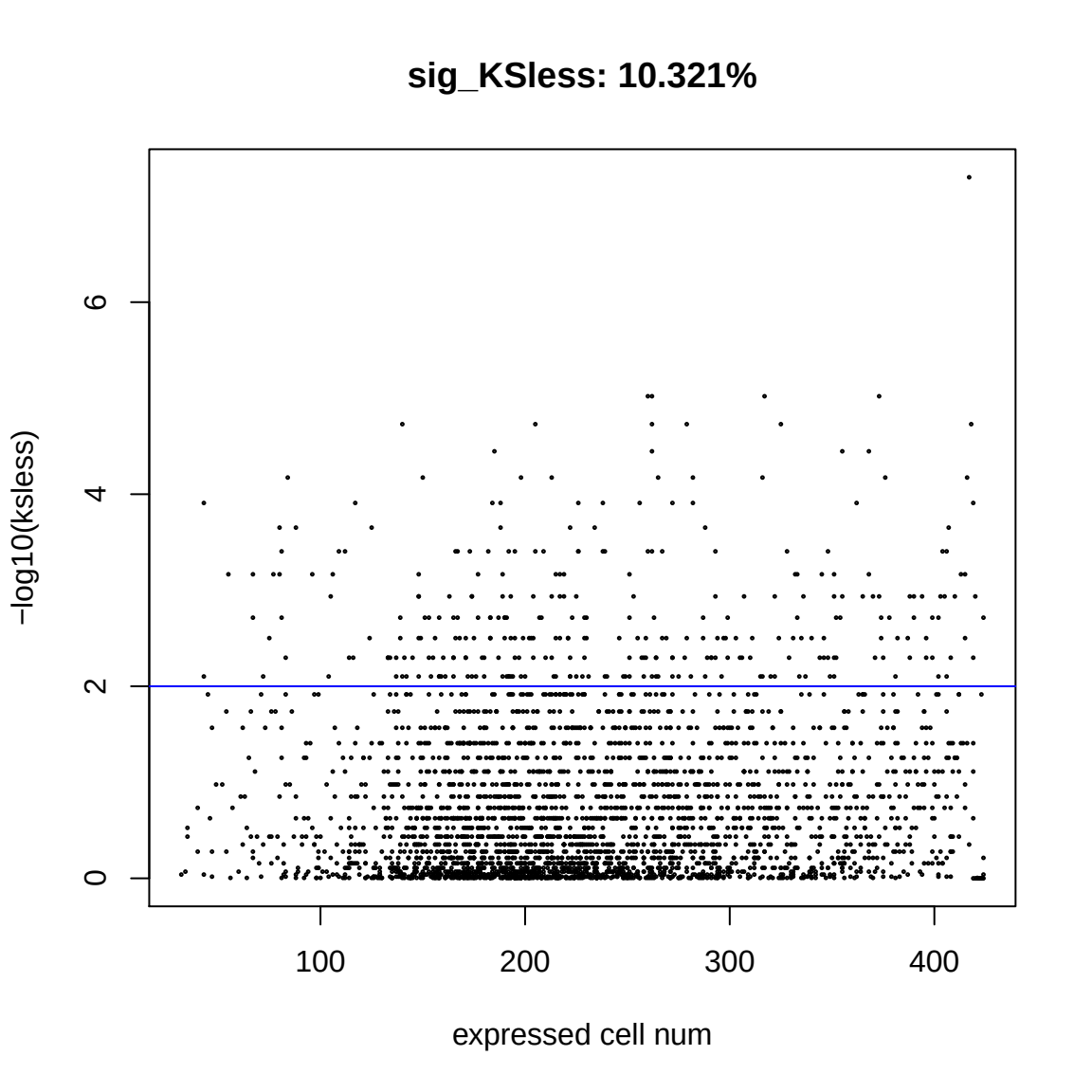

perm pvalues,rawM_0zero_num 20−
Frequency
0
2
4
6
8
0.0
0.2
0.4
0.6
0.8
1.0
awp[rawM_0zero_num >= 20 & rawM_0zero_num
n=105, ks_pval=0.835231725070332

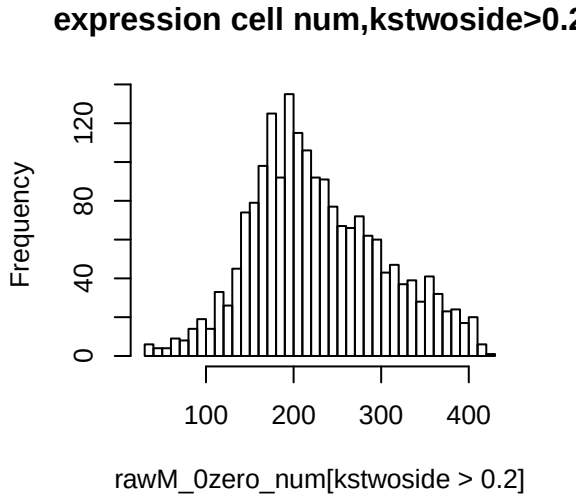

perm pvalues,rawM_0zero_num>=10
Frequency
0
50
100
150
0.0
0.2
0.4
0.6
0.8
1.0
rawp[rawM_0zero_num >= 100]
n=2889, ks_pval=0.518905488694572

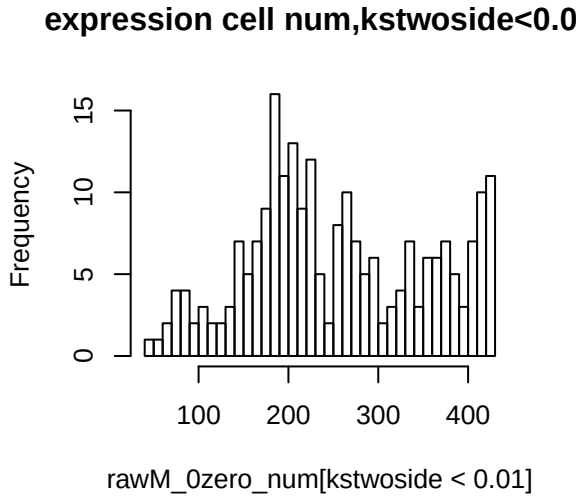

perm pvalues
Frequency
0
50
100
150
0.0
0.2
0.4
0.6
0.8
1.0
rawp

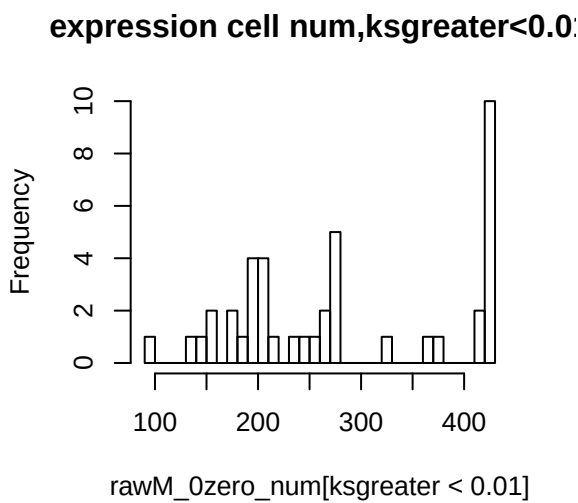

sig_KStwoside: 7.682%
−log10(kstwoside)
0
2
4
6
8
100
200
300
400
expressed cell num

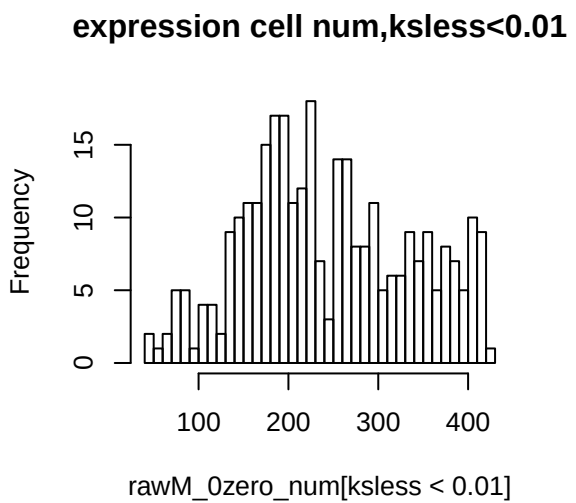

sig_KSgreater: 1.403%
−log10(ksgreater)
0
10
20
30
40
100
200
300
400
expressed cell num

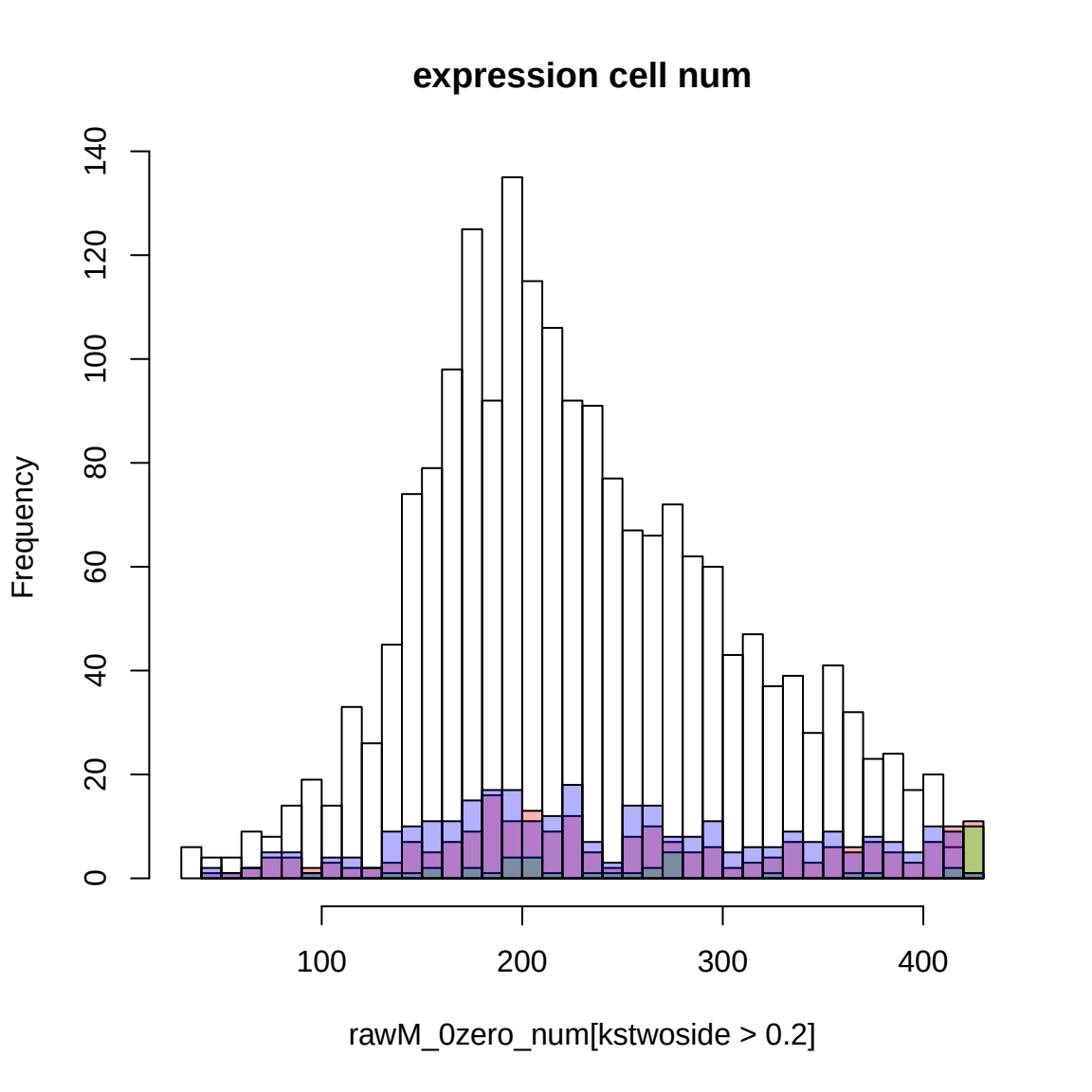

sig_KSless: 10.321%
−log10(ksless)
0
2
4
6
100
200
300
400
expressed cell num

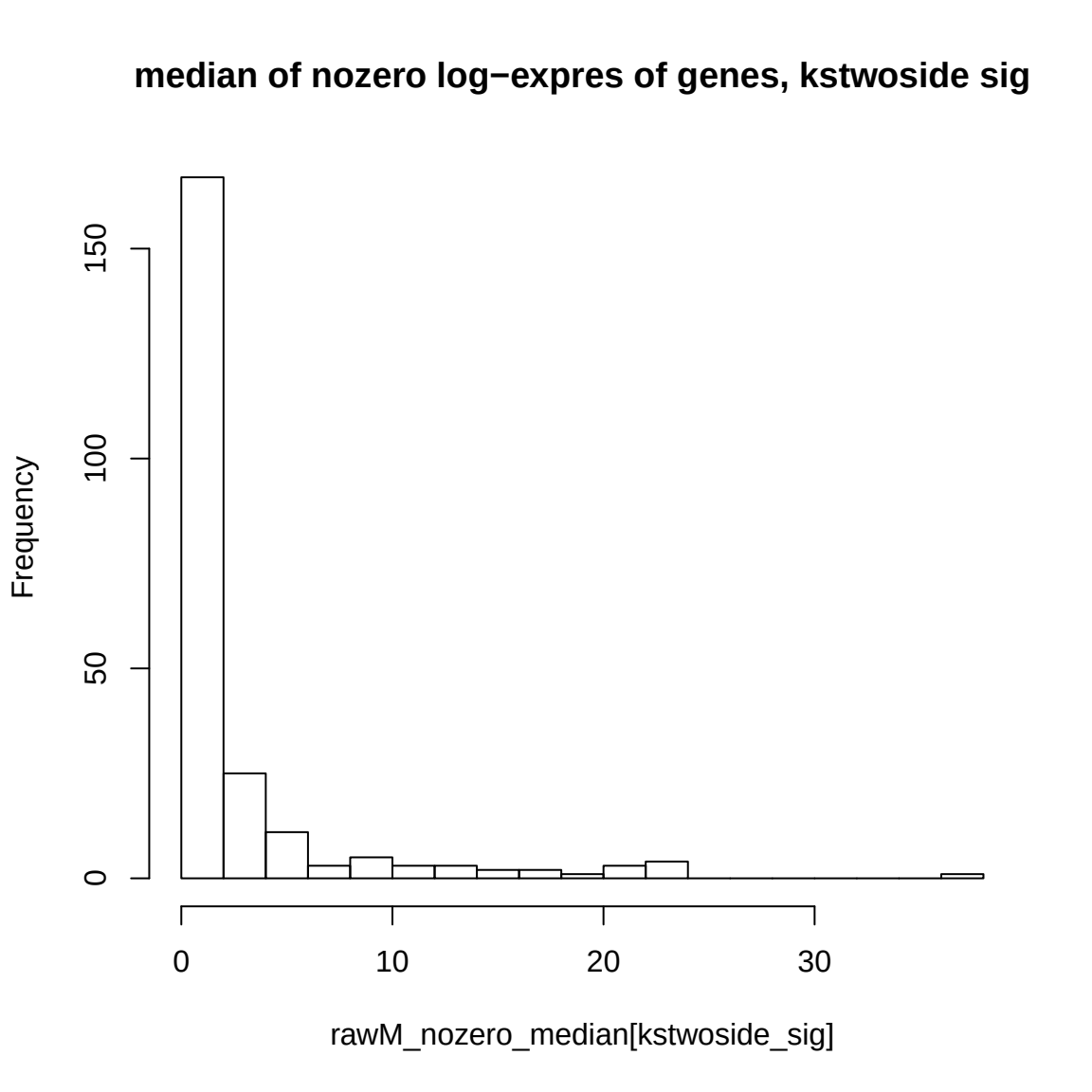

expression cell num,kstwoside>0.2
Frequency
0
40
80
120
100
200
300
400
rawM_0zero_num[kstwoside > 0.2]

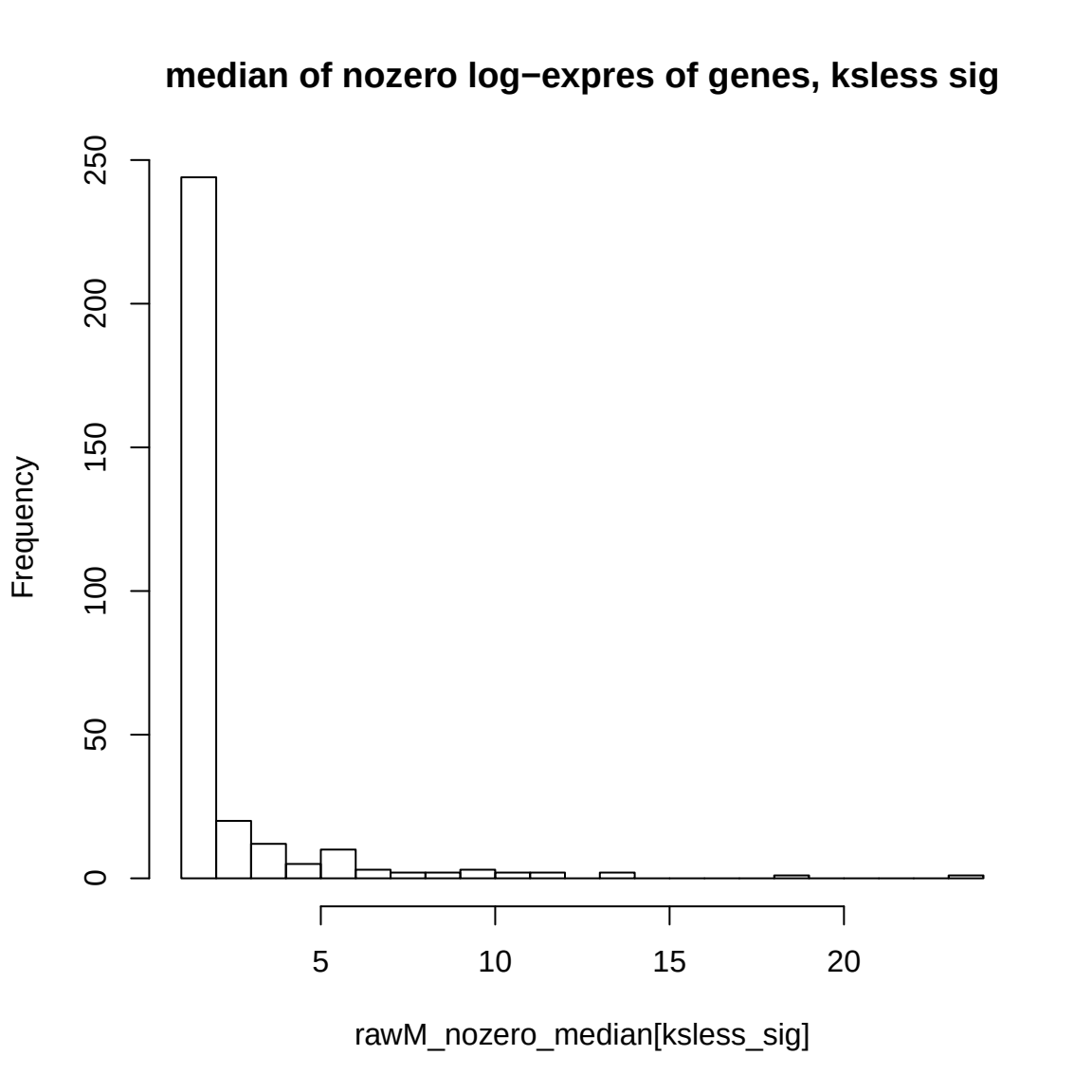

expression cell num,kstwoside<0.0
Frequency
0
5
10
15
100
200
300
400
rawM_0zero_num[kstwoside < 0.01]

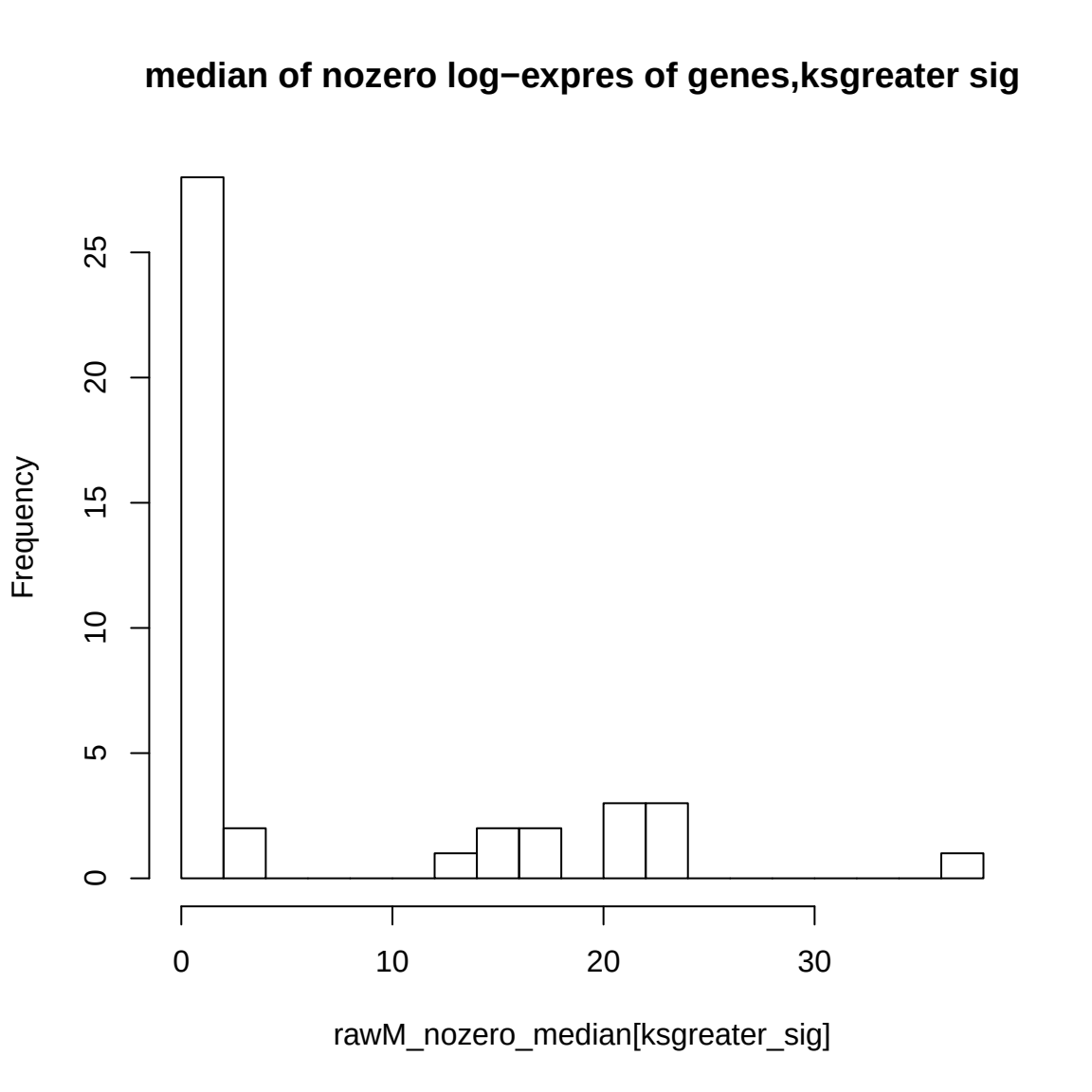

expression cell num,ksgreater<0.0
Frequency
0
2
4
6
8
10
100
200
300
400
rawM_0zero_num[ksgreater < 0.01]

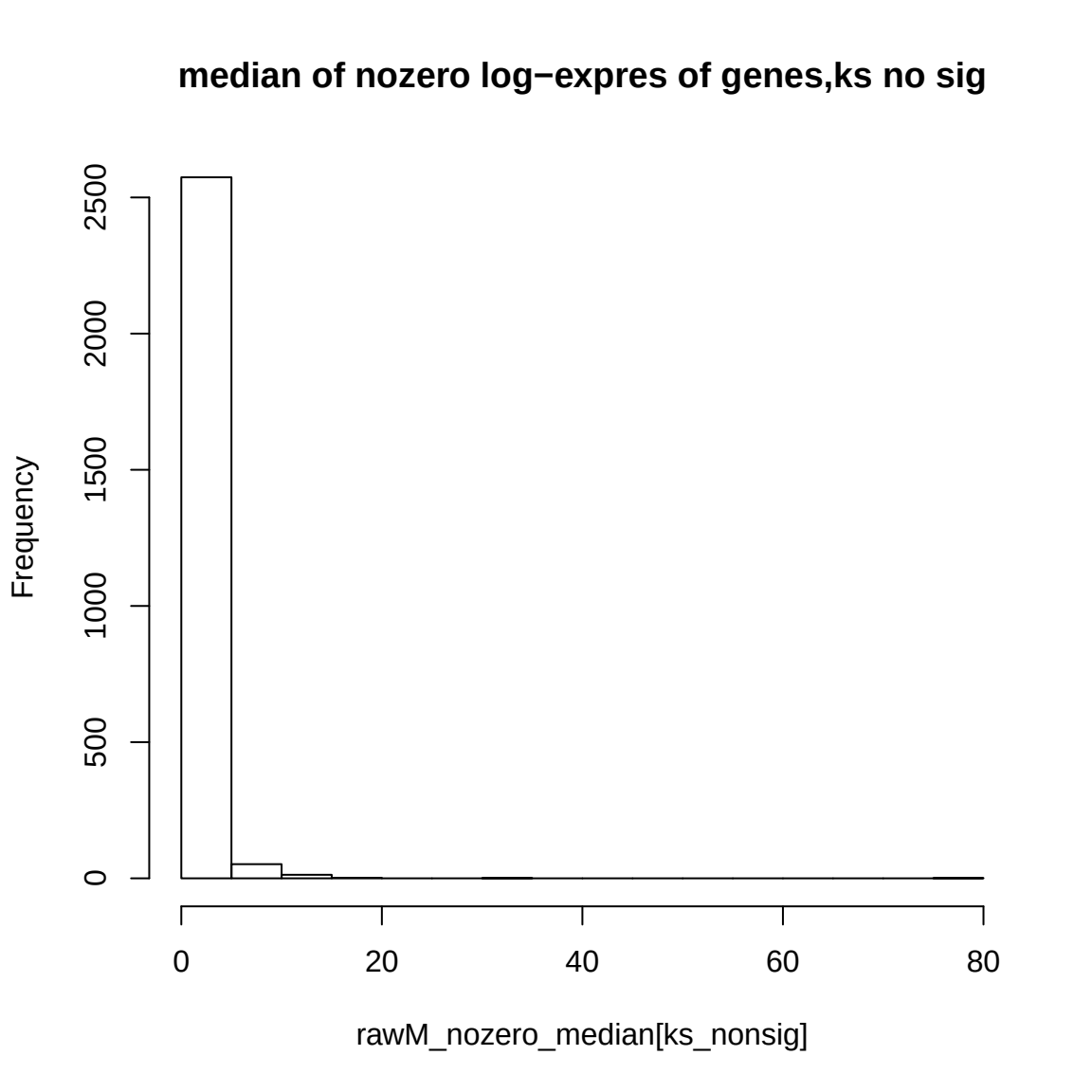

expression cell num,ksless<0.01
Frequency
0
5
10
15
100
200
300
400
rawM_0zero_num[ksless < 0.01]

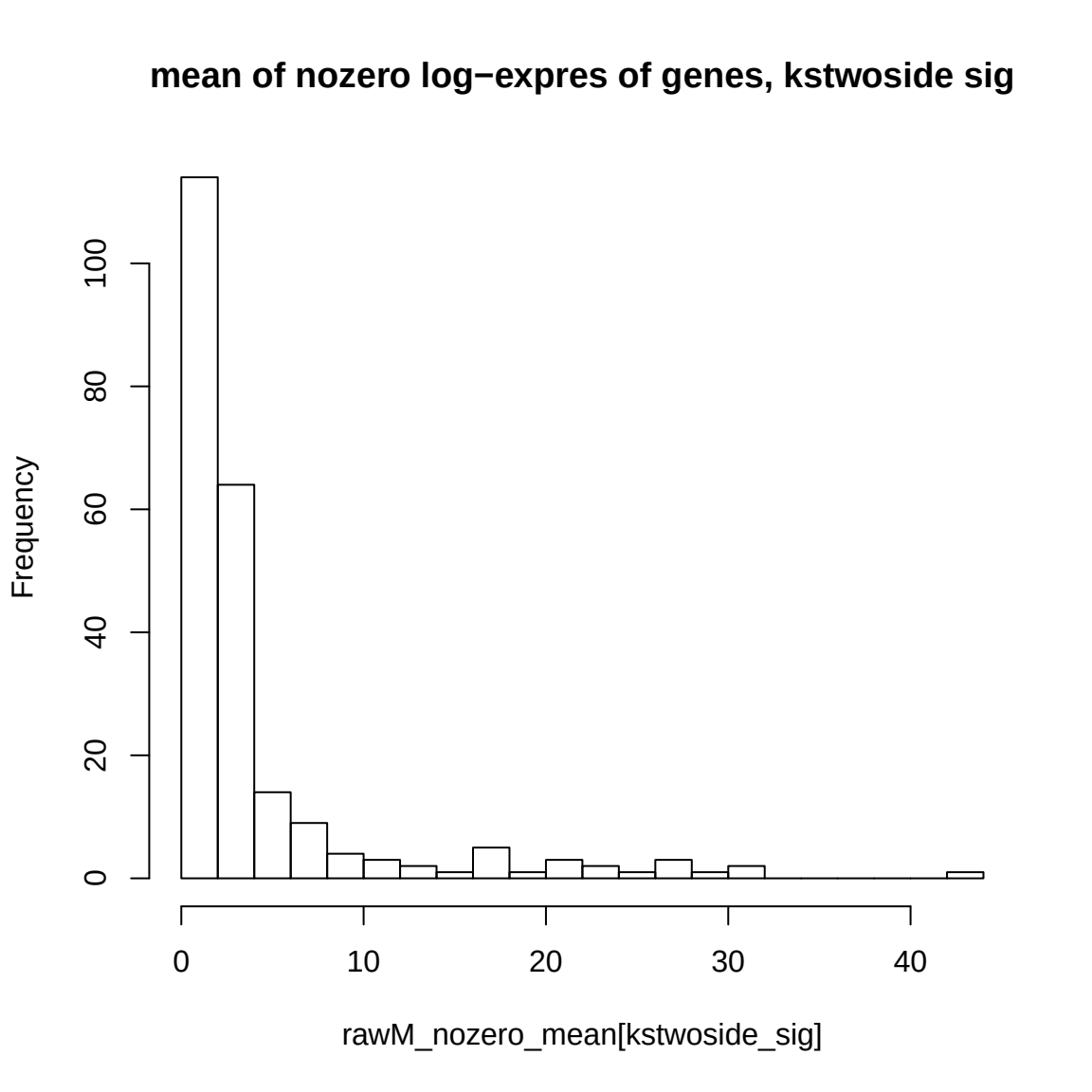

expression cell num
Frequency
0
20
40
60
80
100
120
140
100
200
300
400
rawM_0zero_num[kstwoside > 0.2]

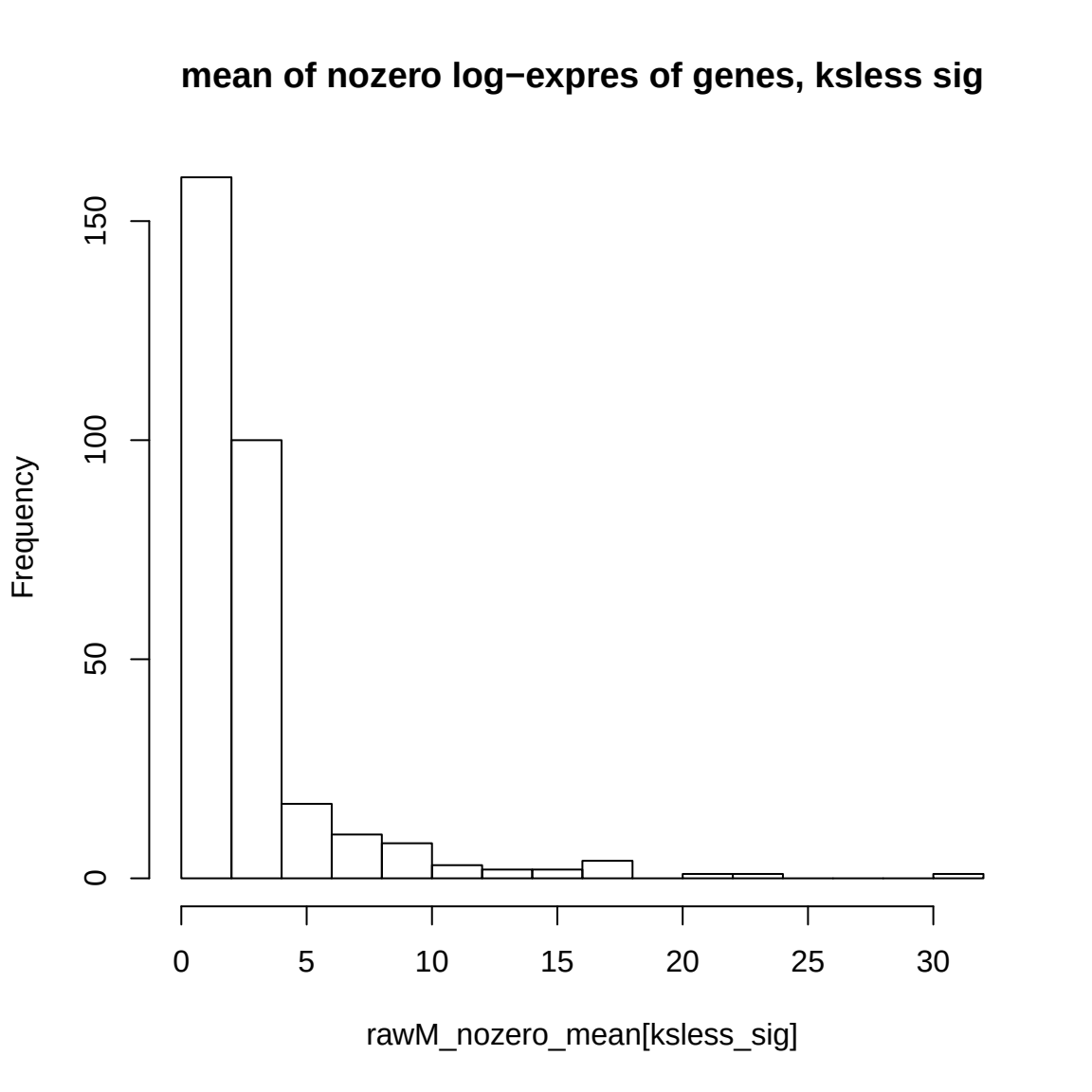

median of nozero log−expres of genes, kstwoside sig
Frequency
0
50
100
150
0
10
20
30
rawM_nozero_median[kstwoside_sig]


median of nozero log−expres of genes, ksless sig
Frequency
0
50
100
150
200
250
5
10
15
20
rawM_nozero_median[ksless_sig]

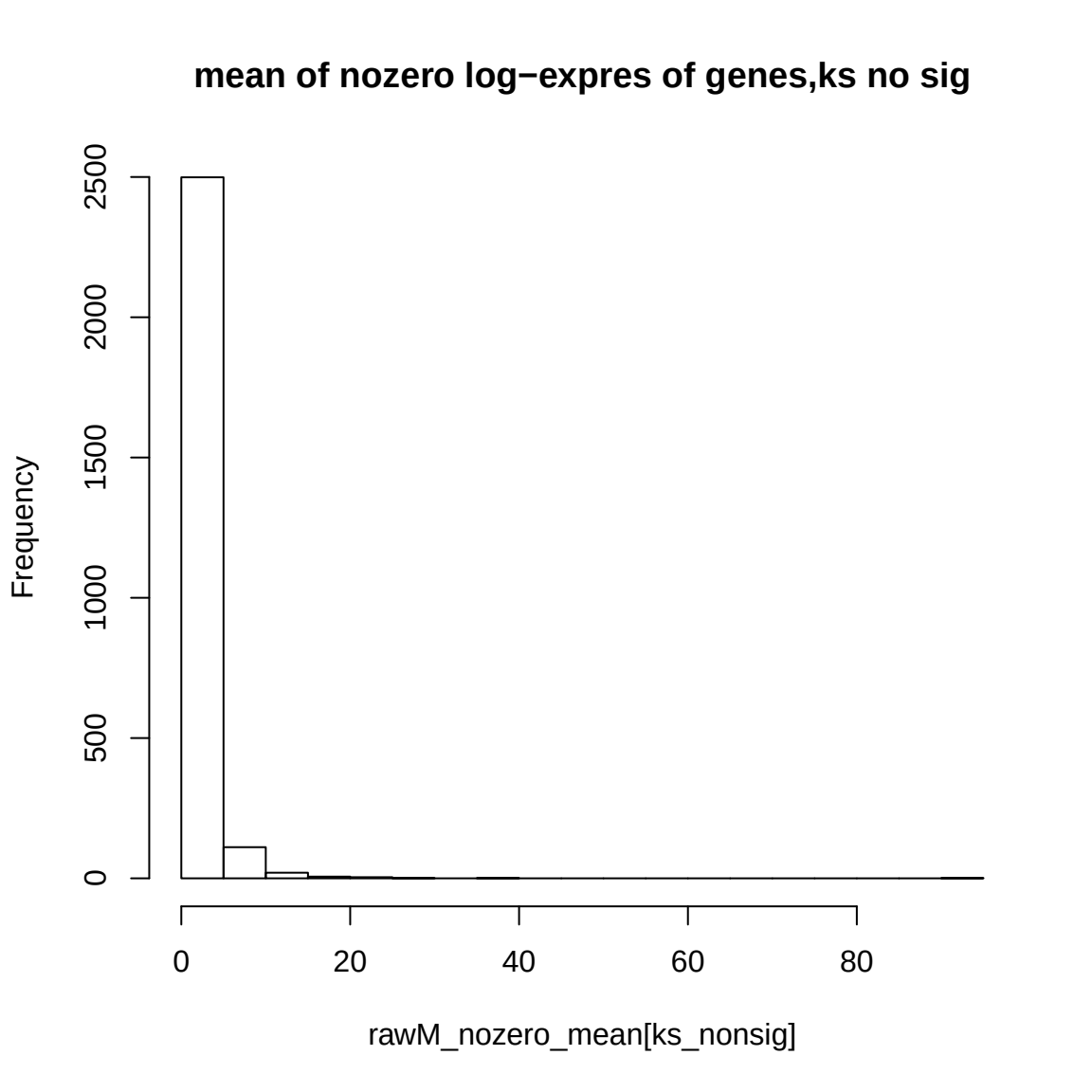

median of nozero log−expres of genes,ksgreater sig
Frequency
0
5
10
15
20
25
0
10
20
30
rawM_nozero_median[ksgreater_sig]

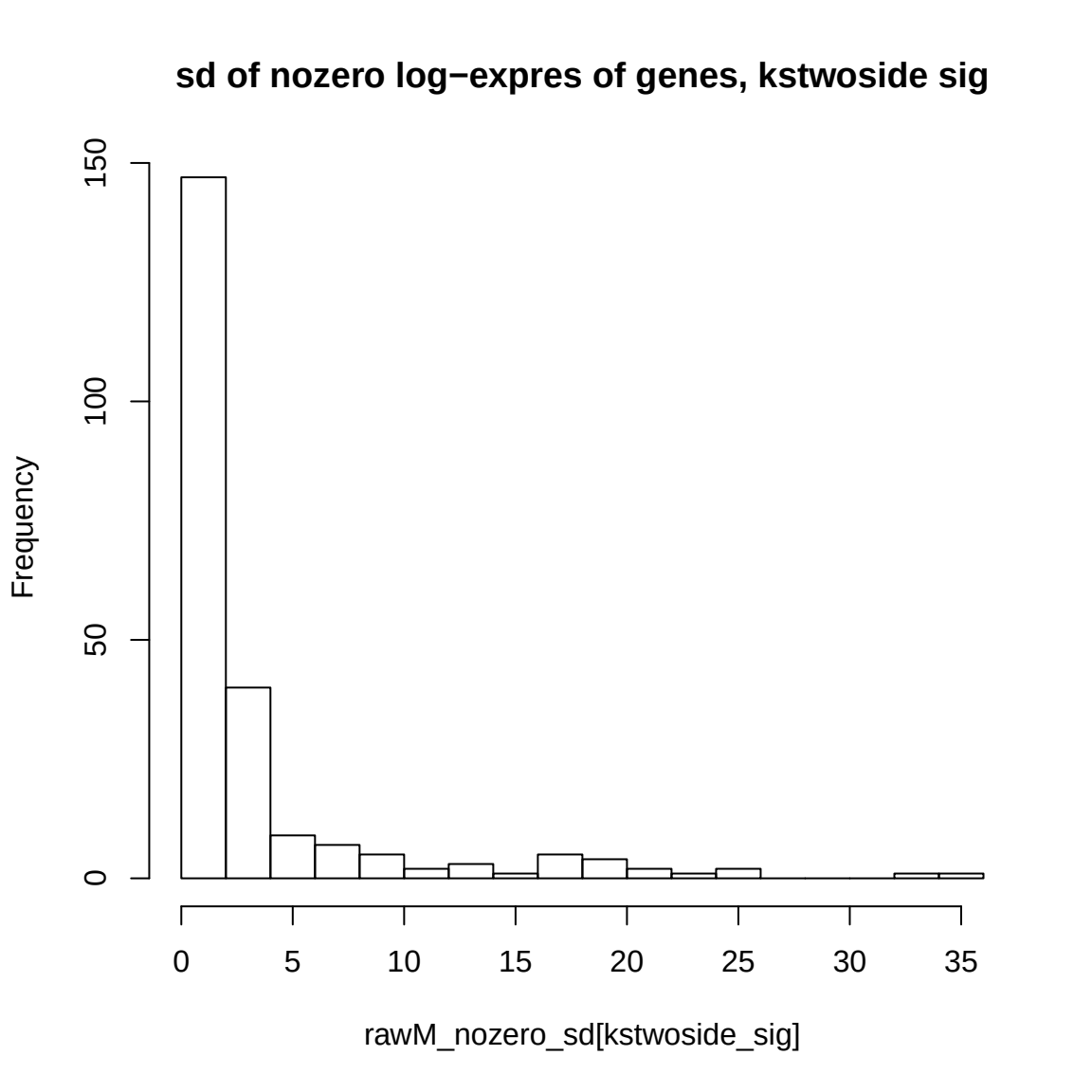

median of nozero log−expres of genes,ks no sig
Frequency
0
500
1000
1500
2000
2500
0
20
40
60
80
rawM_nozero_median[ks_nonsig]

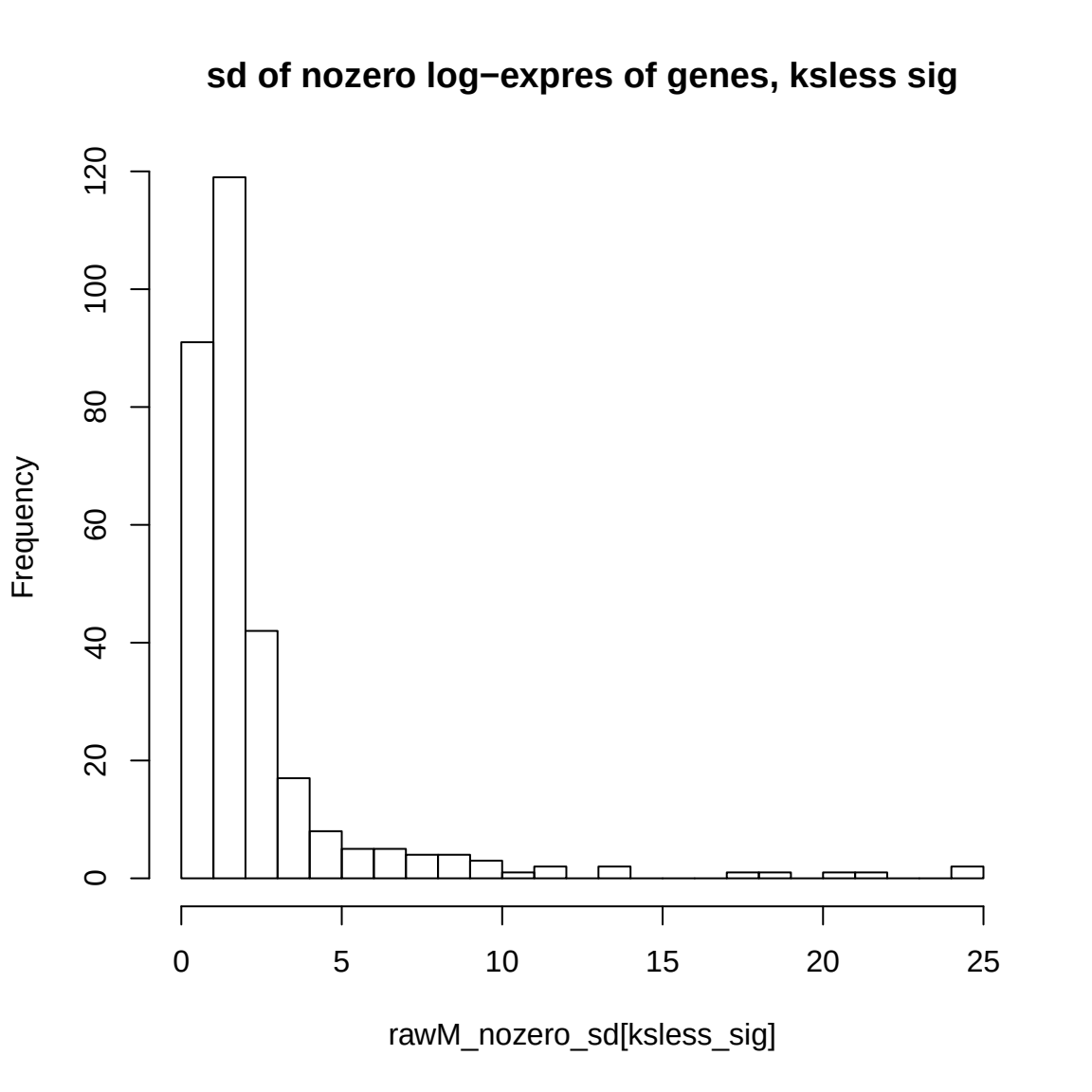

mean of nozero log−expres of genes, kstwoside sig
Frequency
0
20
40
60
80
100
0
10
20
30
40
rawM_nozero_mean[kstwoside_sig]

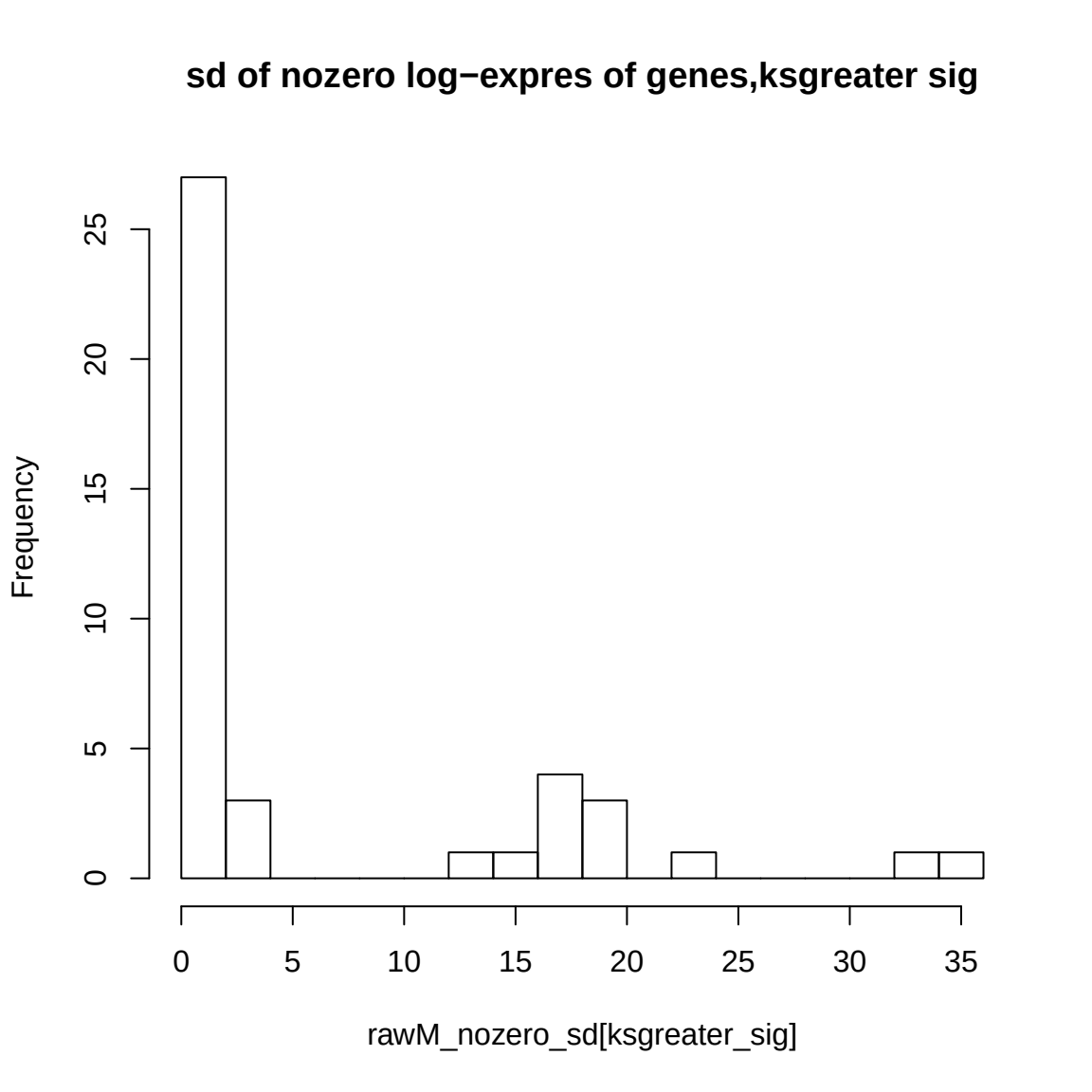

mean of nozero log−expres of genes, ksless sig
Frequency
0
50
100
150
0
5
10
15
20
25
30
rawM_nozero_mean[ksless_sig]

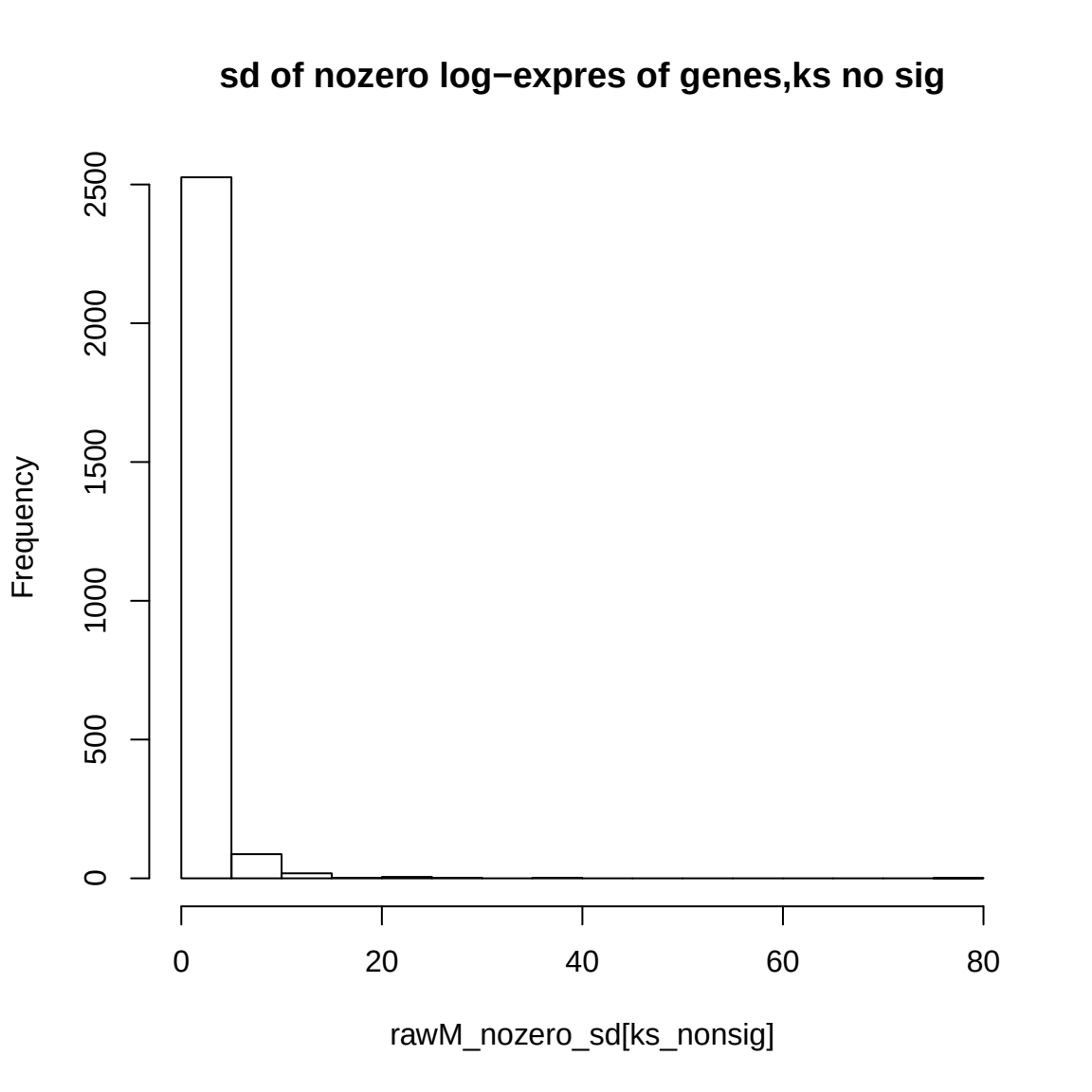

mean of nozero log−expres of genes,ksgreater sig
Frequency
0
5
10
15
20
0
10
20
30
40
rawM_nozero_mean[ksgreater_sig]

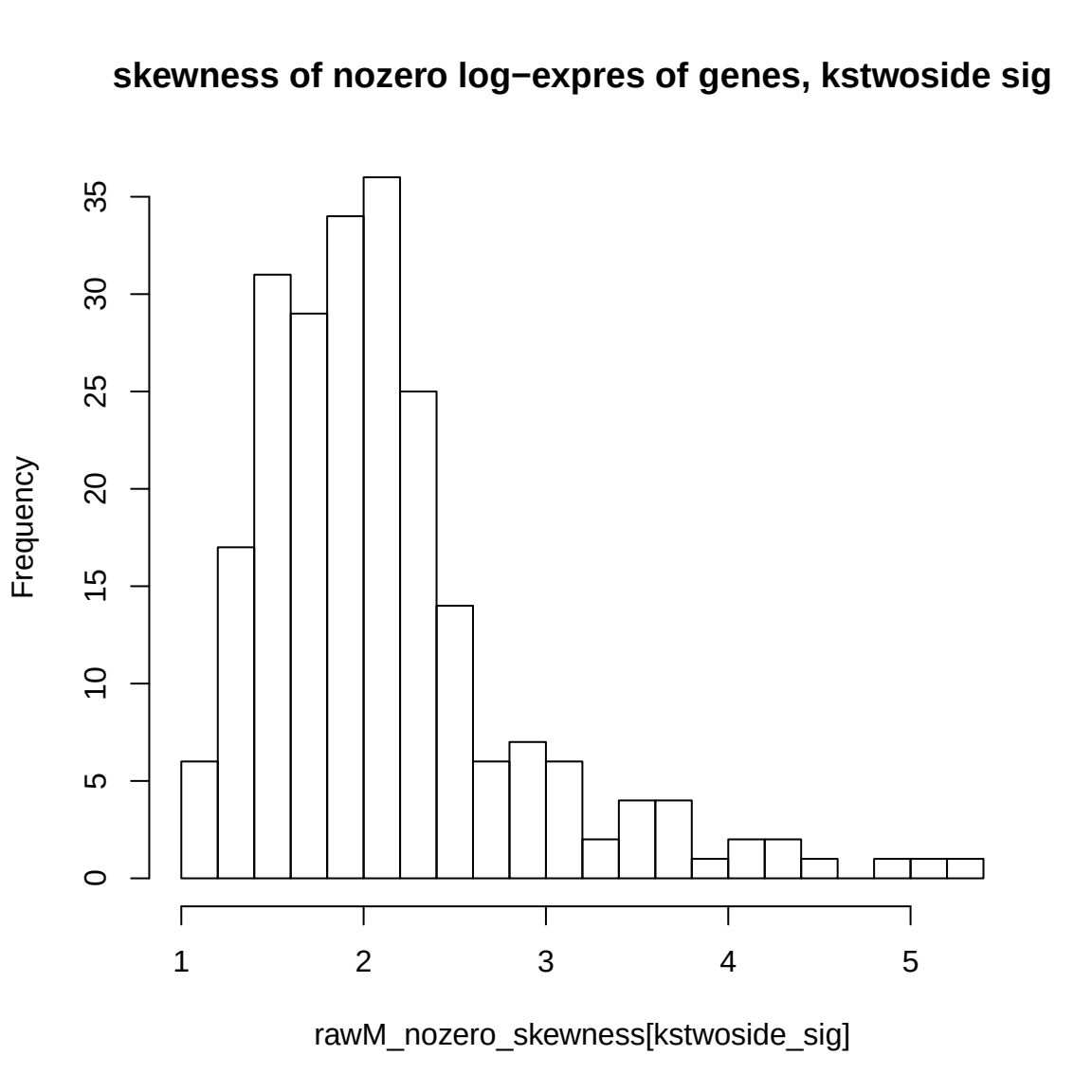

mean of nozero log−expres of genes,ks no sig
Frequency
0
500
1000
1500
2000
2500
0
20
40
60
80
rawM_nozero_mean[ks_nonsig]

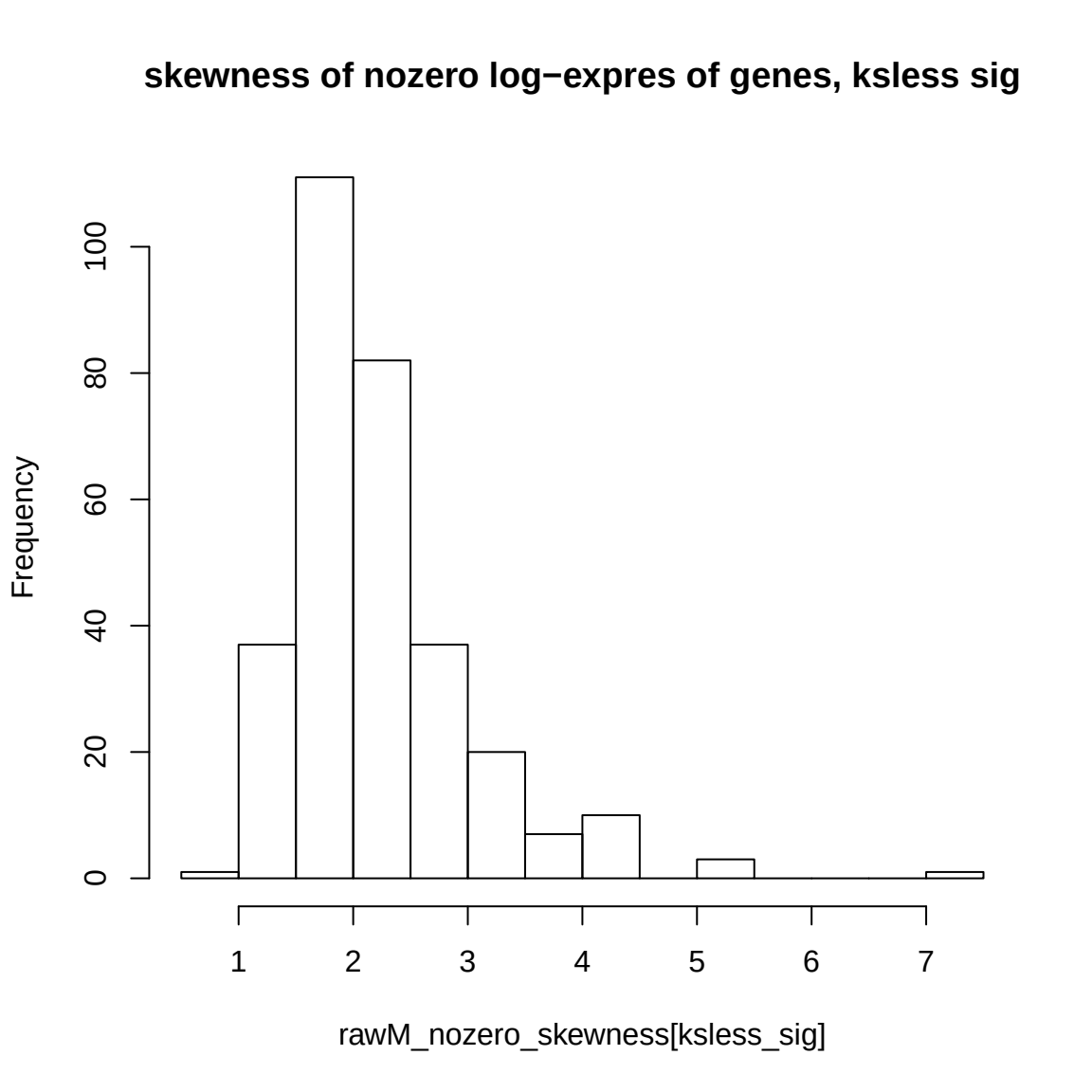

sd of nozero log−expres of genes, kstwoside sig
Frequency
0
50
100
150
0
5
10
15
20
25
30
35
rawM_nozero_sd[kstwoside_sig]


sd of nozero log−expres of genes, ksless sig
Frequency
0
20
40
60
80
100
120
0
5
10
15
20
25
rawM_nozero_sd[ksless_sig]

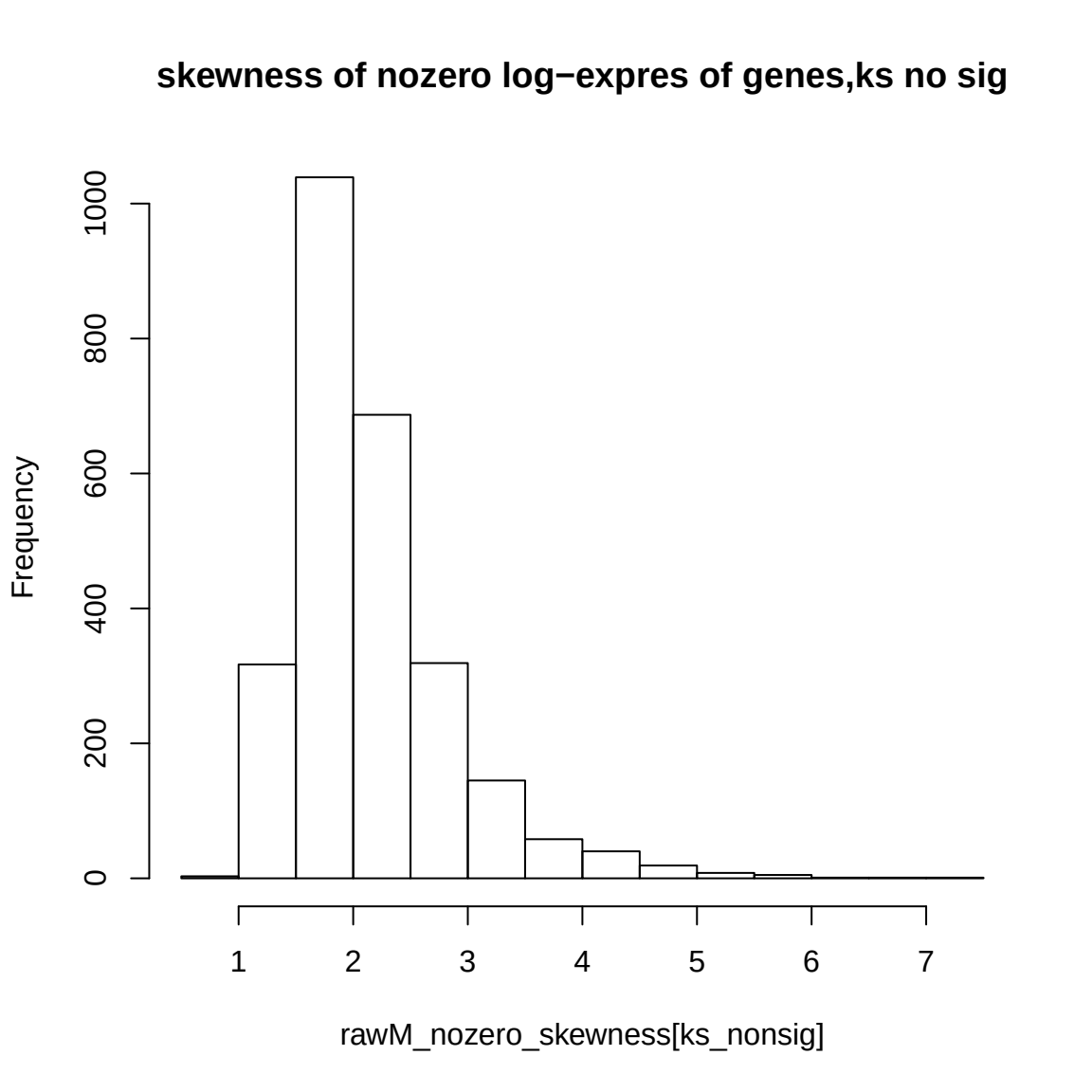

sd of nozero log−expres of genes,ksgreater sig
Frequency
0
5
10
15
20
25
0
5
10
15
20
25
30
35
rawM_nozero_sd[ksgreater_sig]

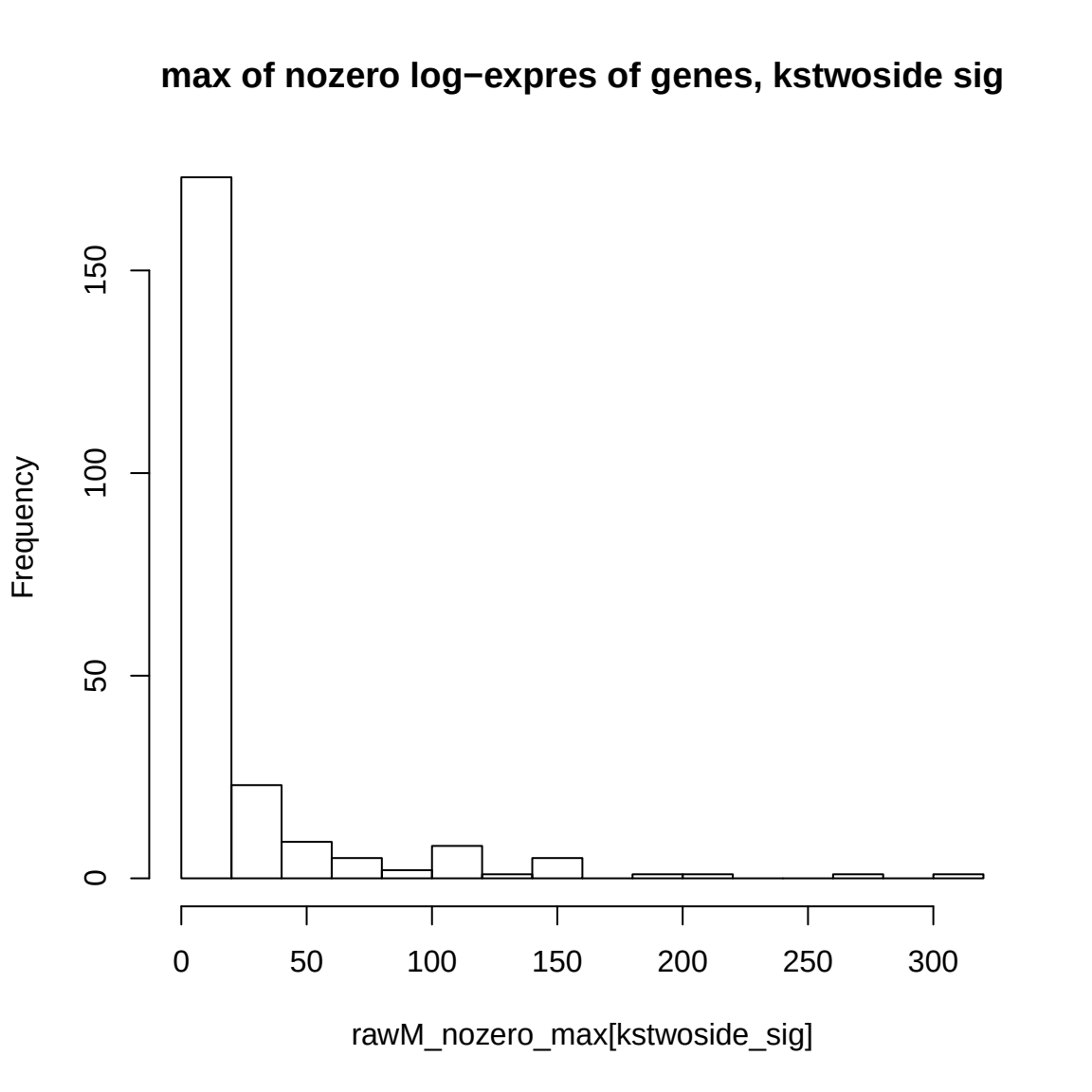

sd of nozero log−expres of genes,ks no sig
Frequency
0
500
1000
1500
2000
2500
0
20
40
60
80
rawM_nozero_sd[ks_nonsig]

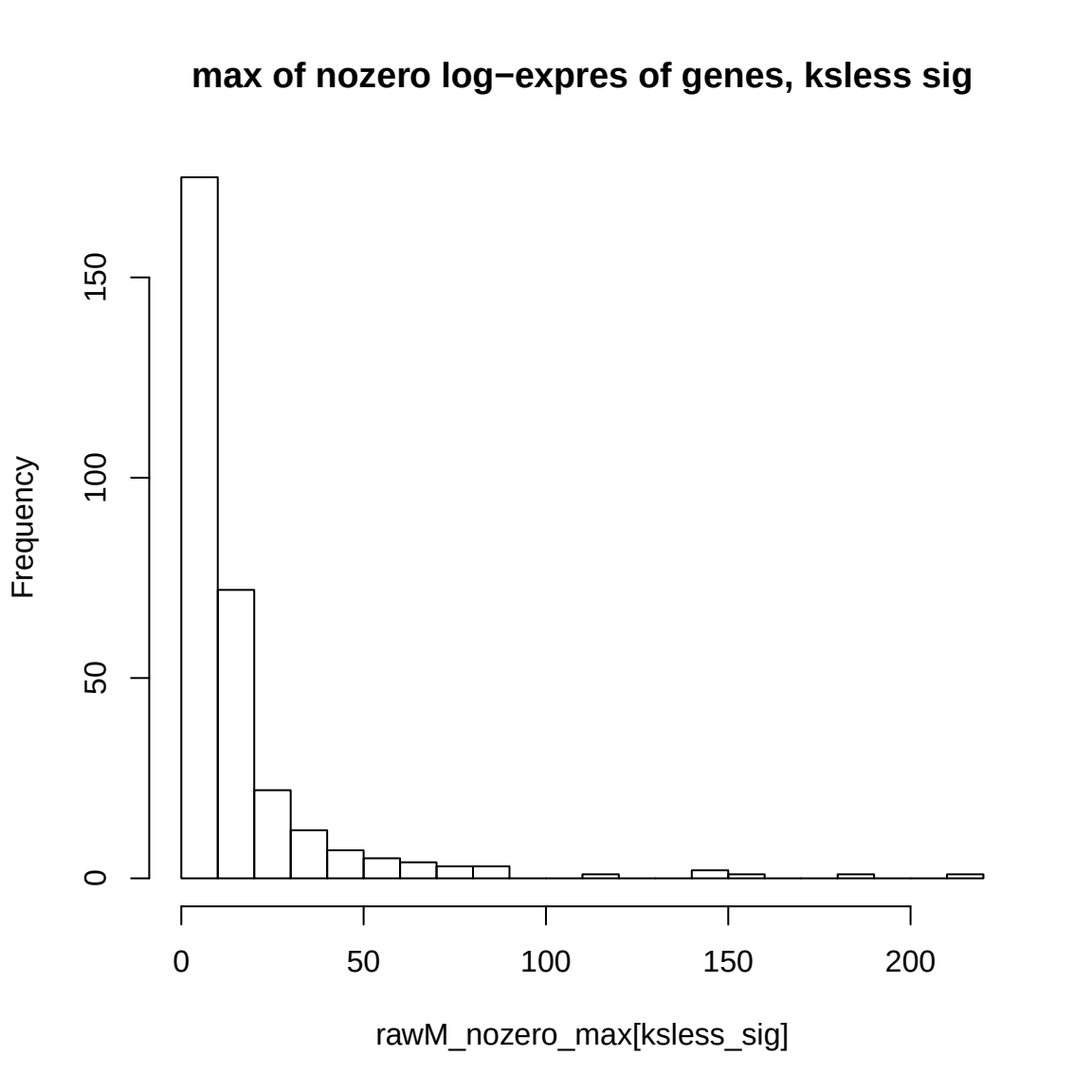

skewness of nozero log−expres of genes, kstwoside sig
Frequency
0
5
10
15
20
25
30
35
1
2
3
4
5
rawM_nozero_skewness[kstwoside_sig]

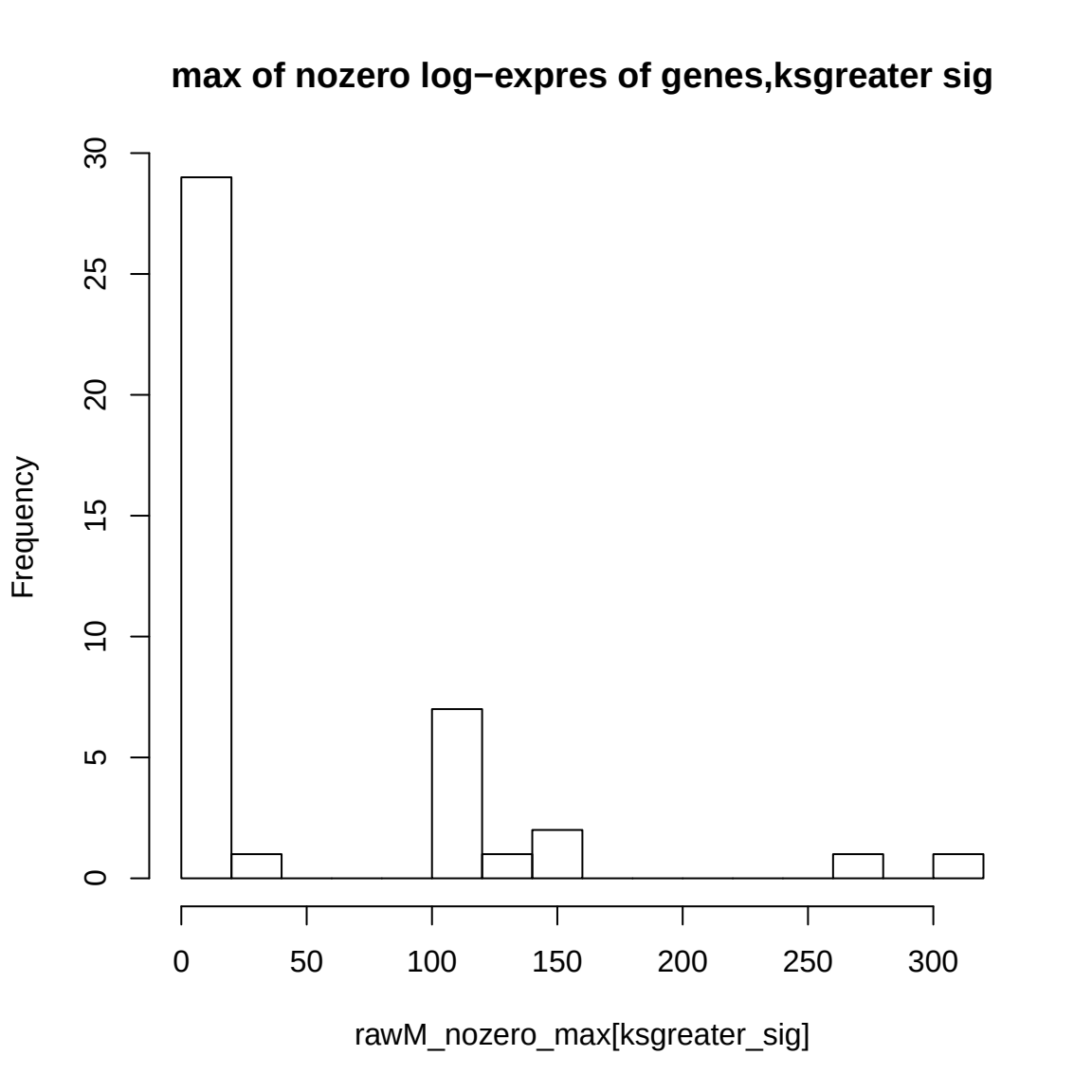

skewness of nozero log−expres of genes, ksless sig
Frequency
0
20
40
60
80
100
1
2
3
4
5
6
7
rawM_nozero_skewness[ksless_sig]

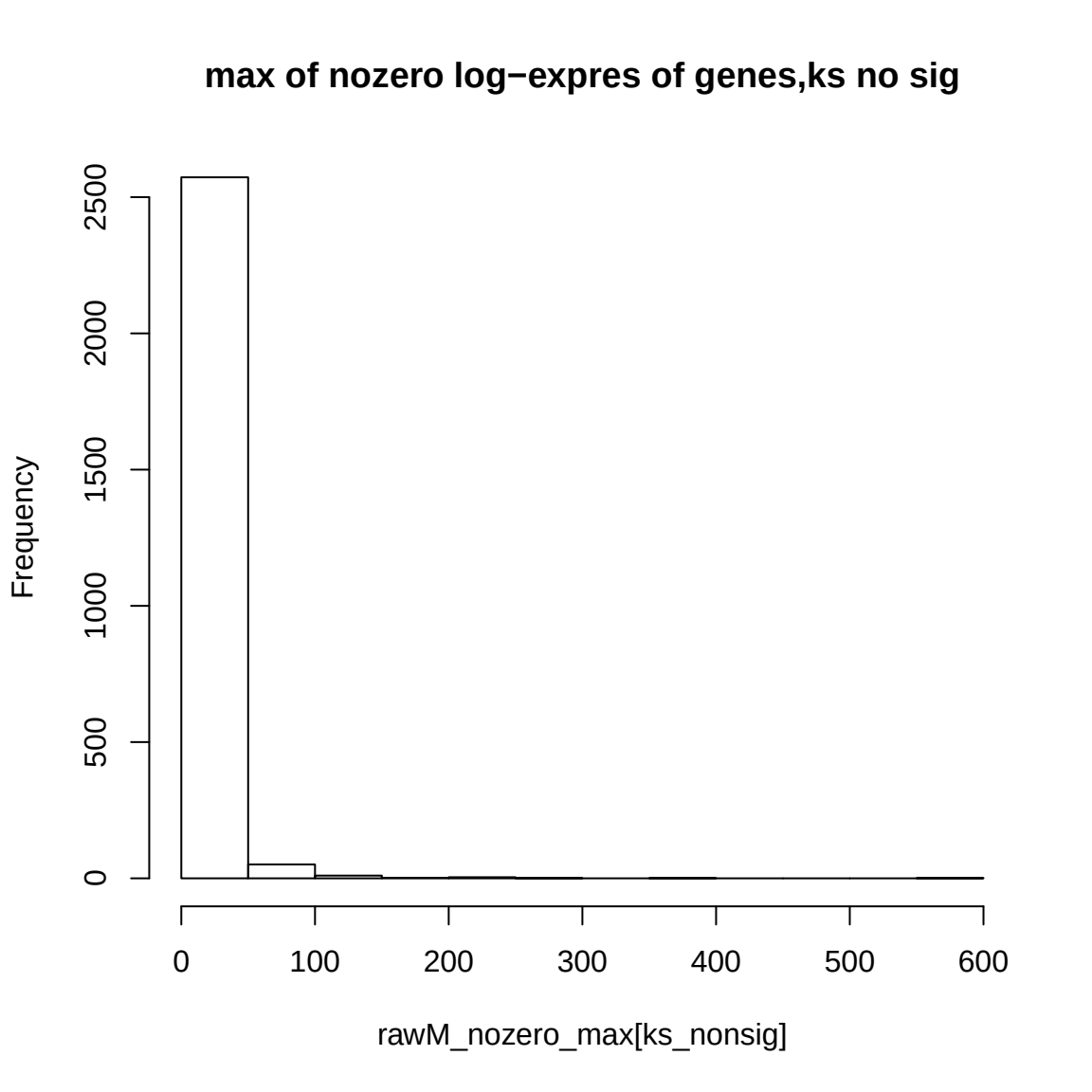

skewness of nozero log−expres of genes,ksgreater sig
Frequency
0
2
4
6
8
1
2
3
4
5
rawM_nozero_skewness[ksgreater_sig]

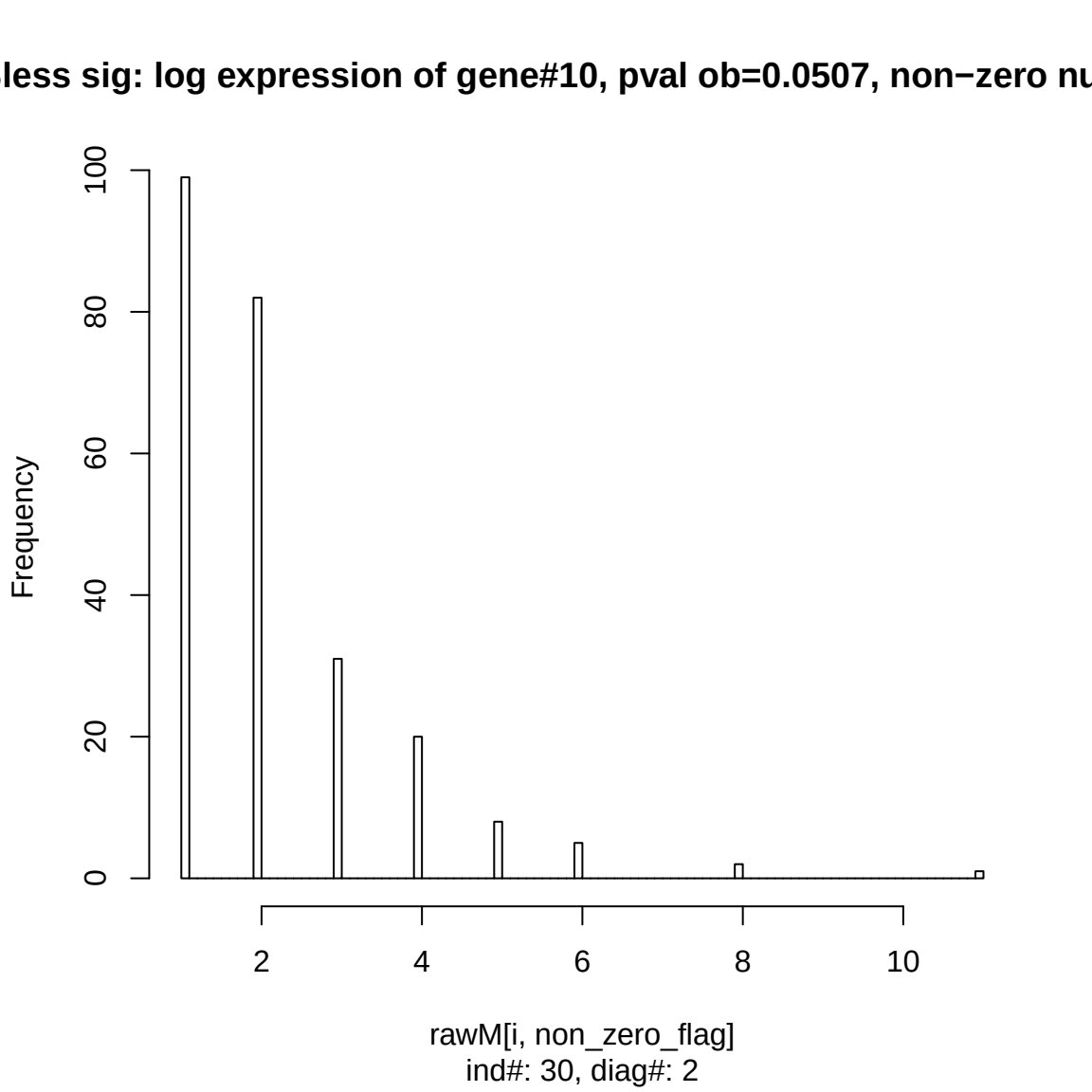

skewness of nozero log−expres of genes,ks no sig
Frequency
0
200
400
600
800
1000
1
2
3
4
5
6
7
rawM_nozero_skewness[ks_nonsig]

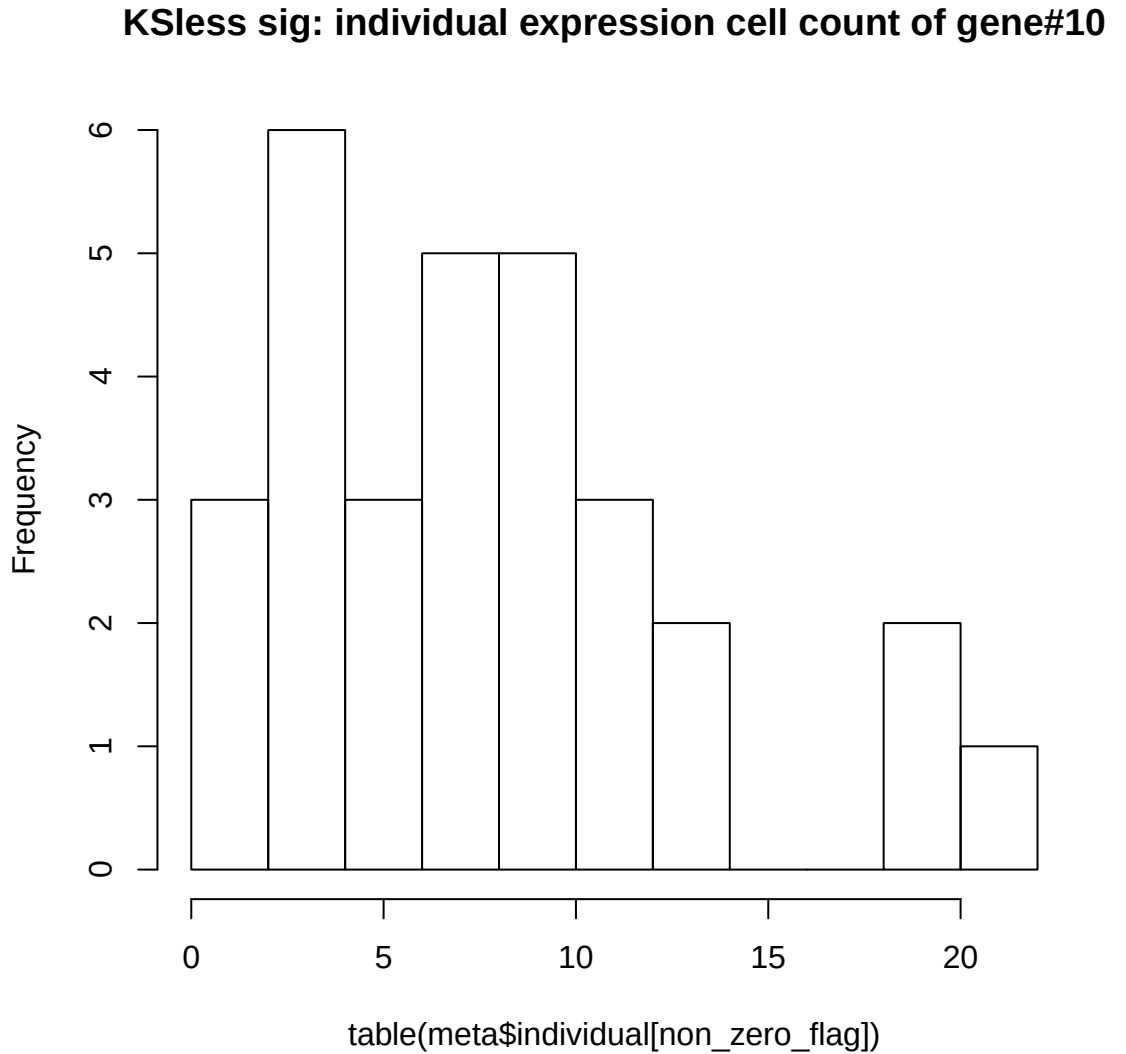

max of nozero log−expres of genes, kstwoside sig
Frequency
0
50
100
150
0
50
100
150
200
250
300
rawM_nozero_max[kstwoside_sig]

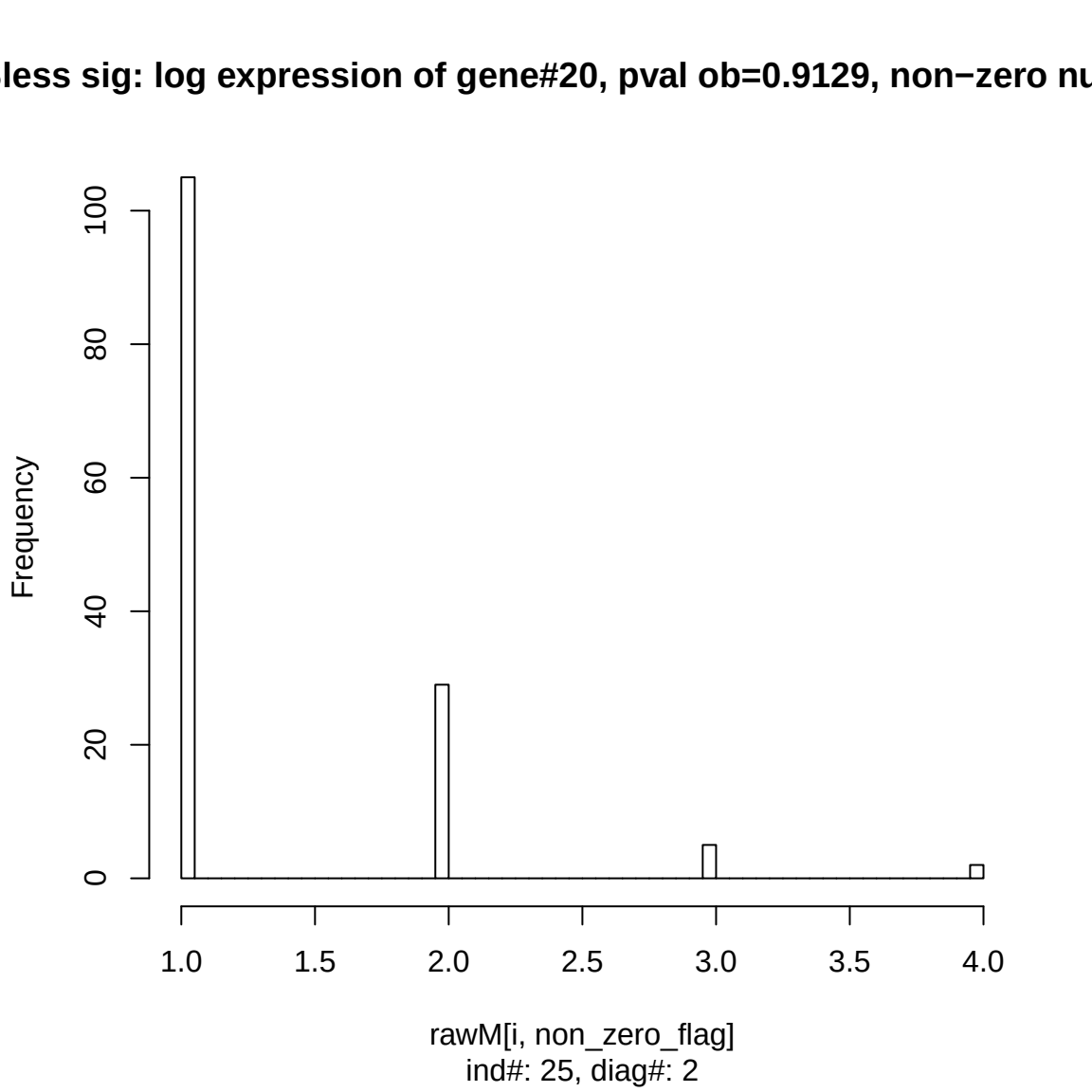

max of nozero log−expres of genes, ksless sig
Frequency
0
50
100
150
0
50
100
150
200
rawM_nozero_max[ksless_sig]

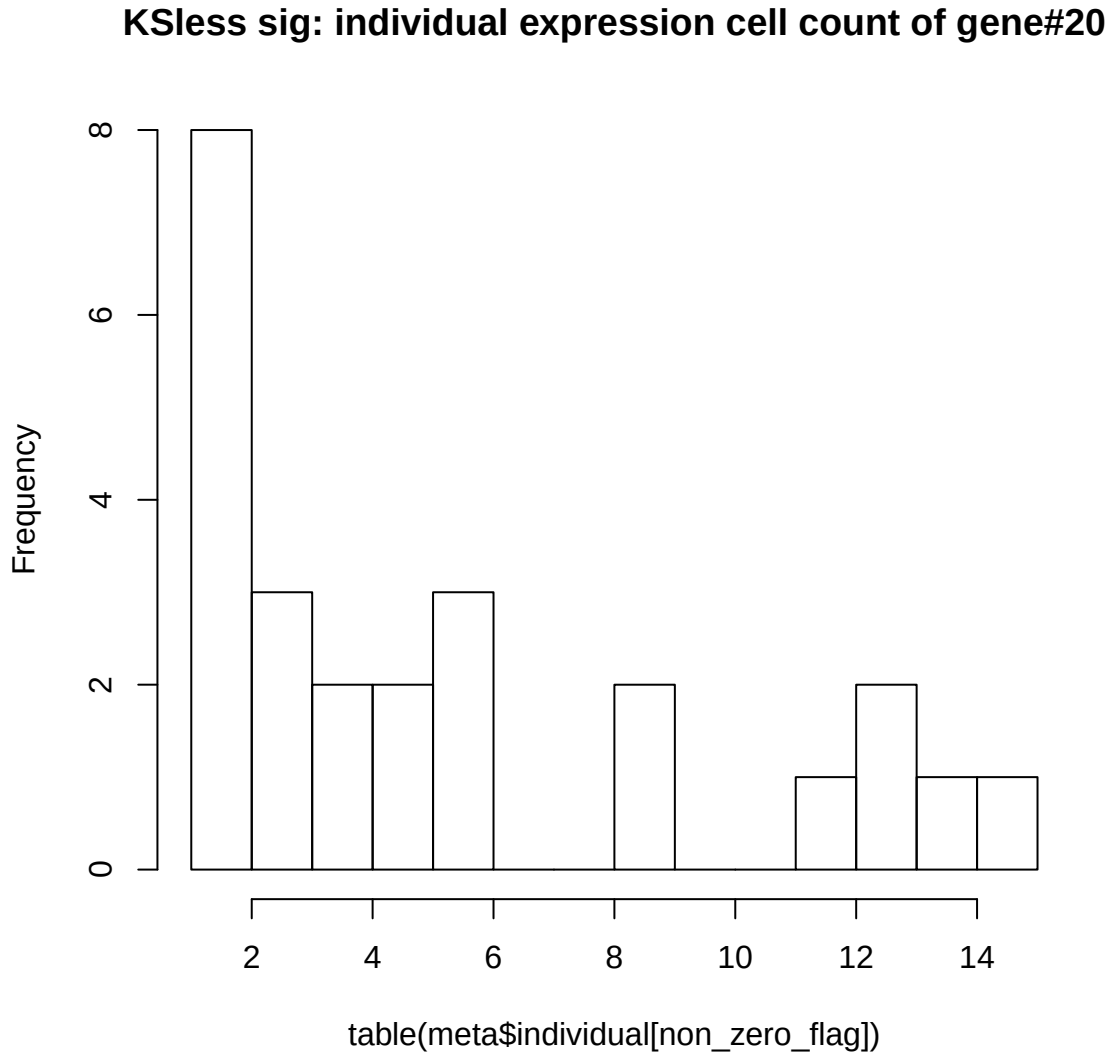

max of nozero log−expres of genes,ksgreater sig
Frequency
0
5
10
15
20
25
30
0
50
100
150
200
250
300
rawM_nozero_max[ksgreater_sig]


max of nozero log−expres of genes,ks no sig
Frequency
0
500
1000
1500
2000
2500
0
100
200
300
400
500
600
rawM_nozero_max[ks_nonsig]

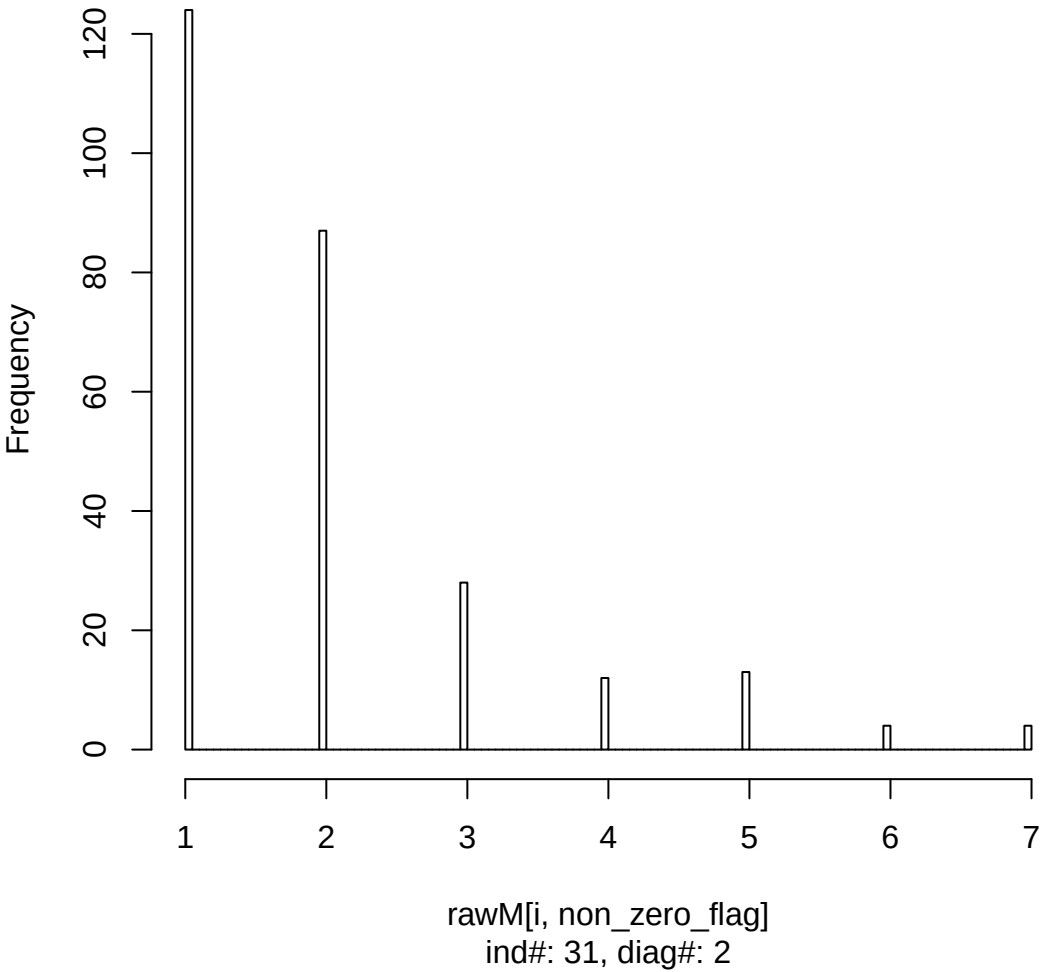

less sig: log expression of gene#10, pval ob=0.0507, non−zero nu
Frequency
0
20
40
60
80
100
2
4
6
8
10
rawM[i, non_zero_flag]
ind#: 30, diag#: 2

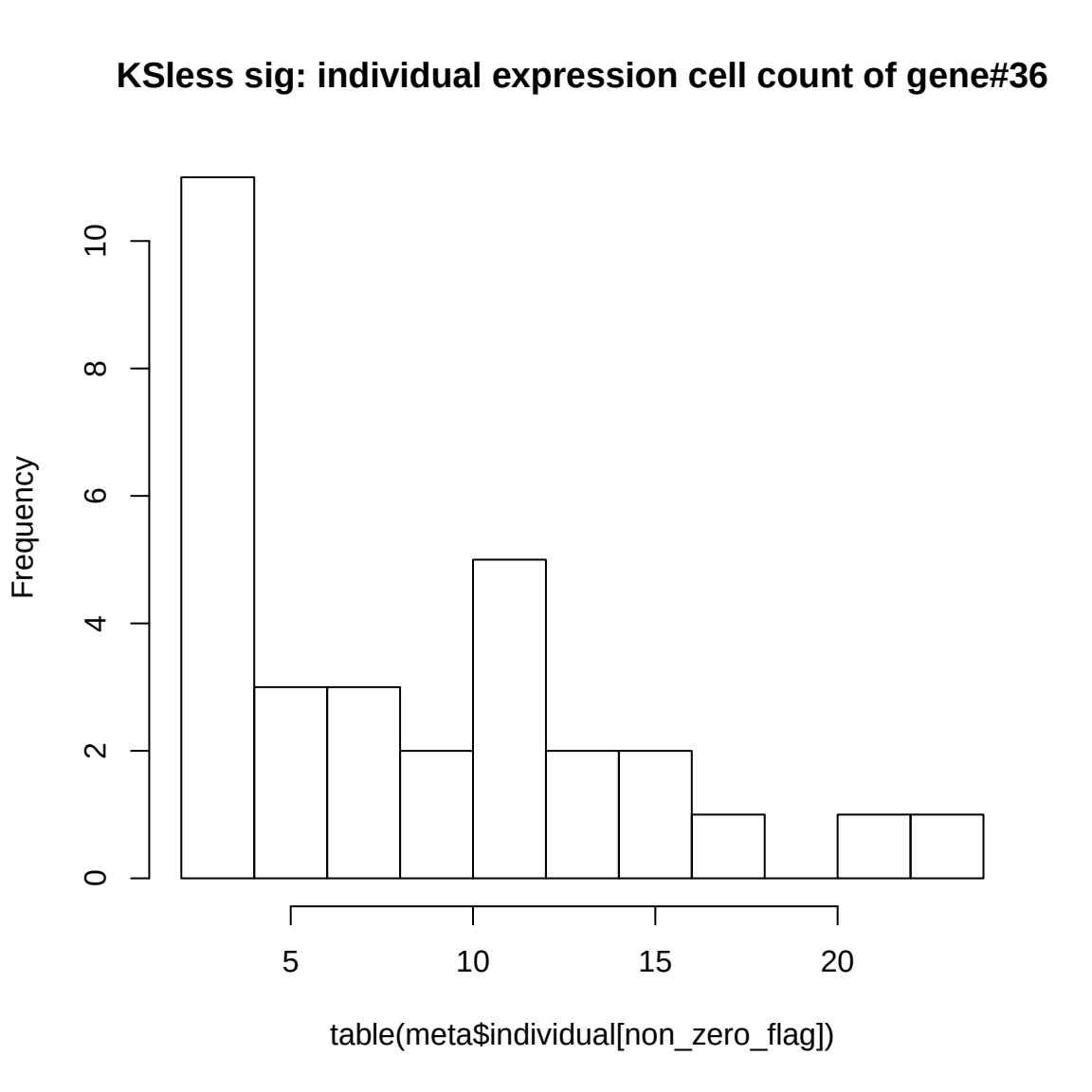

KSless sig: individual expression cell count of gene#10
Frequency
0
1
2
3
4
5
6
0
5
10
15
20
table(meta$individual[non_zero_flag])

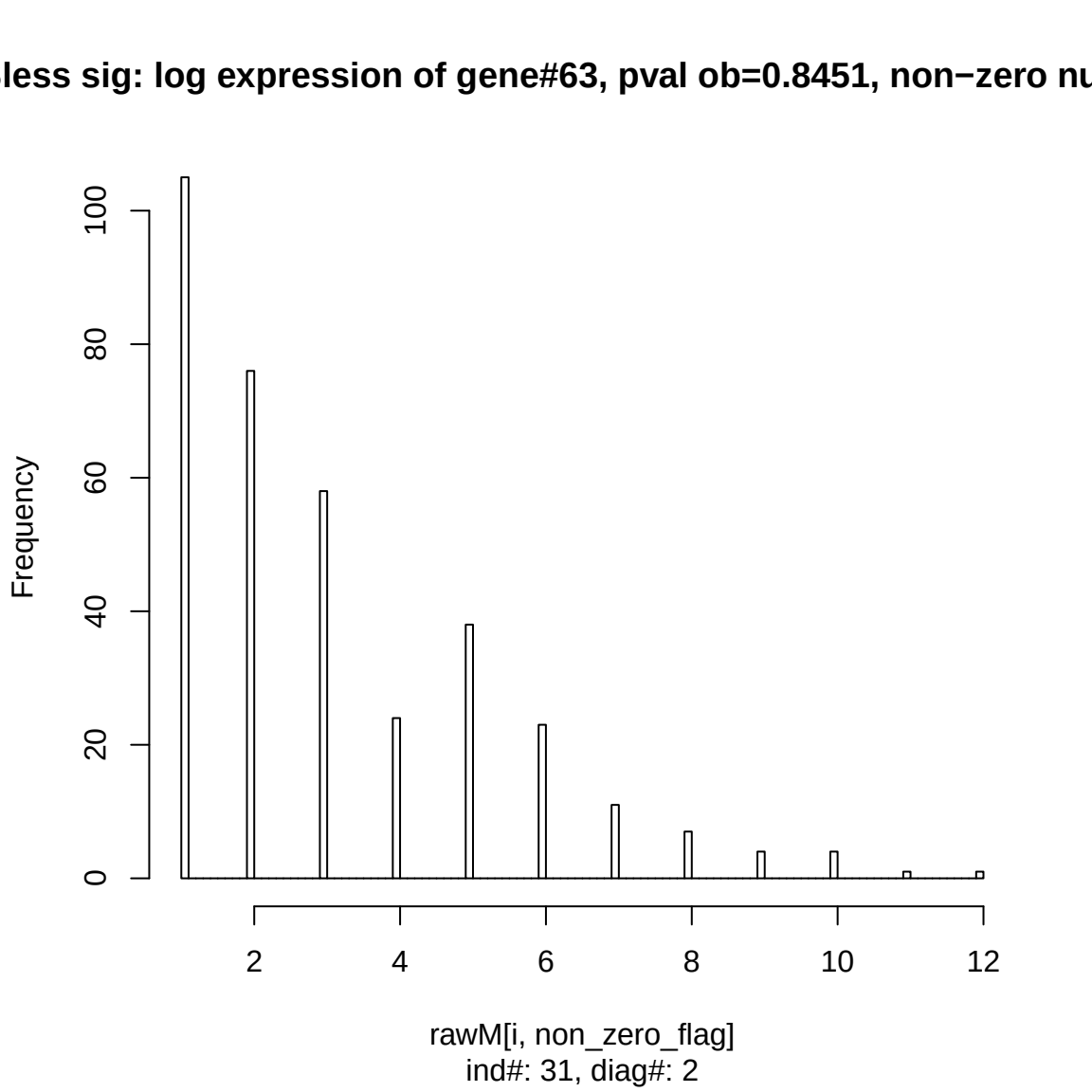

less sig: log expression of gene#20, pval ob=0.9129, non−zero nu
Frequency
0
20
40
60
80
100
1.0
1.5
2.0
2.5
3.0
3.5
4.0
rawM[i, non_zero_flag]
ind#: 25, diag#: 2

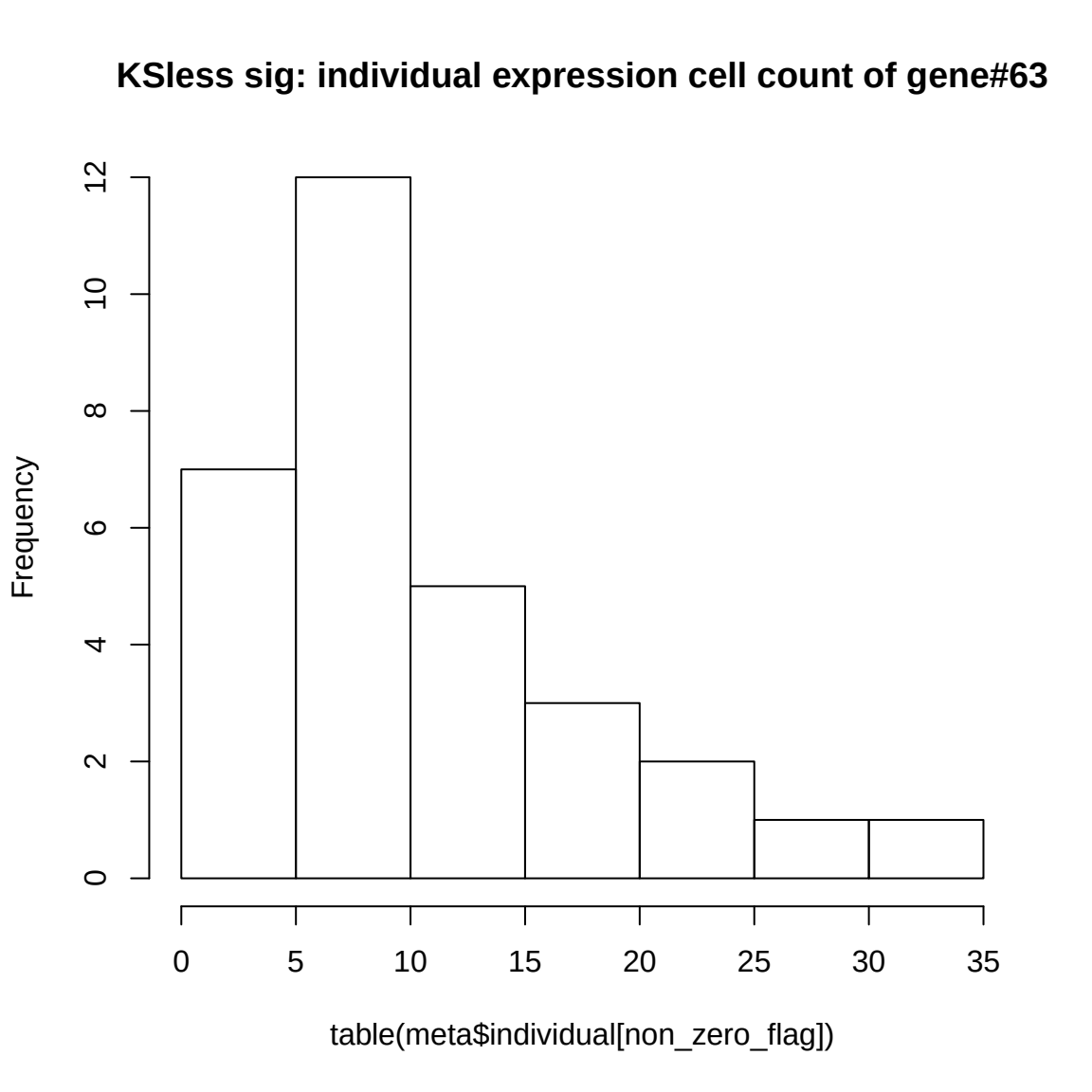

KSless sig: individual expression cell count of gene#20
Frequency
0
2
4
6
8
2
4
6
8
10
12
14
table(meta$individual[non_zero_flag])

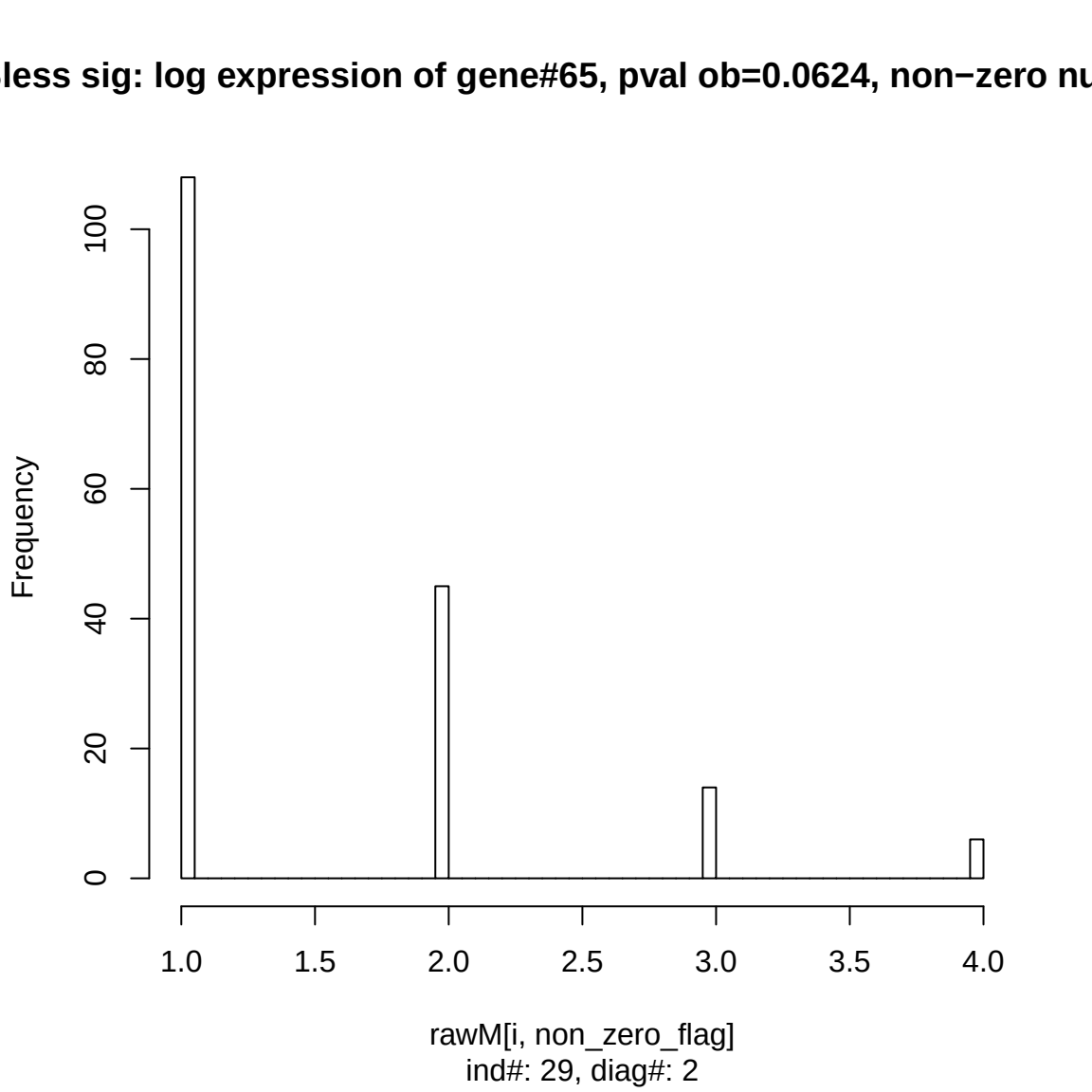
less sig: log expression of gene#36, pval ob=0.8831, non−zero nu

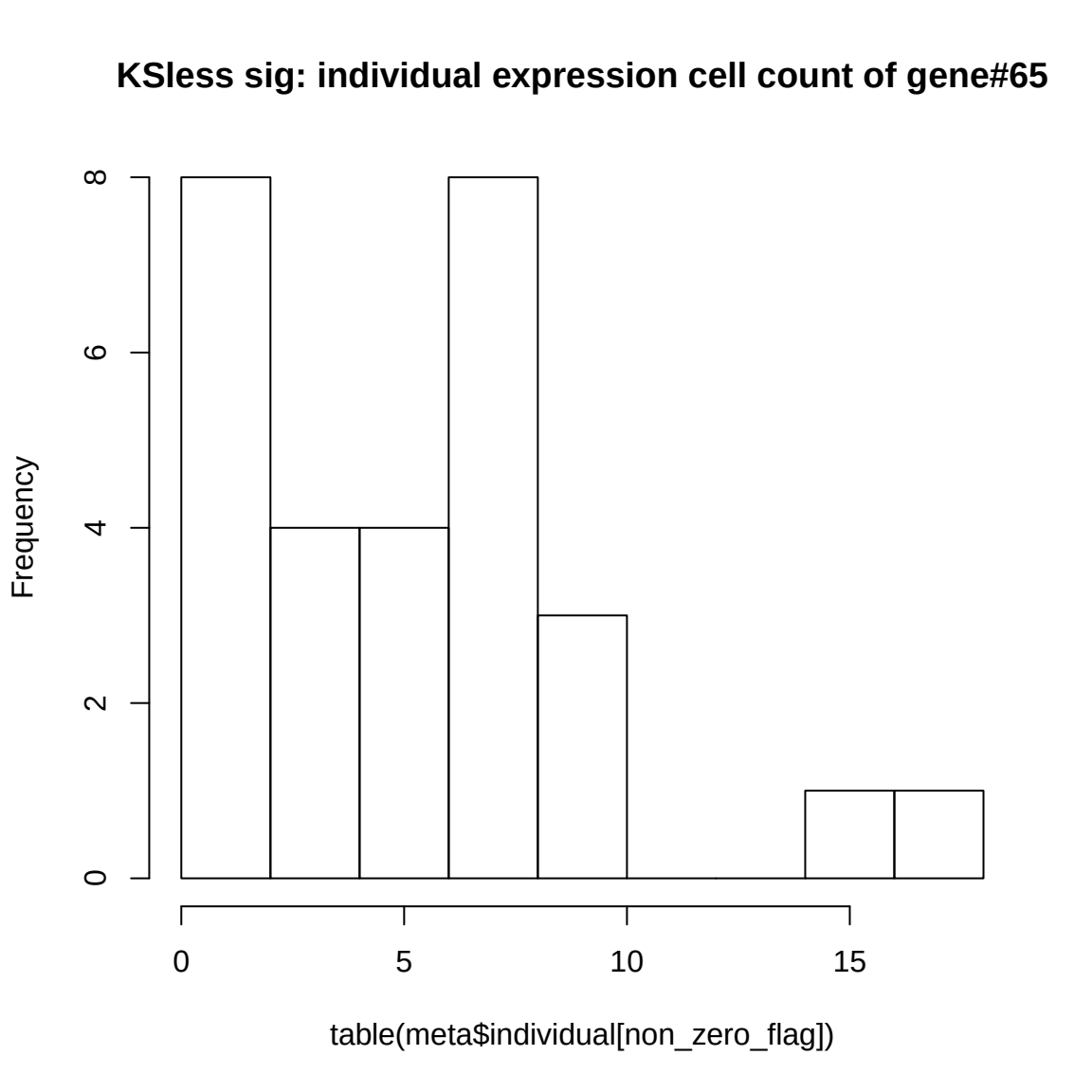


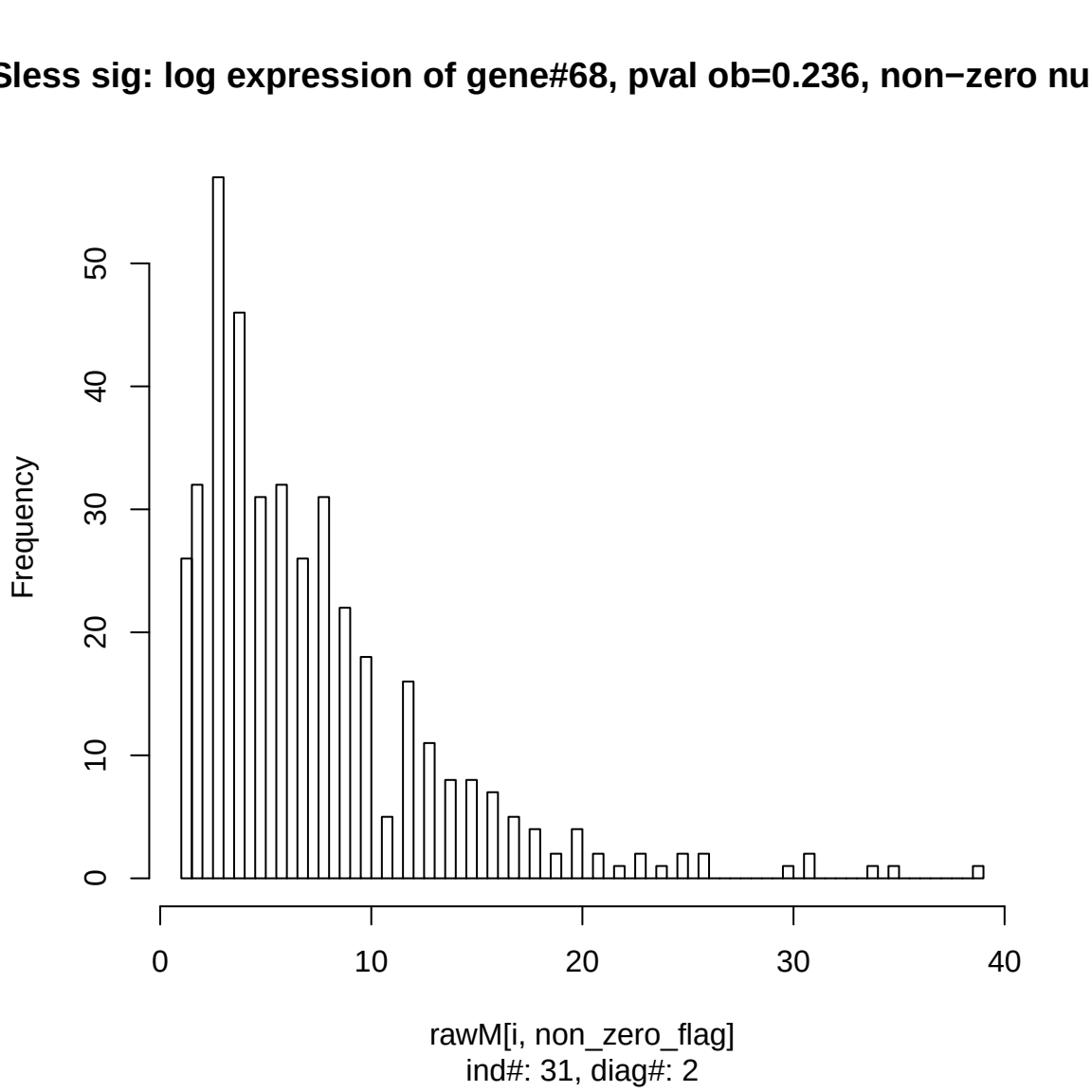

KSless sig: individual expression cell count of gene#36
Frequency
0
2
4
6
8
10
5
10
15
20
table(meta$individual[non_zero_flag])

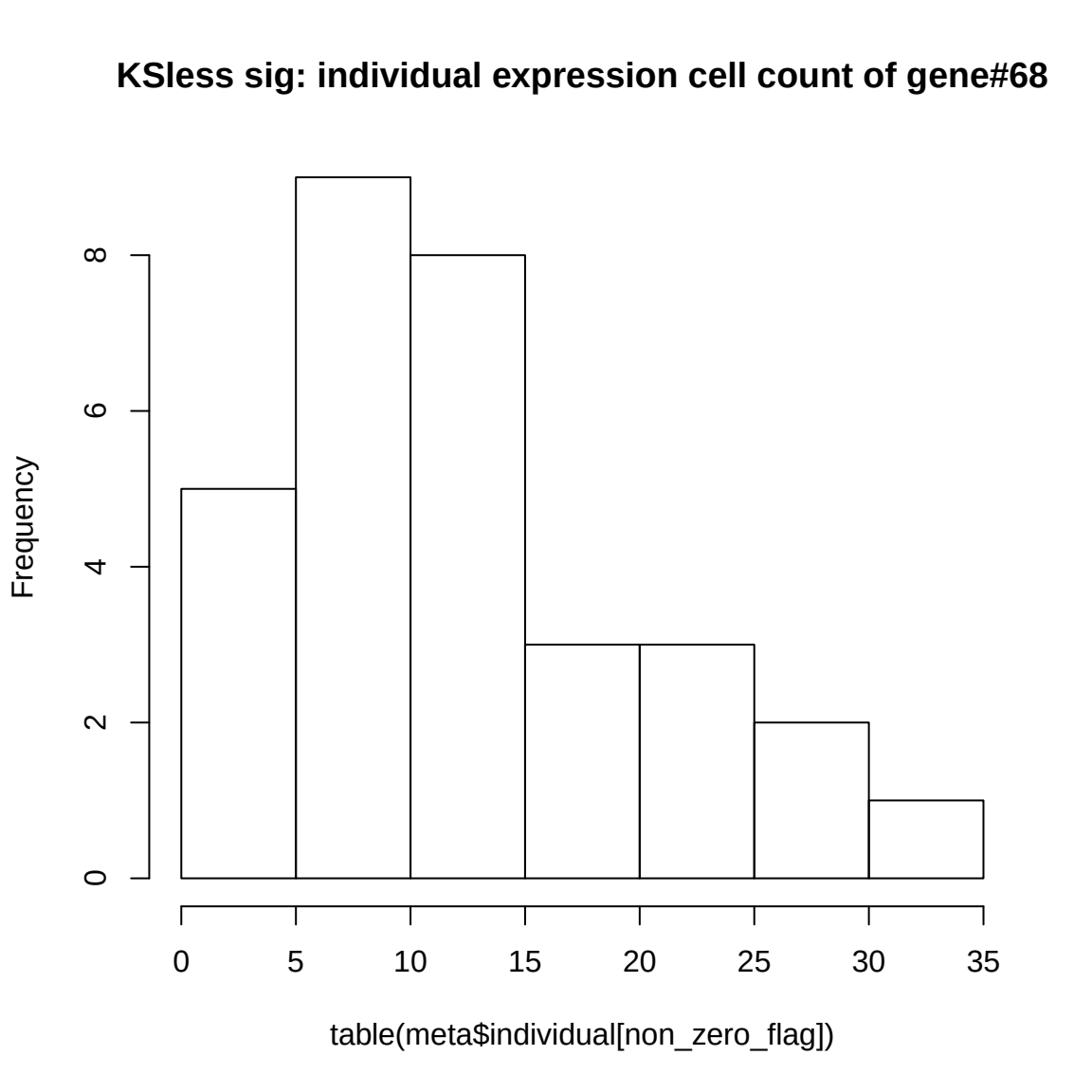

less sig: log expression of gene#63, pval ob=0.8451, non−zero nu
Frequency
0
20
40
60
80
100
2
4
6
8
10
12
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

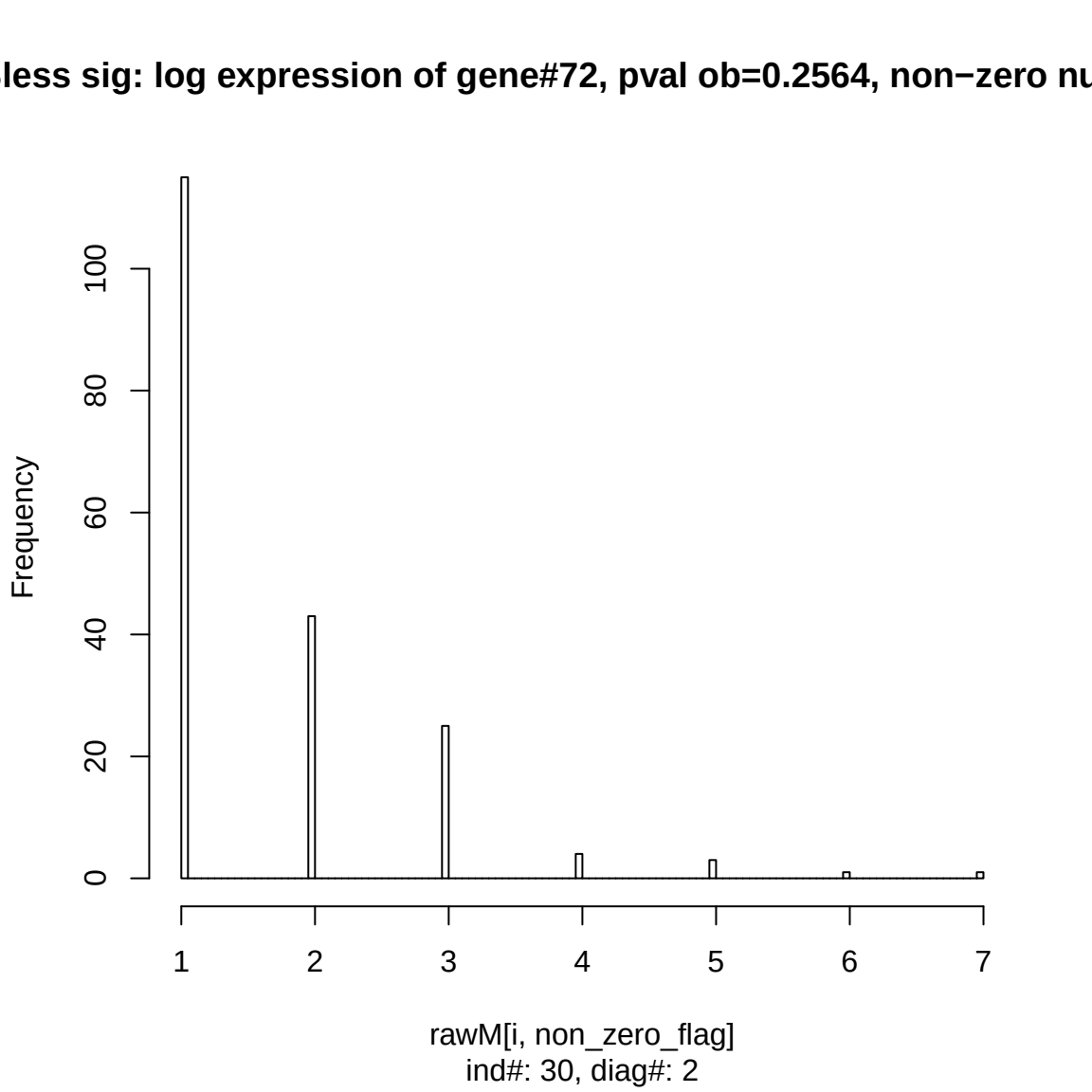

KSless sig: individual expression cell count of gene#63
Frequency
0
2
4
6
8
10
12
0
5
10
15
20
25
30
35
table(meta$individual[non_zero_flag])

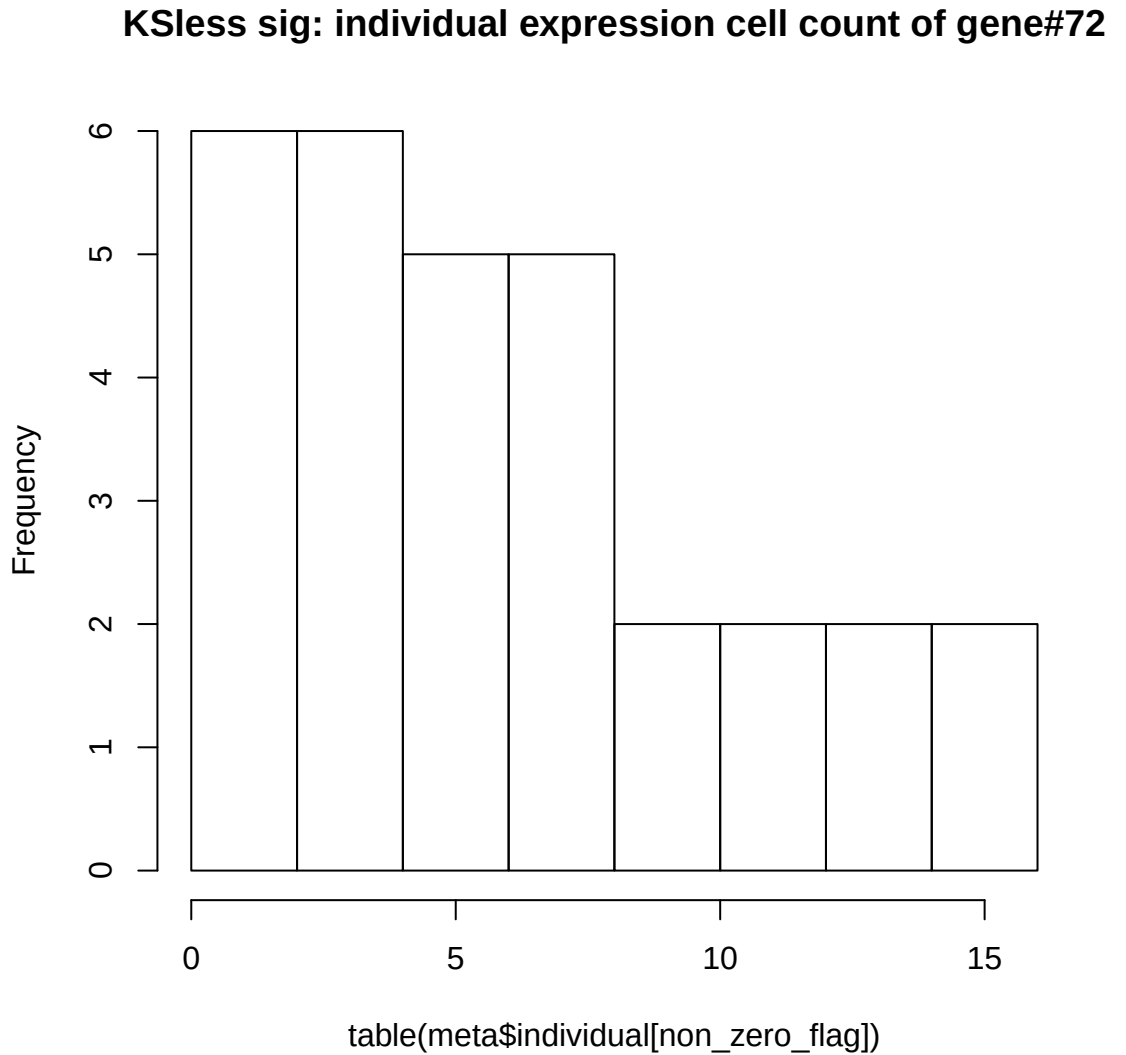

less sig: log expression of gene#65, pval ob=0.0624, non−zero nu
Frequency
0
20
40
60
80
100
1.0
1.5
2.0
2.5
3.0
3.5
4.0
rawM[i, non_zero_flag]
ind#: 29, diag#: 2

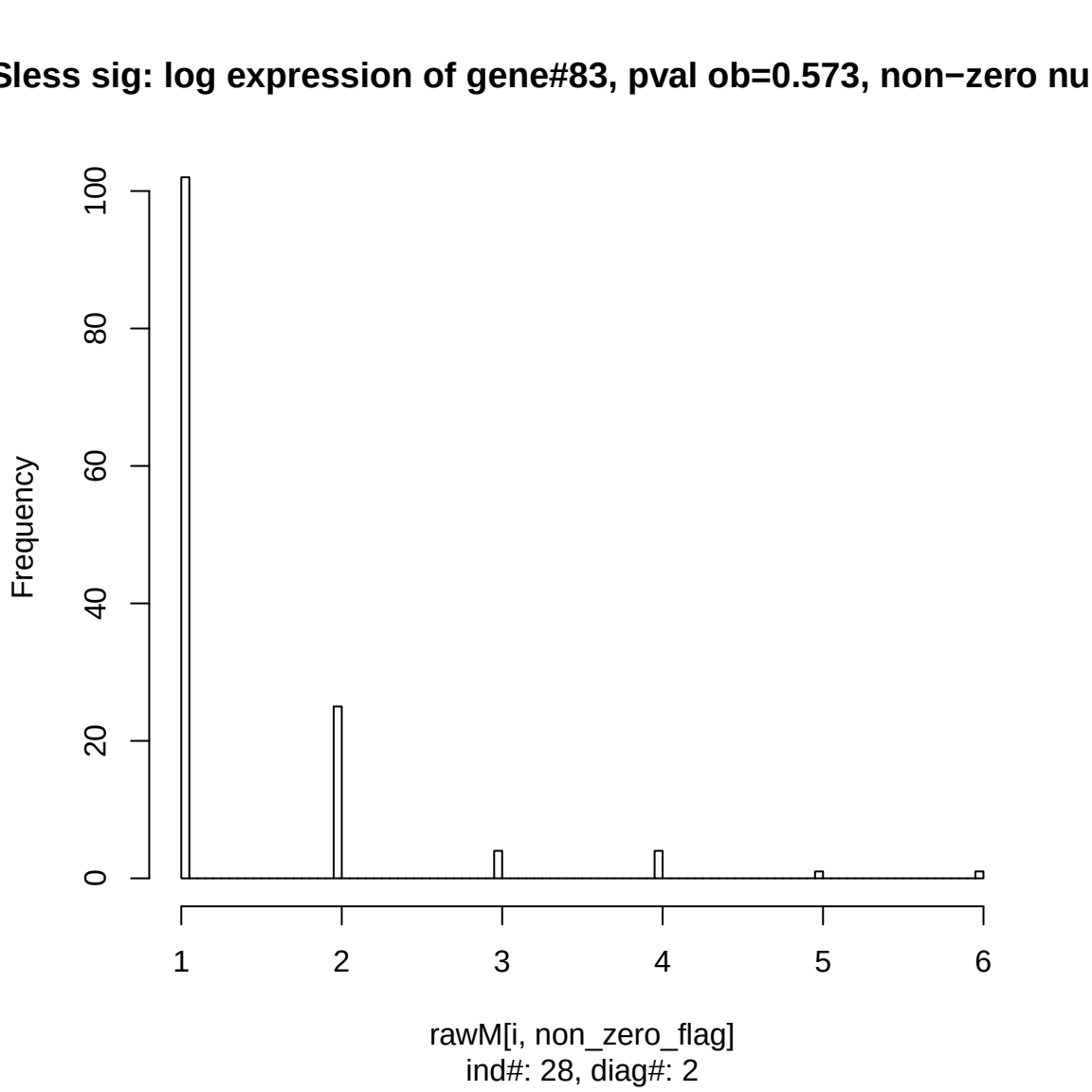

KSless sig: individual expression cell count of gene#65
Frequency
0
2
4
6
8
0
5
10
15
table(meta$individual[non_zero_flag])

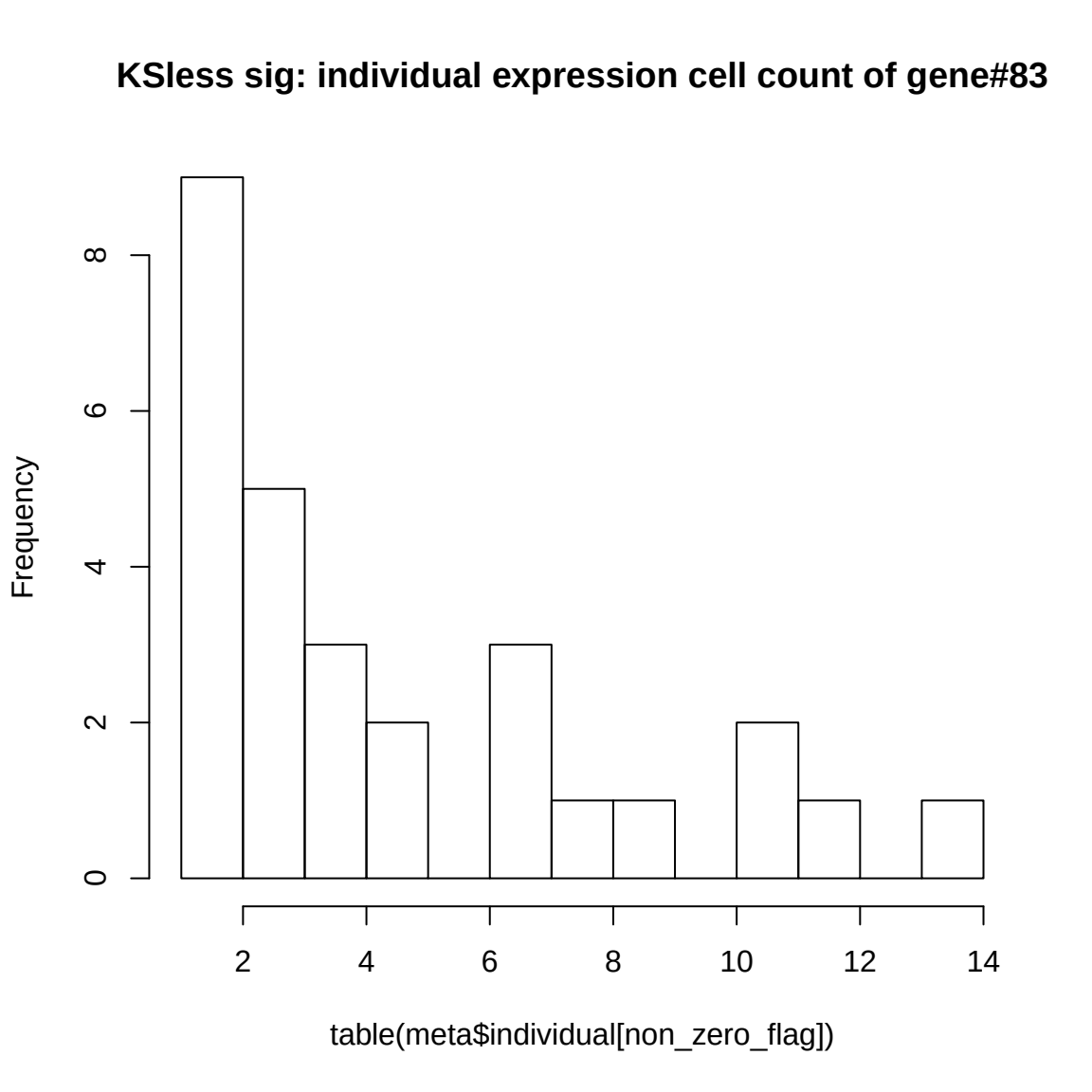

Sless sig: log expression of gene#68, pval ob=0.236, non−zero nu
Frequency
0
10
20
30
40
50
0
10
20
30
40
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

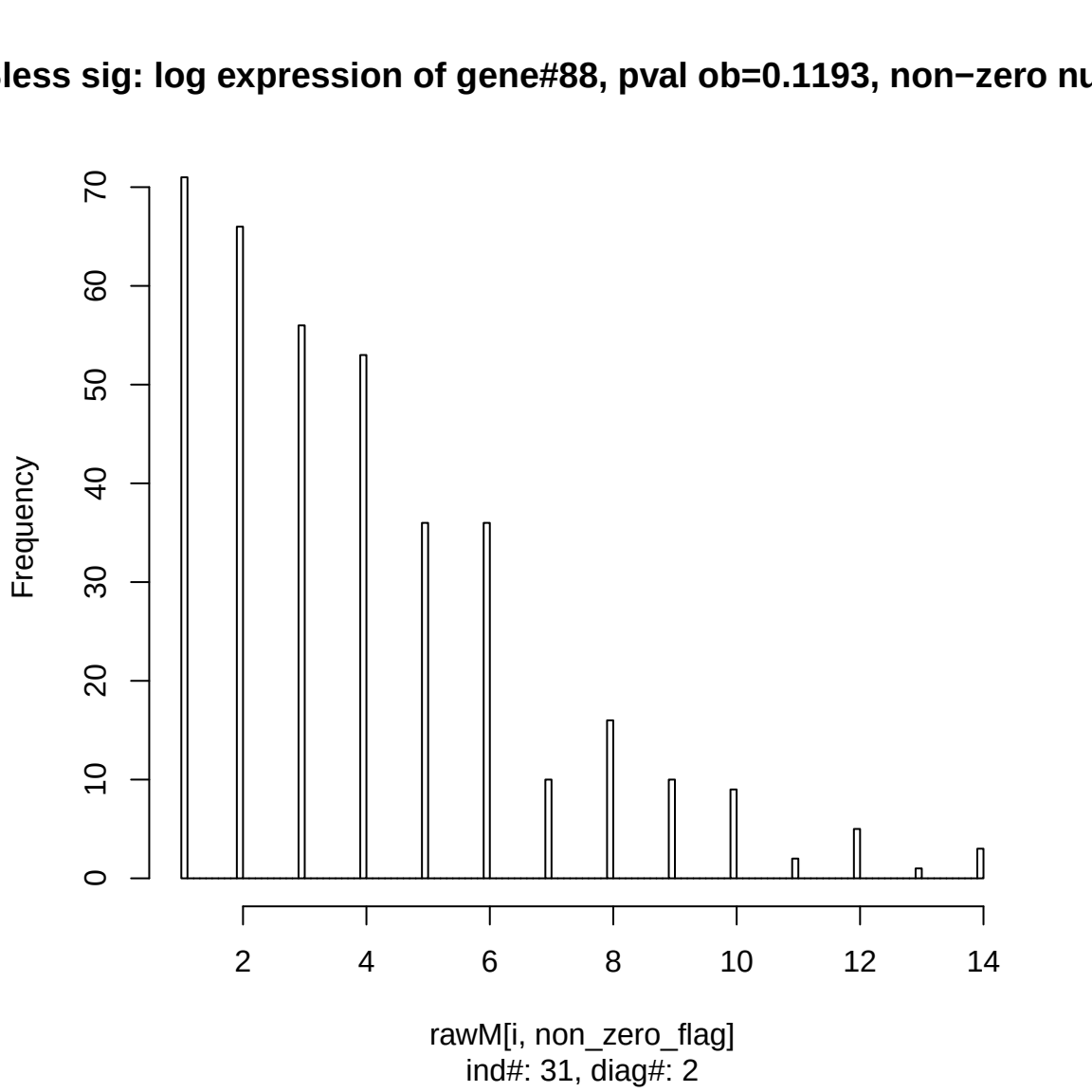

KSless sig: individual expression cell count of gene#68
Frequency
0
2
4
6
8
0
5
10
15
20
25
30
35
table(meta$individual[non_zero_flag])

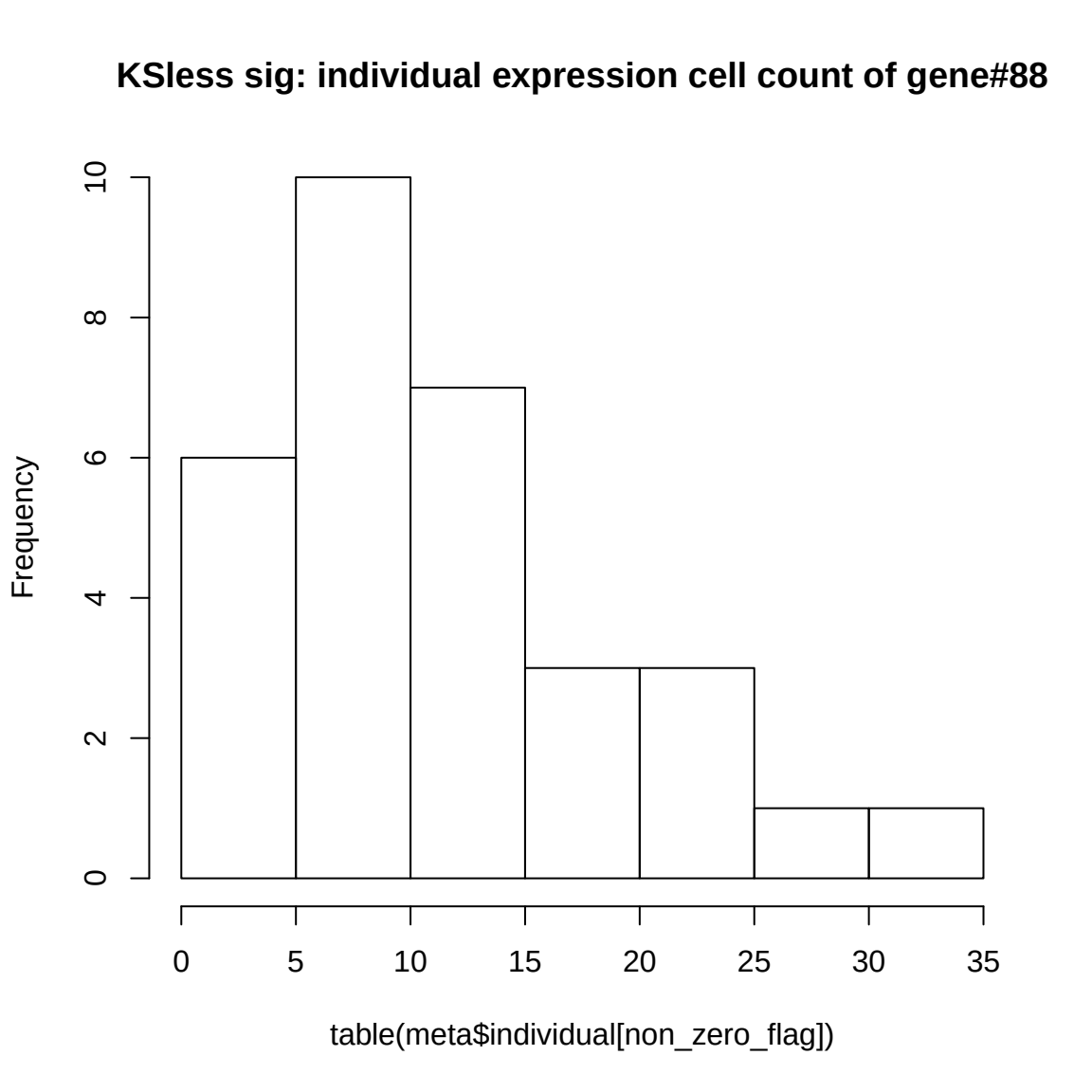

less sig: log expression of gene#72, pval ob=0.2564, non−zero nu
Frequency
0
20
40
60
80
100
1
2
3
4
5
6
7
rawM[i, non_zero_flag]
ind#: 30, diag#: 2

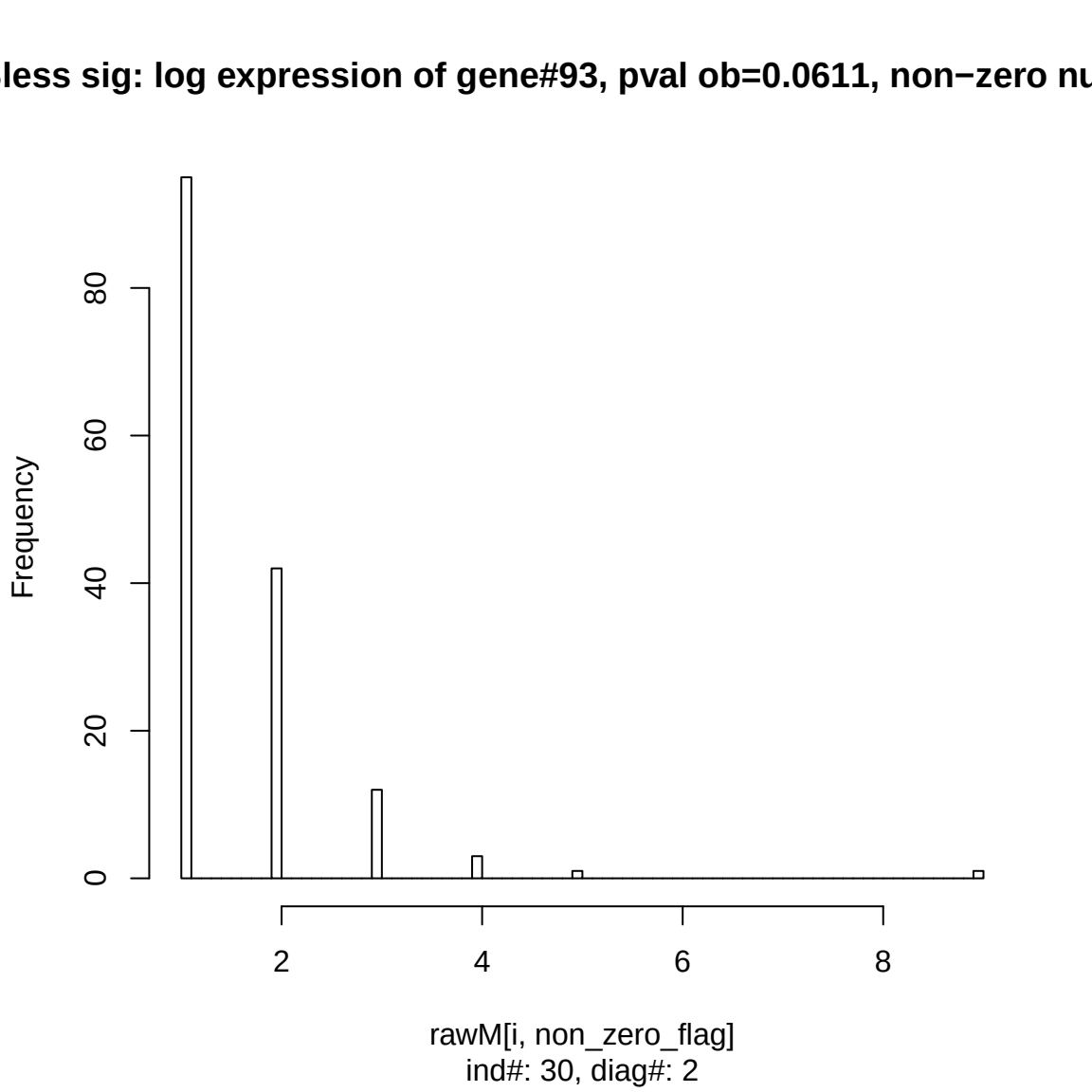

KSless sig: individual expression cell count of gene#72
Frequency
0
1
2
3
4
5
6
0
5
10
15
table(meta$individual[non_zero_flag])

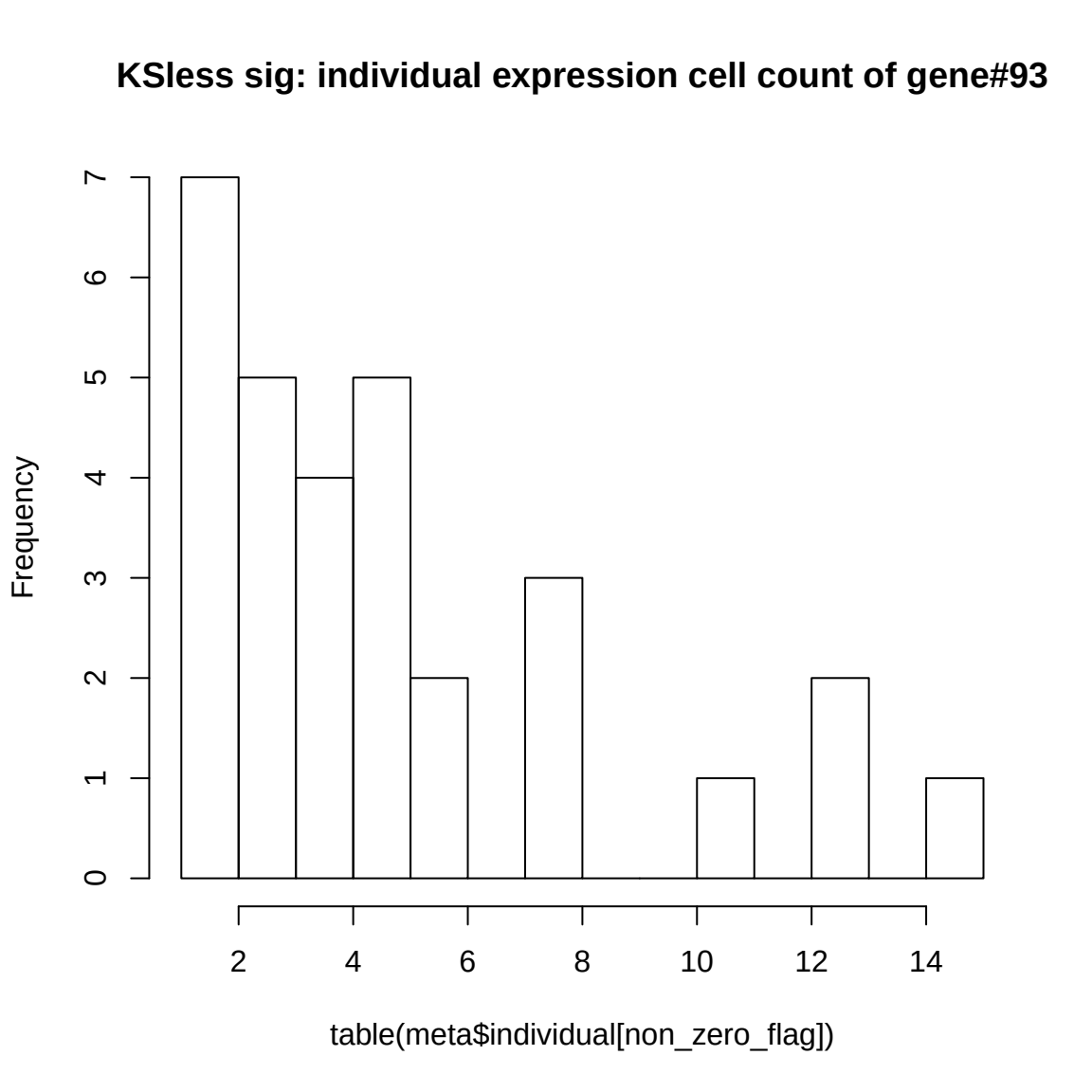

Sless sig: log expression of gene#83, pval ob=0.573, non−zero nu
Frequency
0
20
40
60
80
100
1
2
3
4
5
6
rawM[i, non_zero_flag]
ind#: 28, diag#: 2

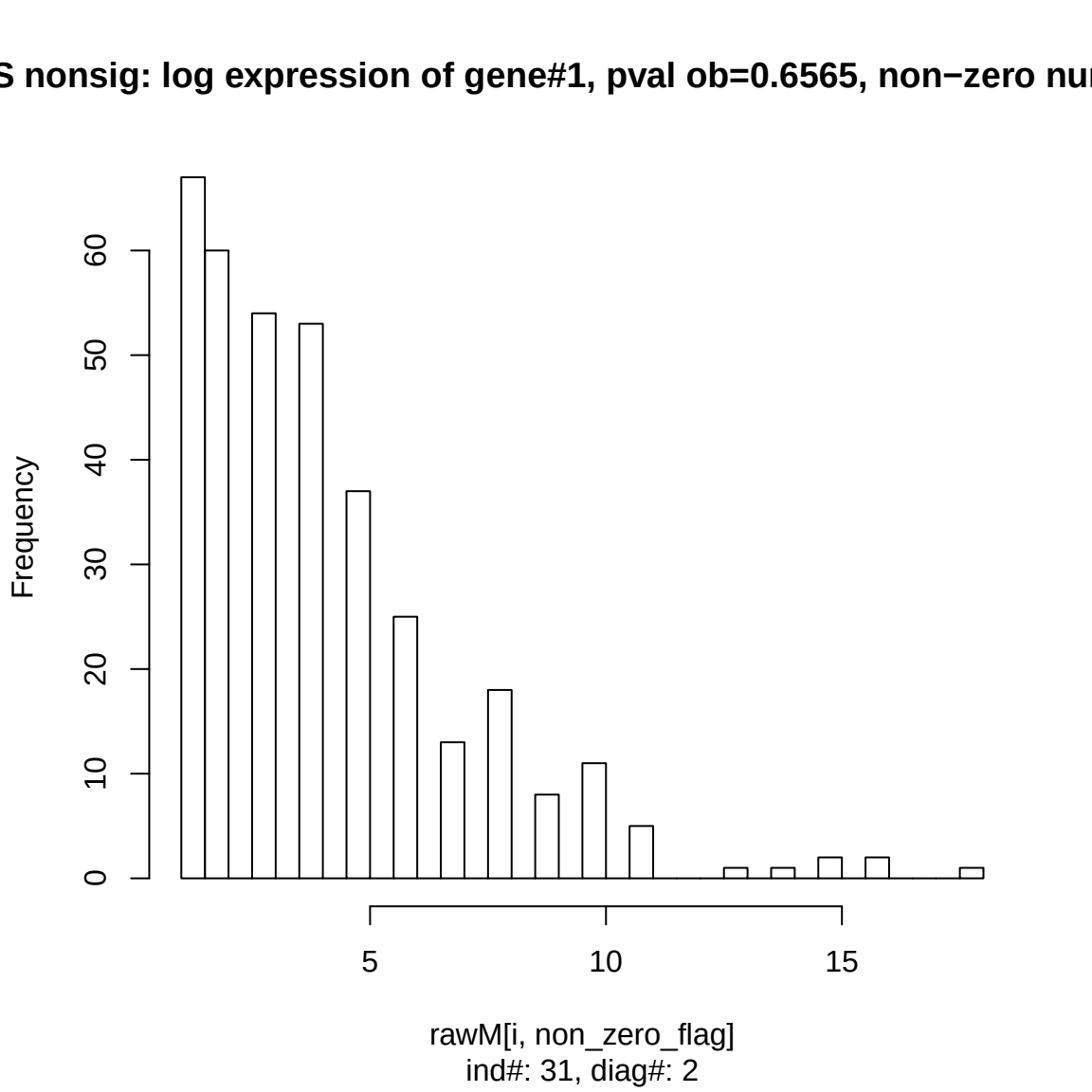

KSless sig: individual expression cell count of gene#83
Frequency
0
2
4
6
8
2
4
6
8
10
12
14
table(meta$individual[non_zero_flag])

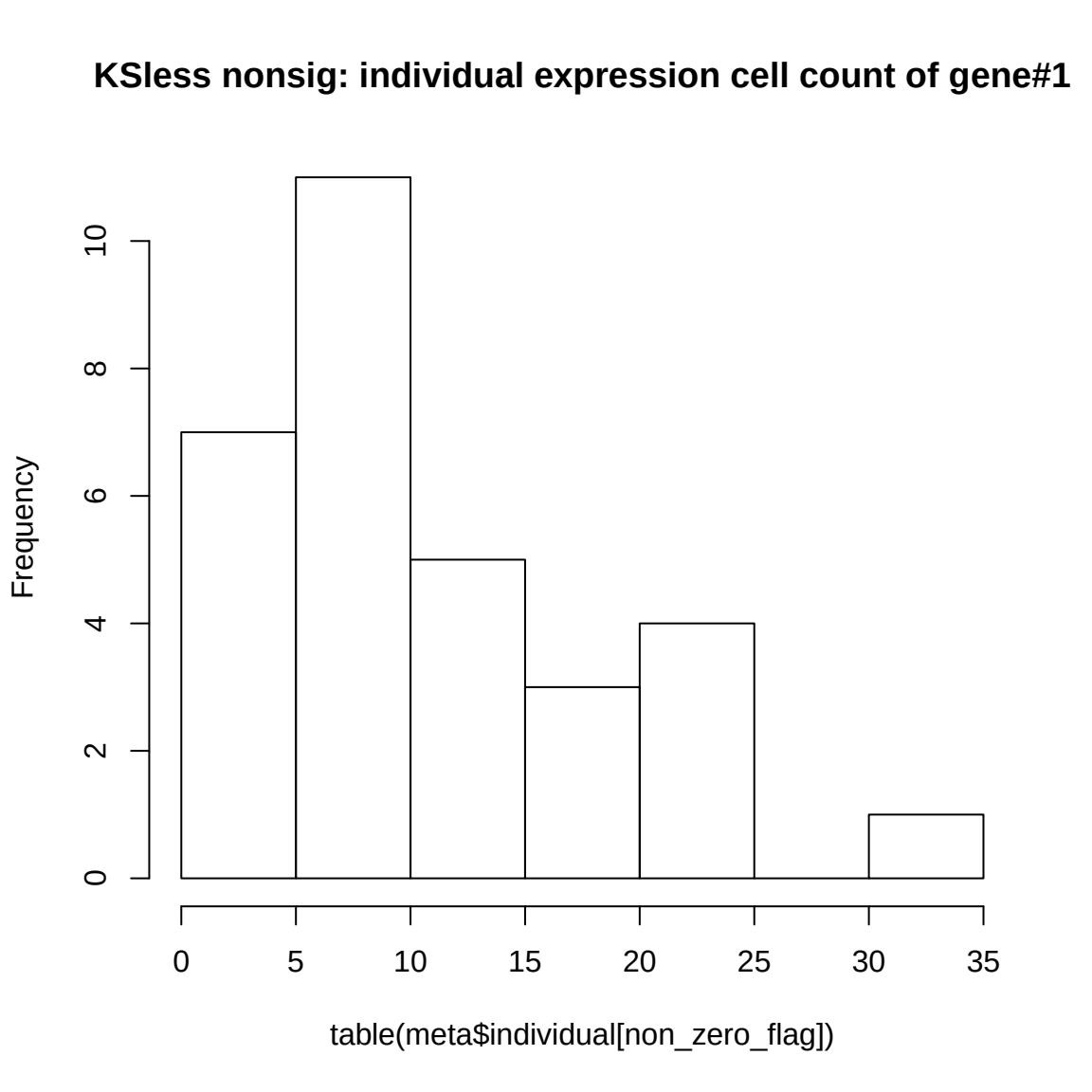

less sig: log expression of gene#88, pval ob=0.1193, non−zero nu
Frequency
0
10
20
30
40
50
60
70
2
4
6
8
10
12
14
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

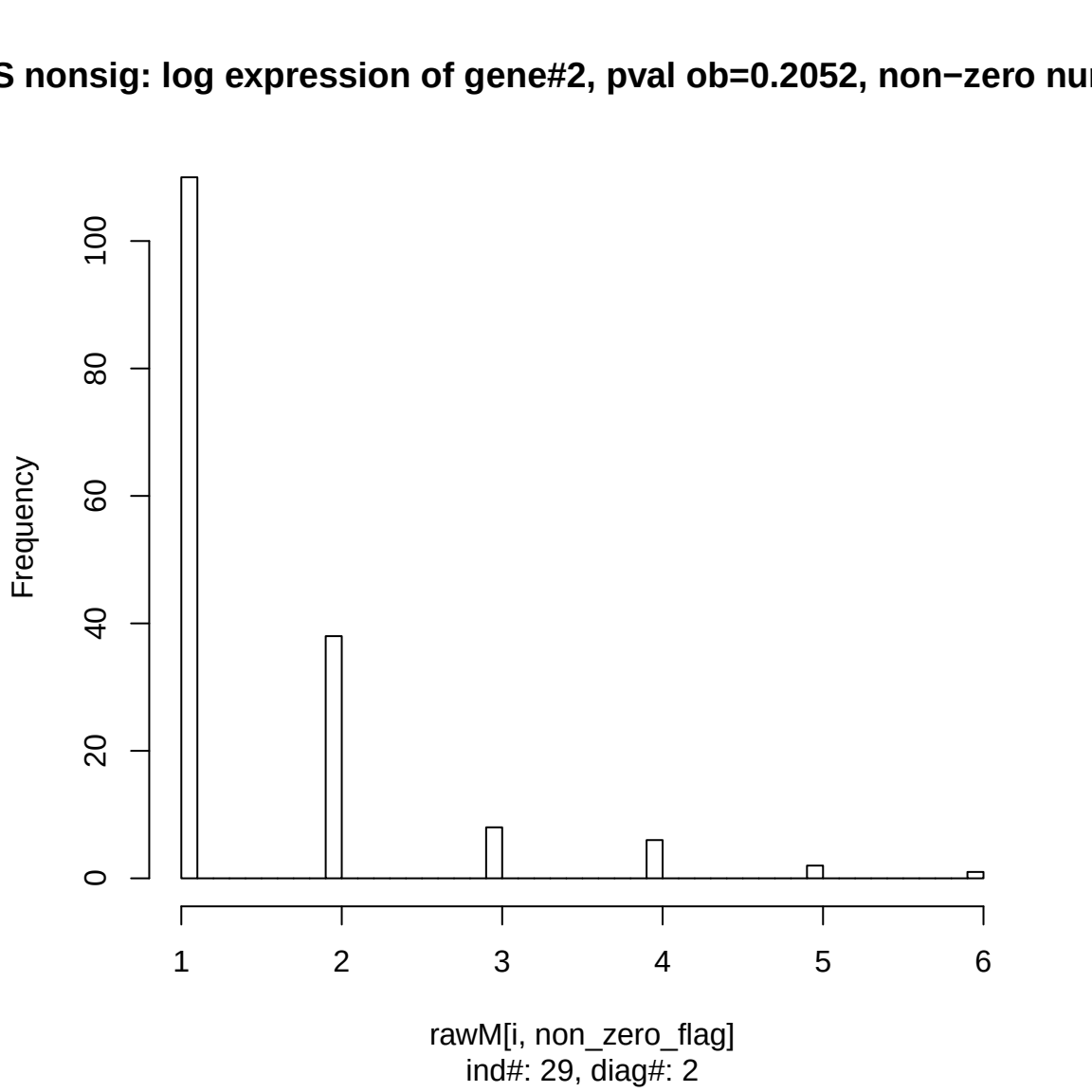

KSless sig: individual expression cell count of gene#88
Frequency
0
2
4
6
8
10
0
5
10
15
20
25
30
35
table(meta$individual[non_zero_flag])

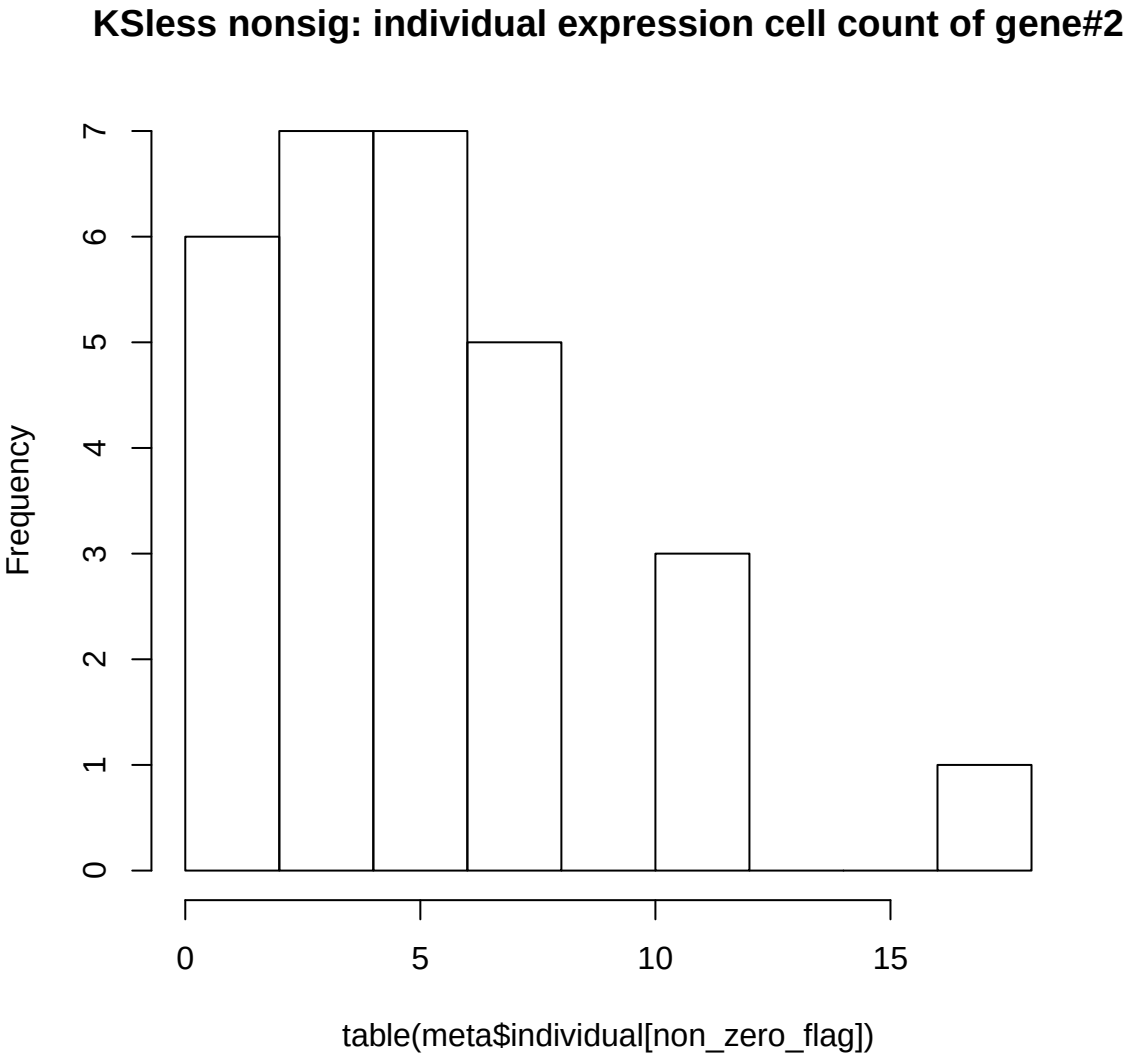

less sig: log expression of gene#93, pval ob=0.0611, non−zero nu
Frequency
0
20
40
60
80
2
4
6
8
rawM[i, non_zero_flag]
ind#: 30, diag#: 2

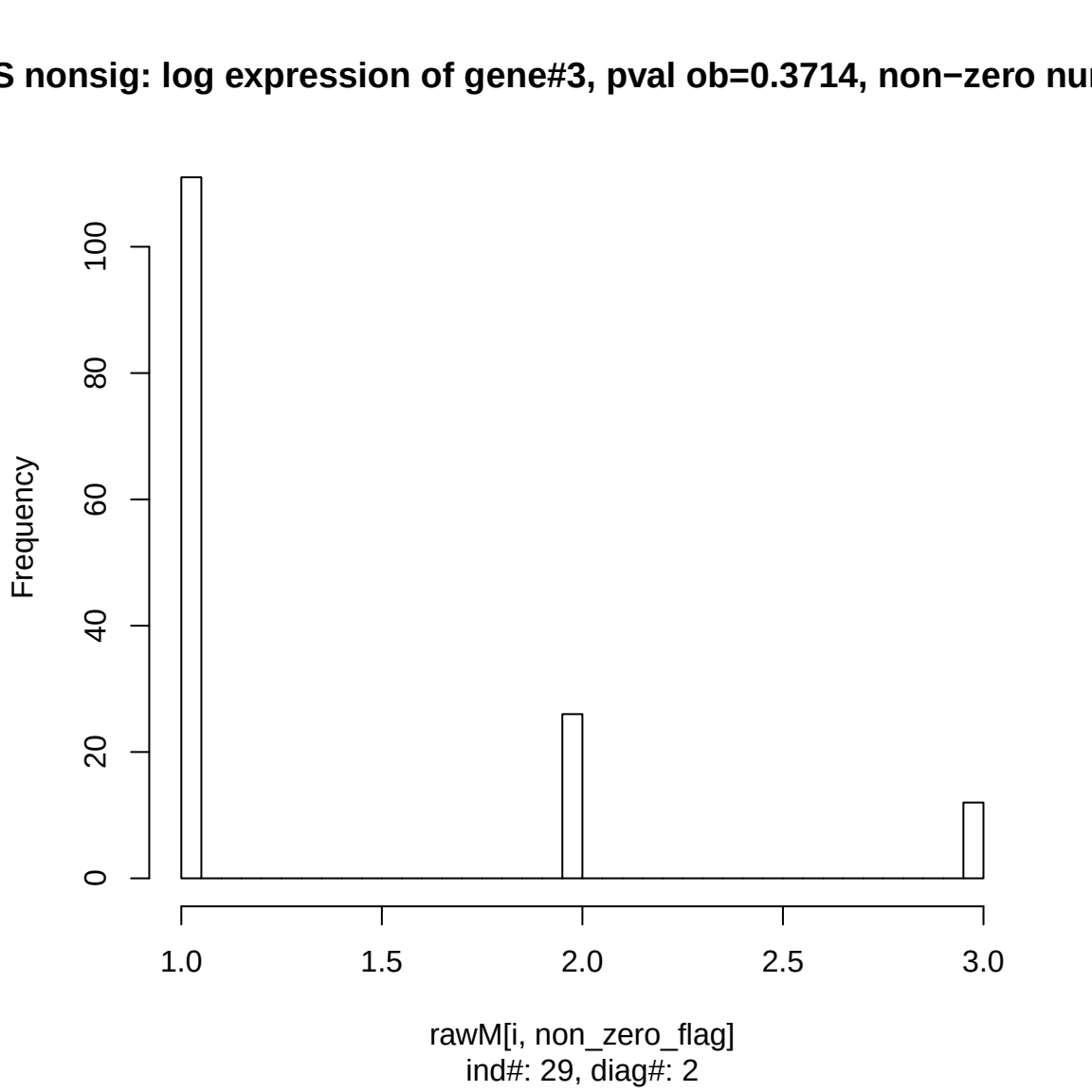

KSless sig: individual expression cell count of gene#93
Frequency
0
1
2
3
4
5
6
7
2
4
6
8
10
12
14
table(meta$individual[non_zero_flag])

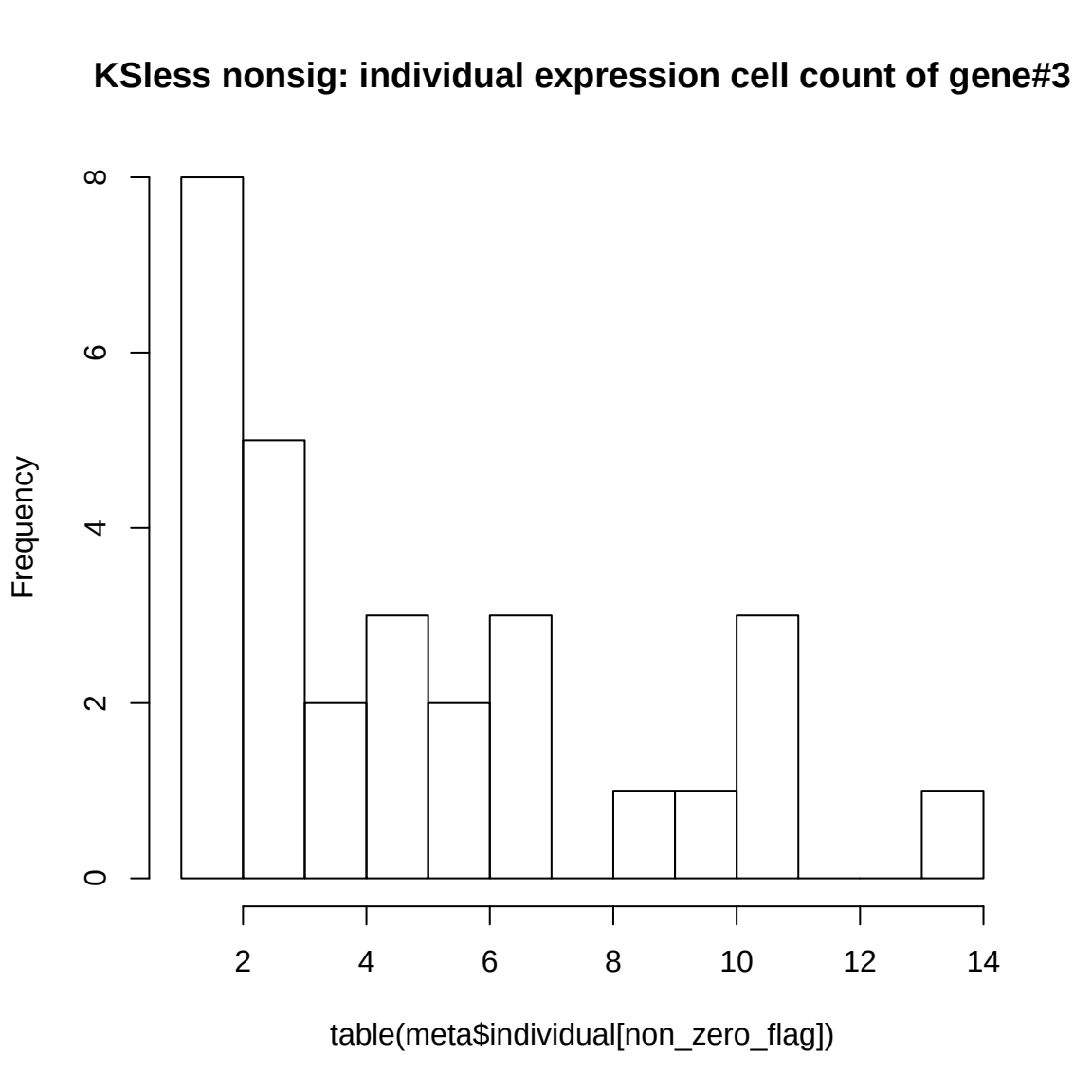

S nonsig: log expression of gene#1, pval ob=0.6565, non−zero nu
Frequency
0
10
20
30
40
50
60
5
10
15
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

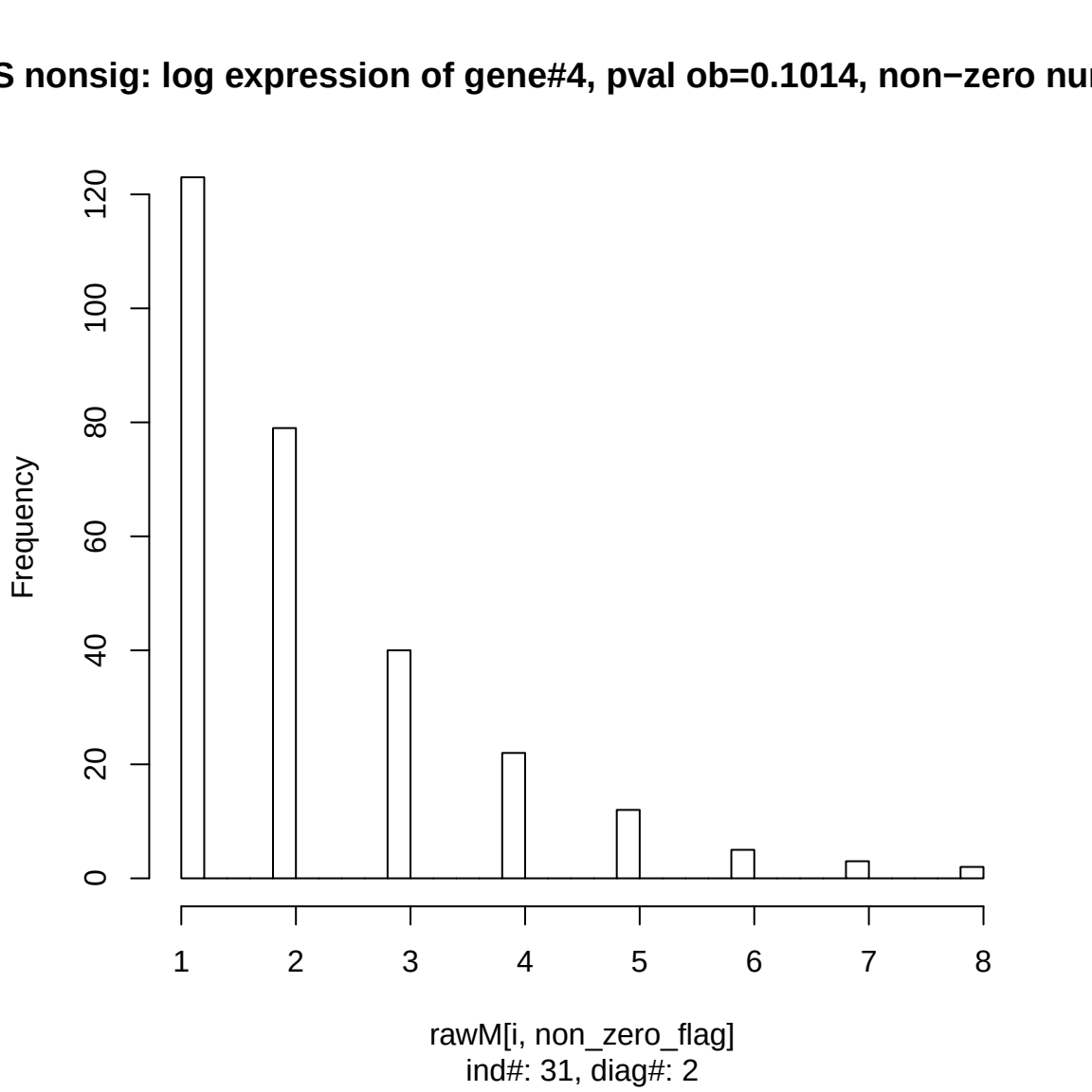

KSless nonsig: individual expression cell count of gene#1
Frequency
0
2
4
6
8
10
0
5
10
15
20
25
30
35
table(meta$individual[non_zero_flag])

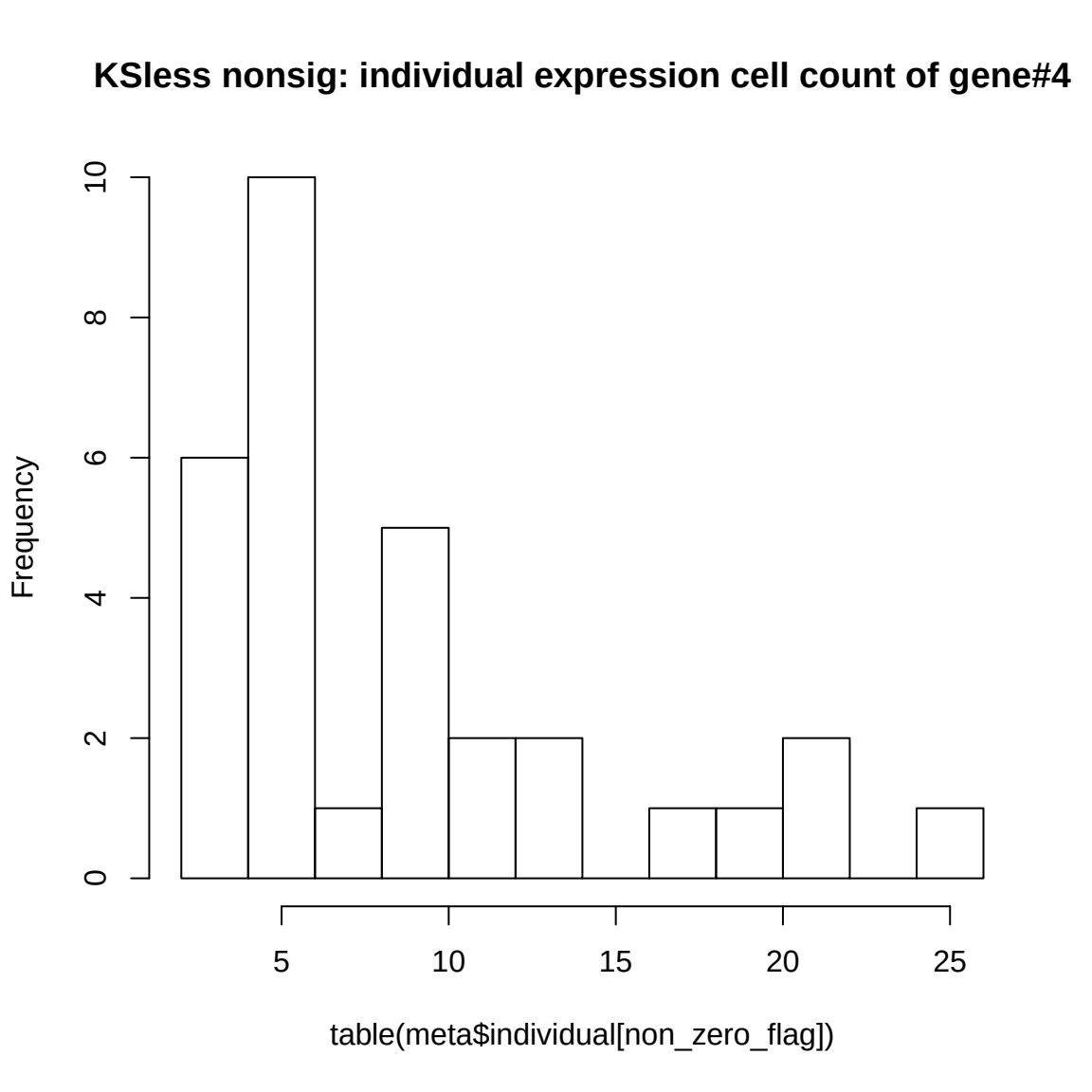

S nonsig: log expression of gene#2, pval ob=0.2052, non−zero nu
Frequency
0
20
40
60
80
100
1
2
3
4
5
6
rawM[i, non_zero_flag]
ind#: 29, diag#: 2

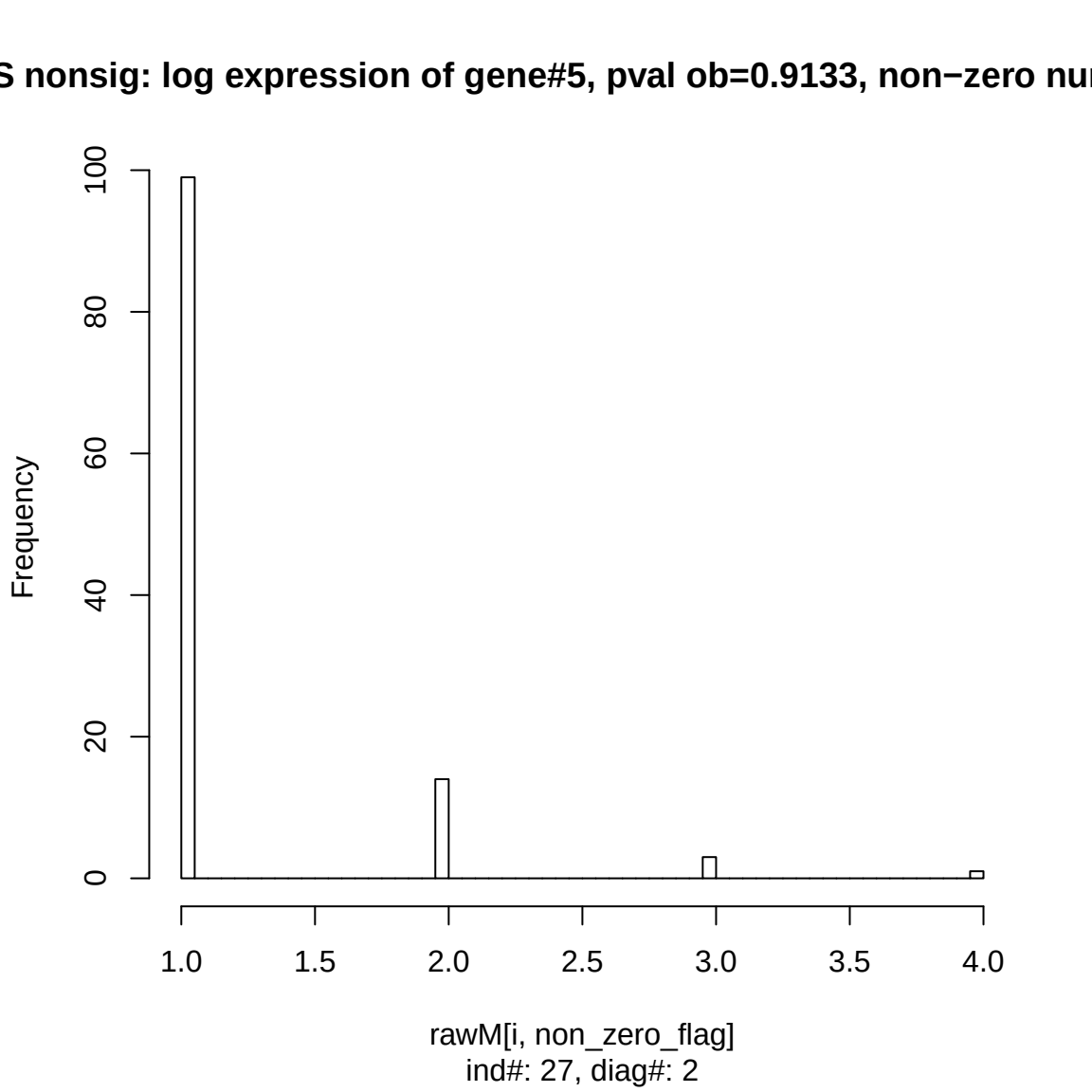

KSless nonsig: individual expression cell count of gene#2
Frequency
0
1
2
3
4
5
6
7
0
5
10
15
table(meta$individual[non_zero_flag])

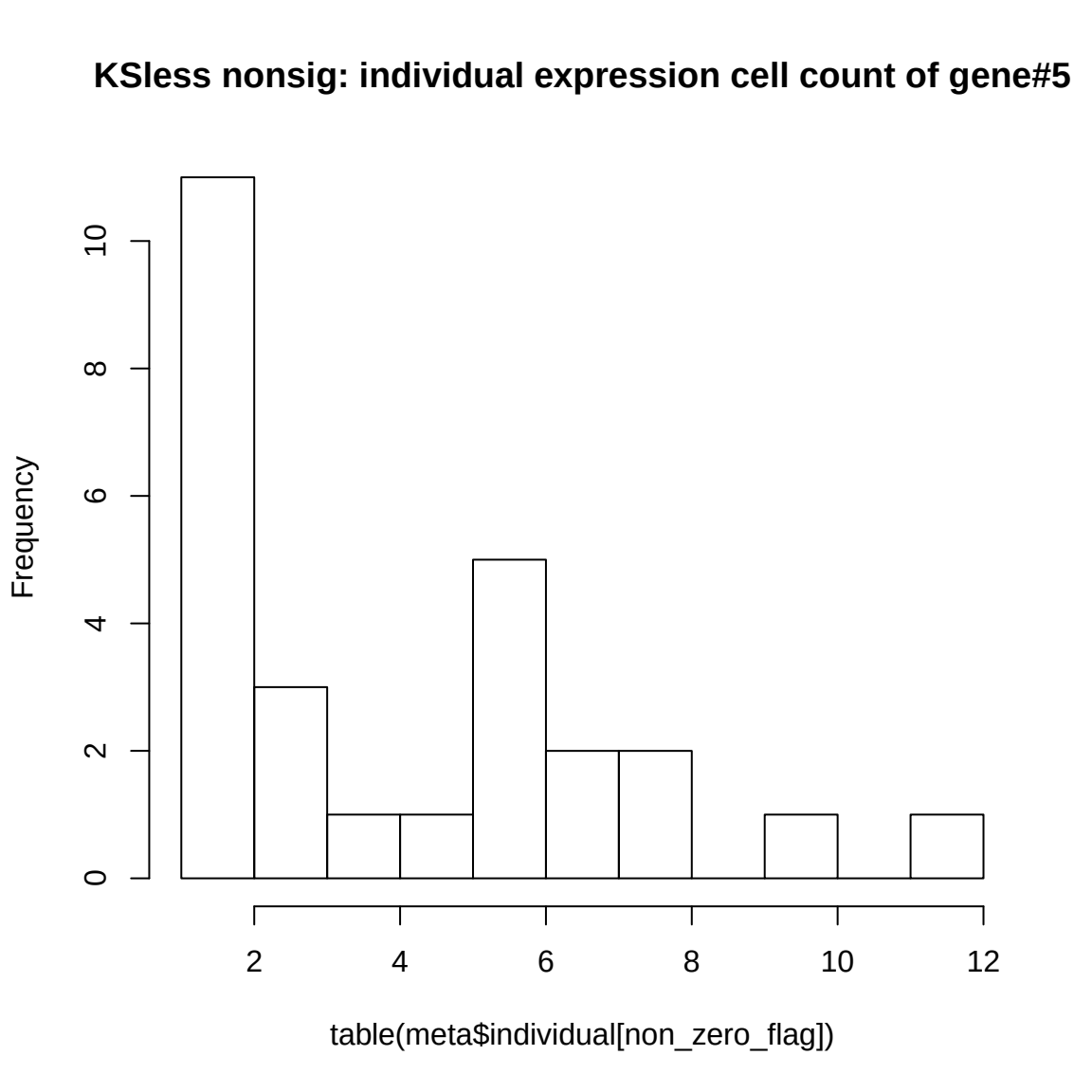

S nonsig: log expression of gene#3, pval ob=0.3714, non−zero nu
Frequency
0
20
40
60
80
100
1.0
1.5
2.0
2.5
3.0
rawM[i, non_zero_flag]
ind#: 29, diag#: 2

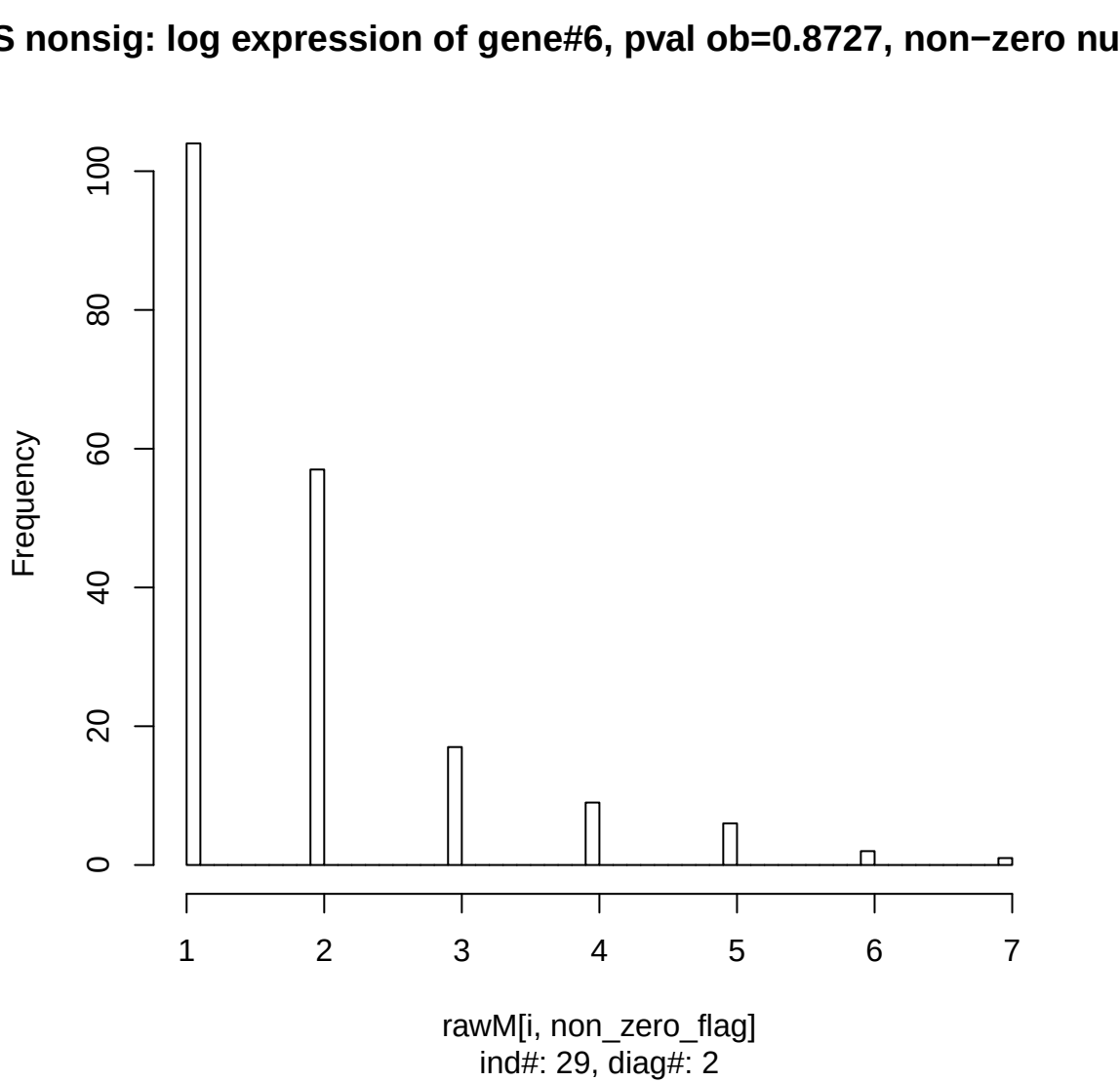

KSless nonsig: individual expression cell count of gene#3
Frequency
0
2
4
6
8
2
4
6
8
10
12
14
table(meta$individual[non_zero_flag])

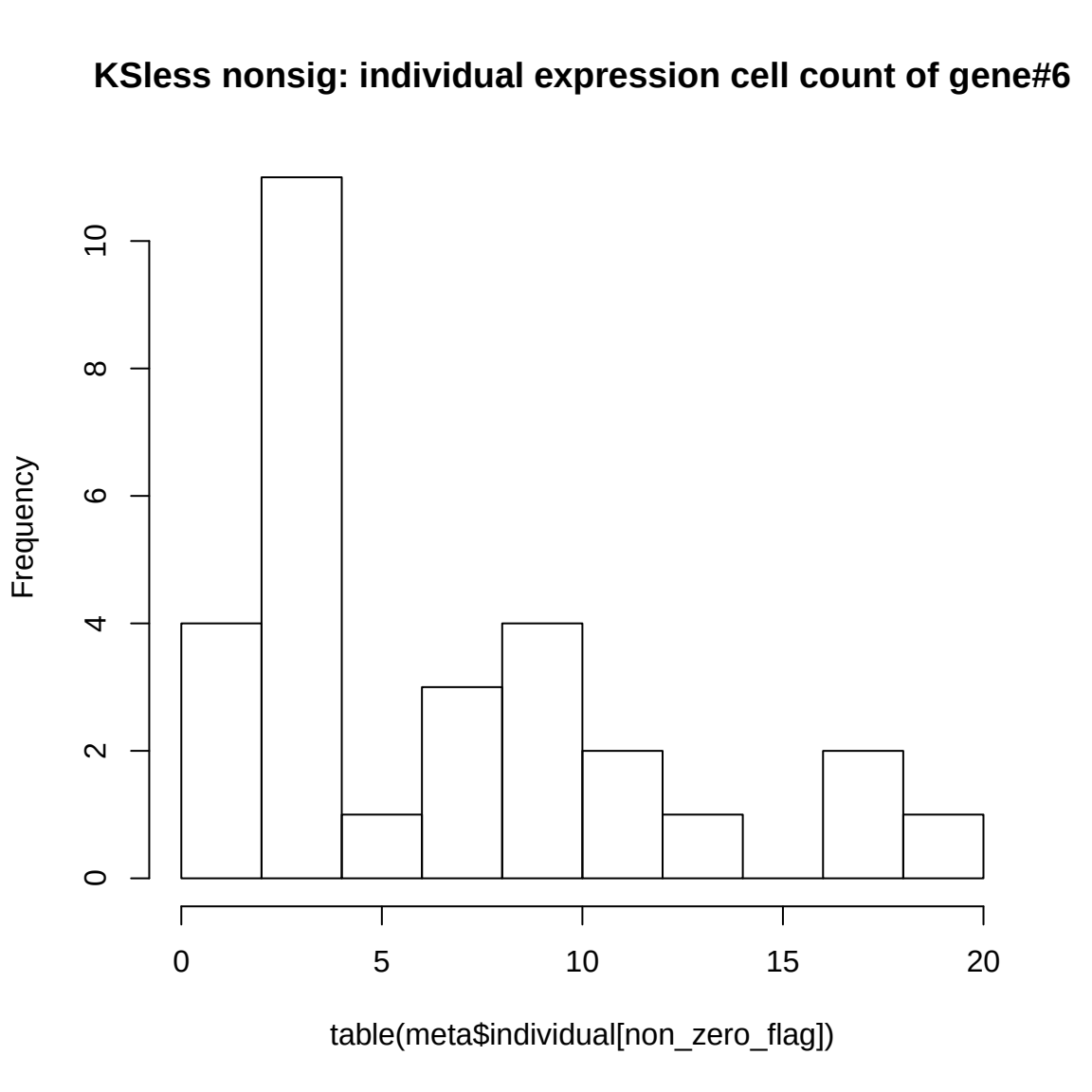

S nonsig: log expression of gene#4, pval ob=0.1014, non−zero nu
Frequency
0
20
40
60
80
100
120
1
2
3
4
5
6
7
8
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

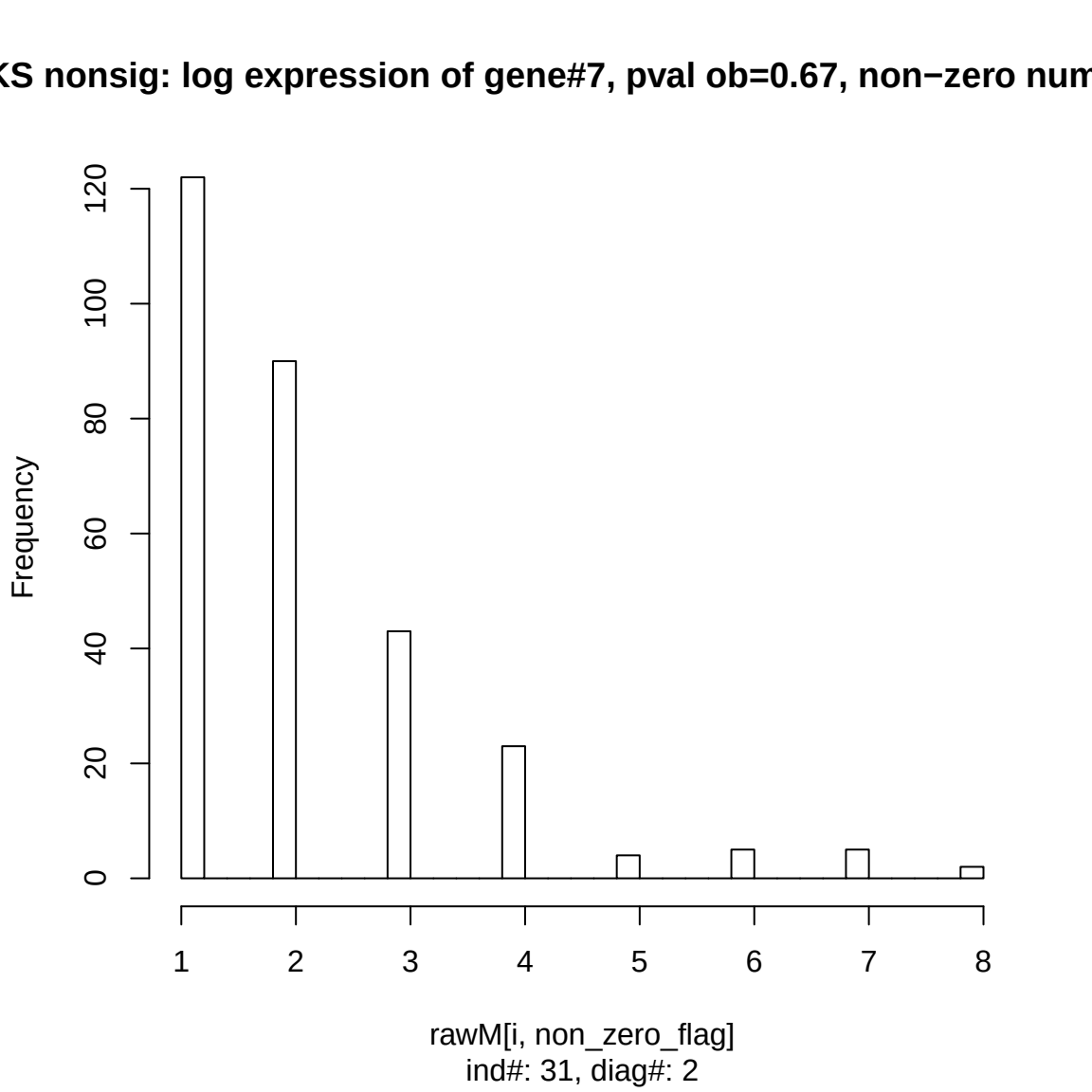

KSless nonsig: individual expression cell count of gene#4
Frequency
0
2
4
6
8
10
5
10
15
20
25
table(meta$individual[non_zero_flag])

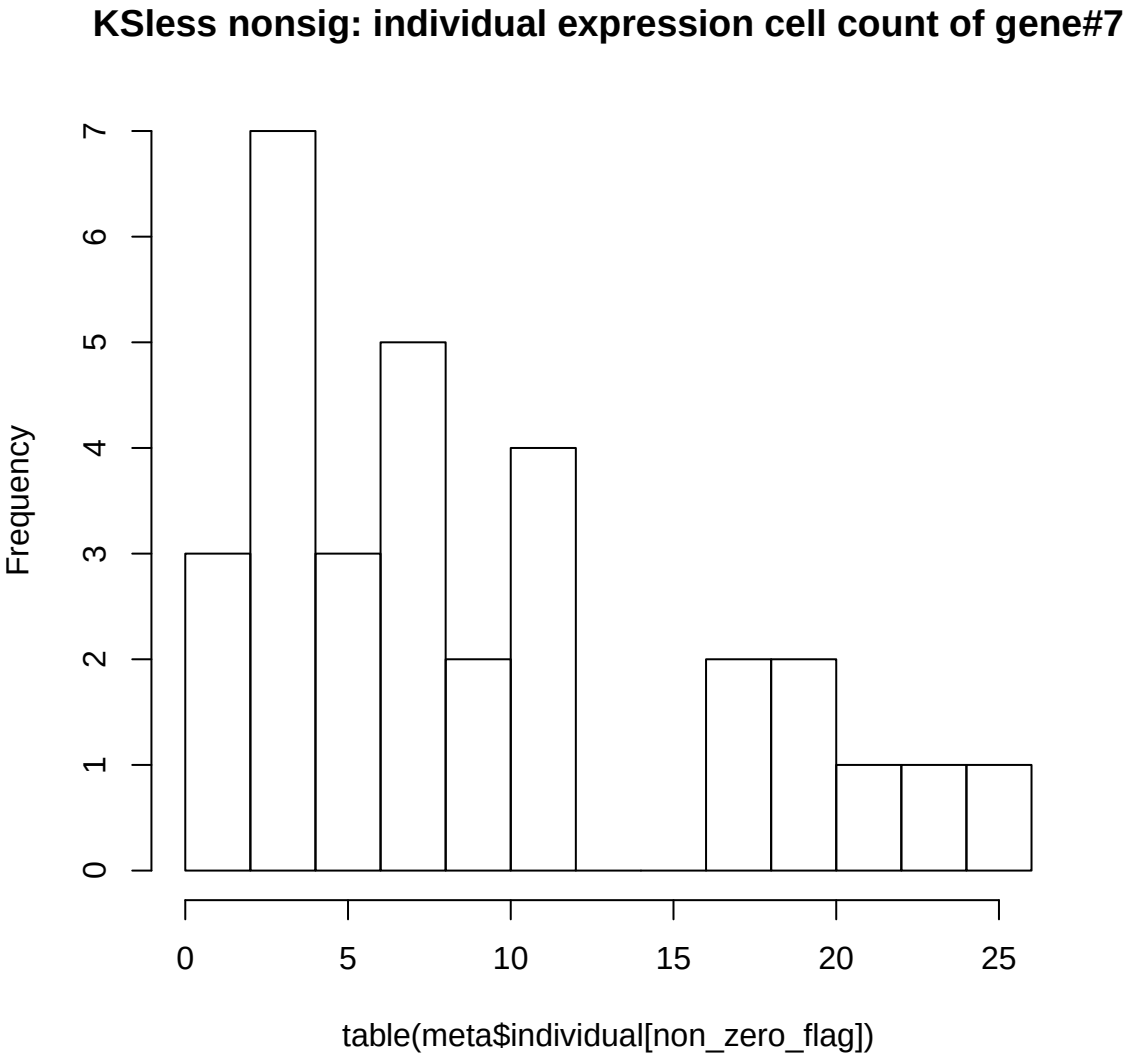

S nonsig: log expression of gene#5, pval ob=0.9133, non−zero nu
Frequency
0
20
40
60
80
100
1.0
1.5
2.0
2.5
3.0
3.5
4.0
rawM[i, non_zero_flag]
ind#: 27, diag#: 2

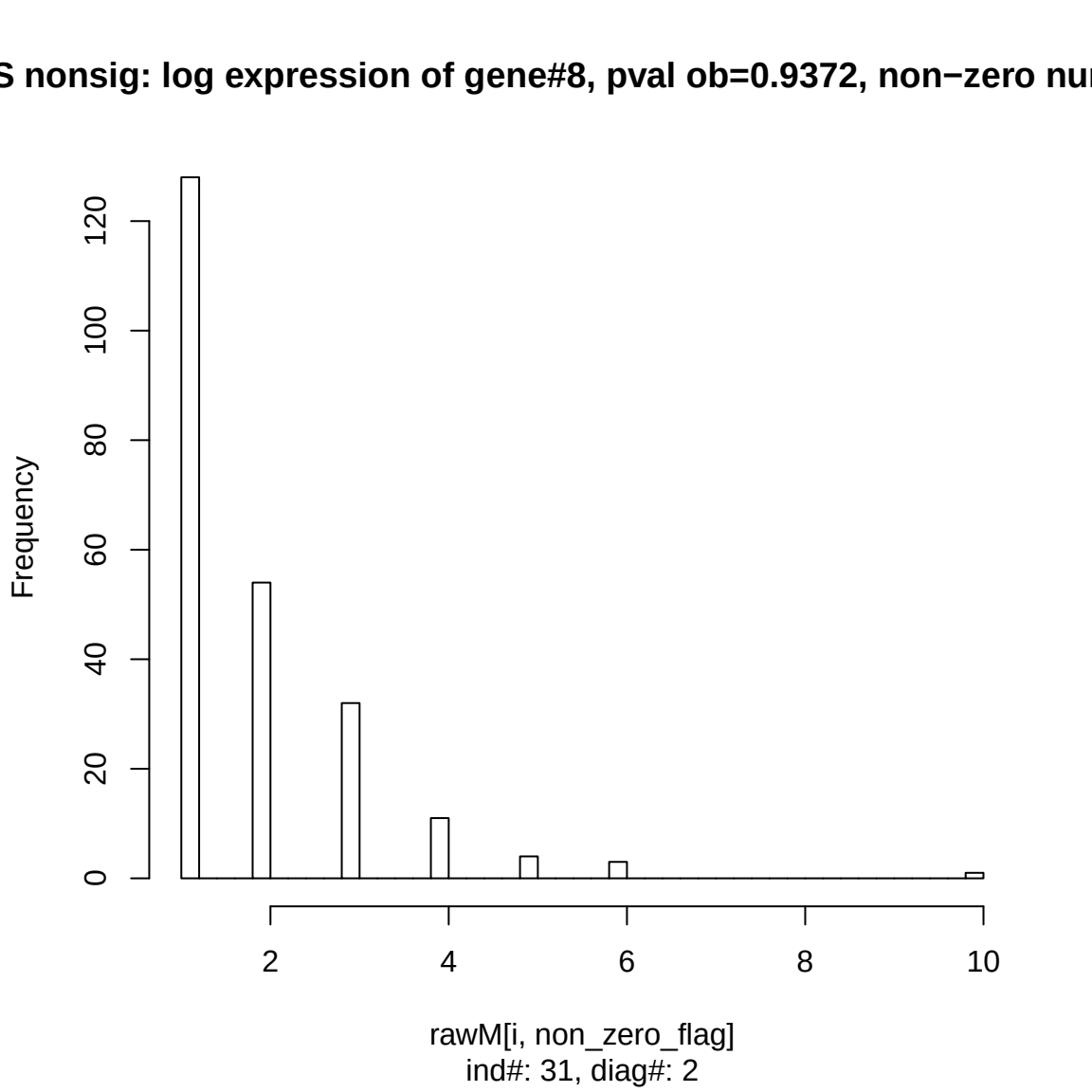

KSless nonsig: individual expression cell count of gene#5
Frequency
0
2
4
6
8
10
2
4
6
8
10
12
table(meta$individual[non_zero_flag])

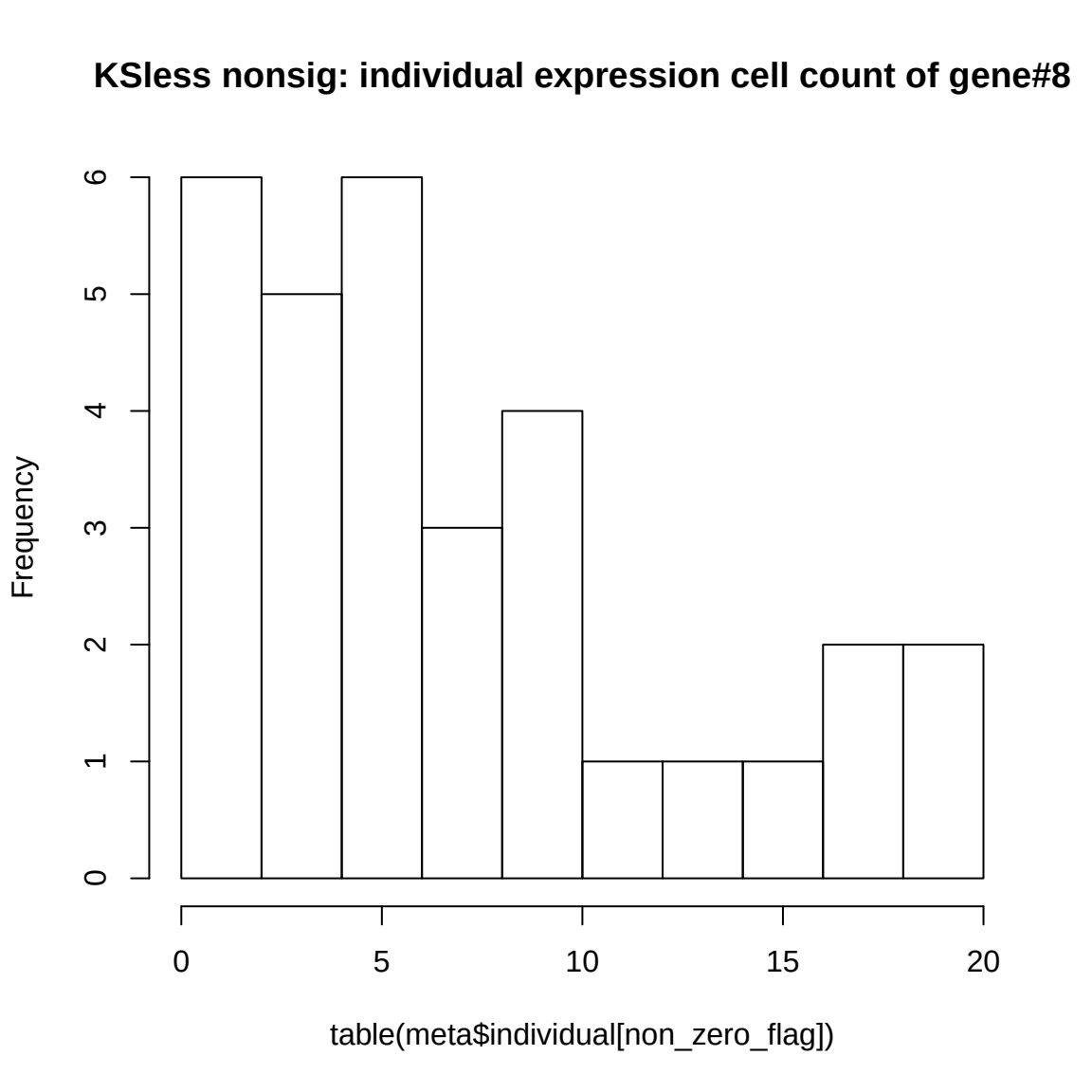

S nonsig: log expression of gene#6, pval ob=0.8727, non−zero nu
Frequency
0
20
40
60
80
100
1
2
3
4
5
6
7
rawM[i, non_zero_flag]
ind#: 29, diag#: 2

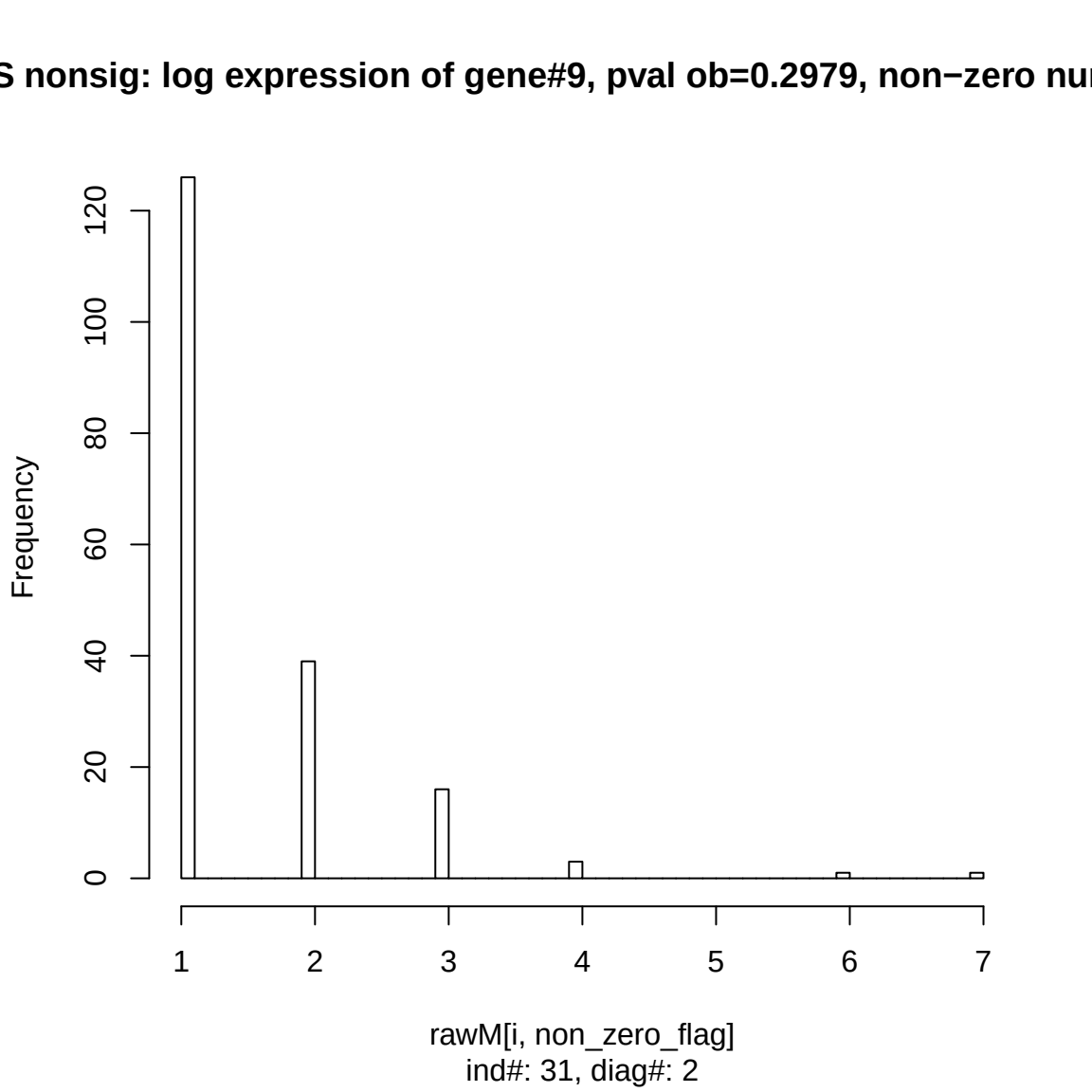

KSless nonsig: individual expression cell count of gene#6
Frequency
0
2
4
6
8
10
0
5
10
15
20
table(meta$individual[non_zero_flag])

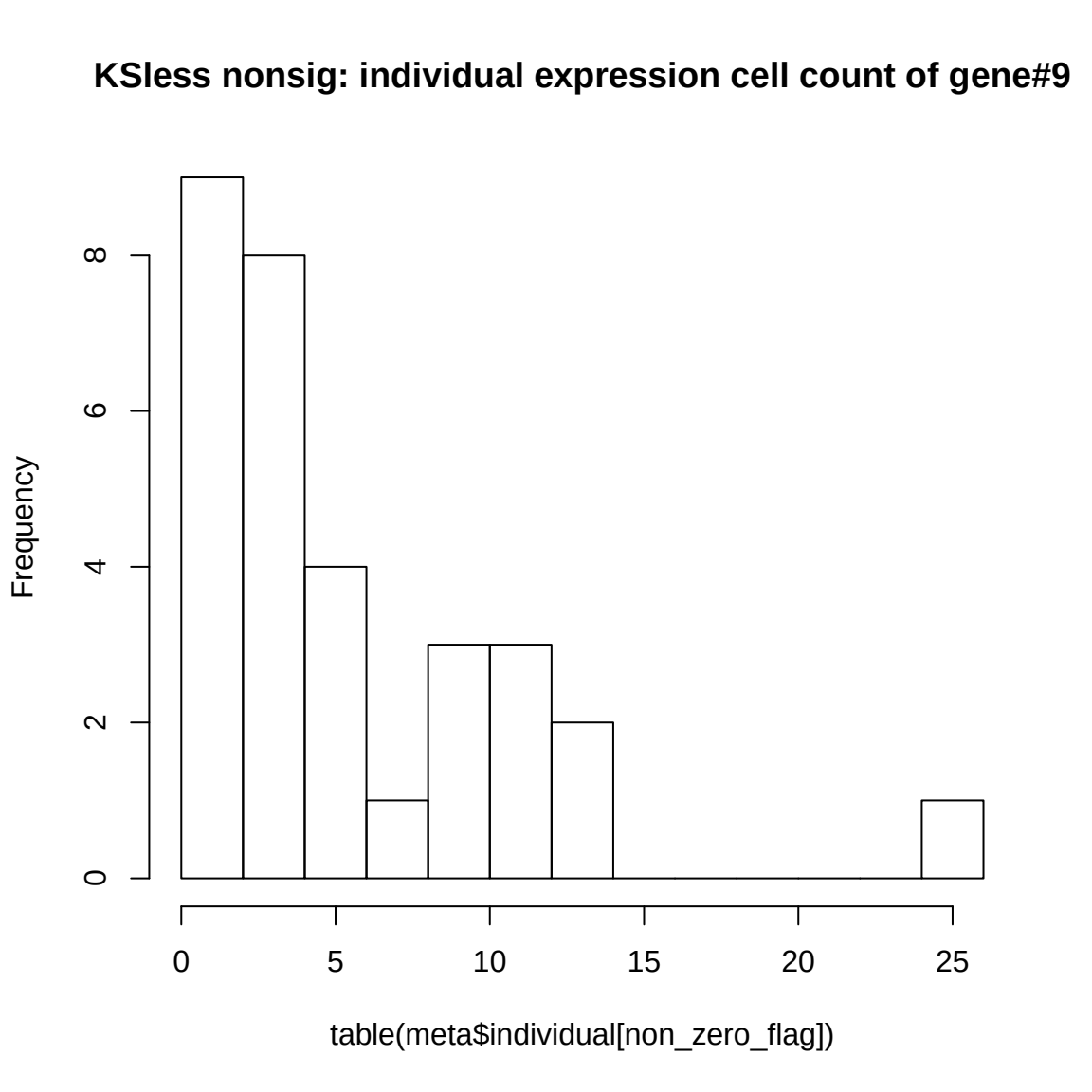

KS nonsig: log expression of gene#7, pval ob=0.67, non−zero num
Frequency
0
20
40
60
80
100
120
1
2
3
4
5
6
7
8
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

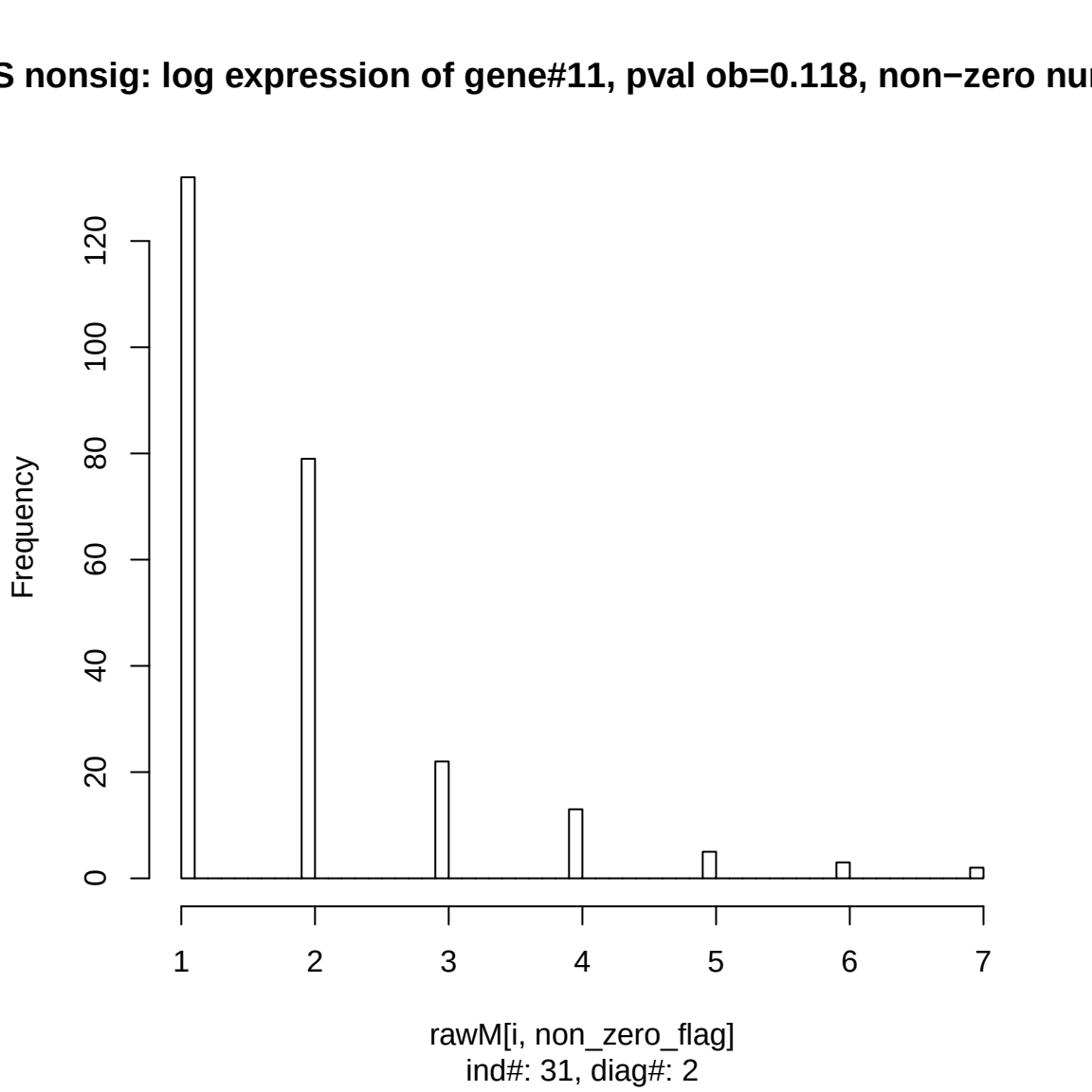

KSless nonsig: individual expression cell count of gene#7
Frequency
0
1
2
3
4
5
6
7
0
5
10
15
20
25
table(meta$individual[non_zero_flag])

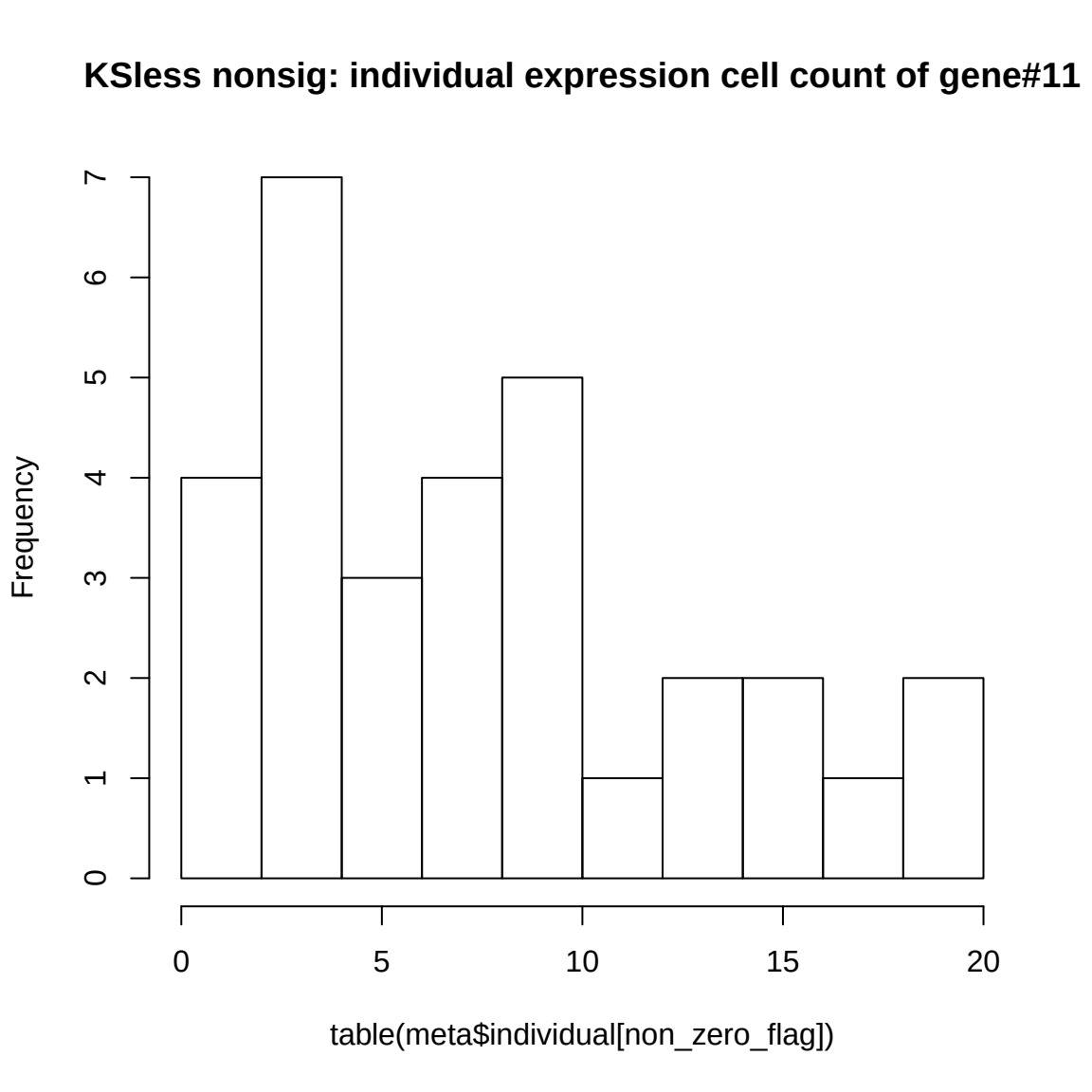

S nonsig: log expression of gene#8, pval ob=0.9372, non−zero nu
Frequency
0
20
40
60
80
100
120
2
4
6
8
10
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

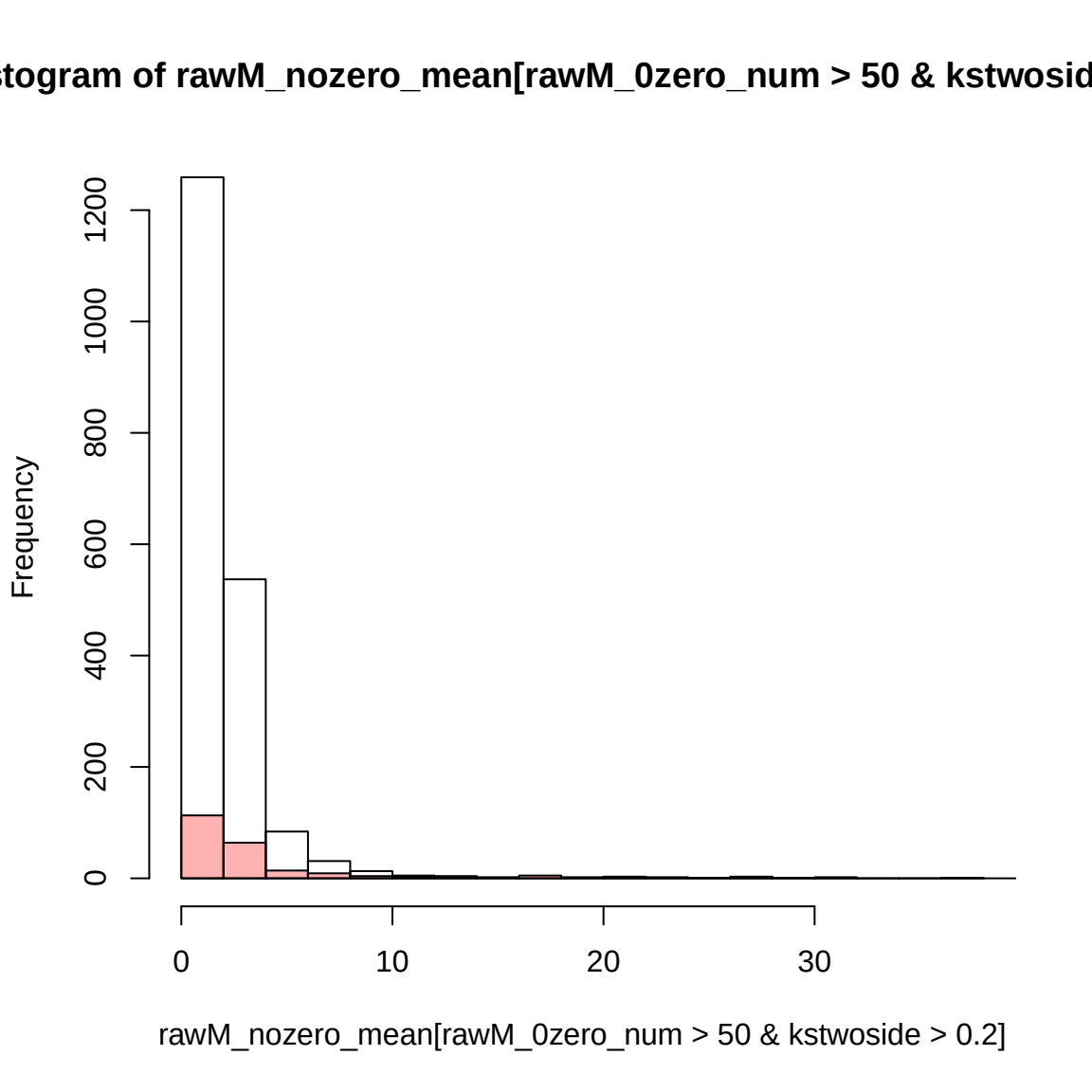

KSless nonsig: individual expression cell count of gene#8
Frequency
0
1
2
3
4
5
6
0
5
10
15
20
table(meta$individual[non_zero_flag])

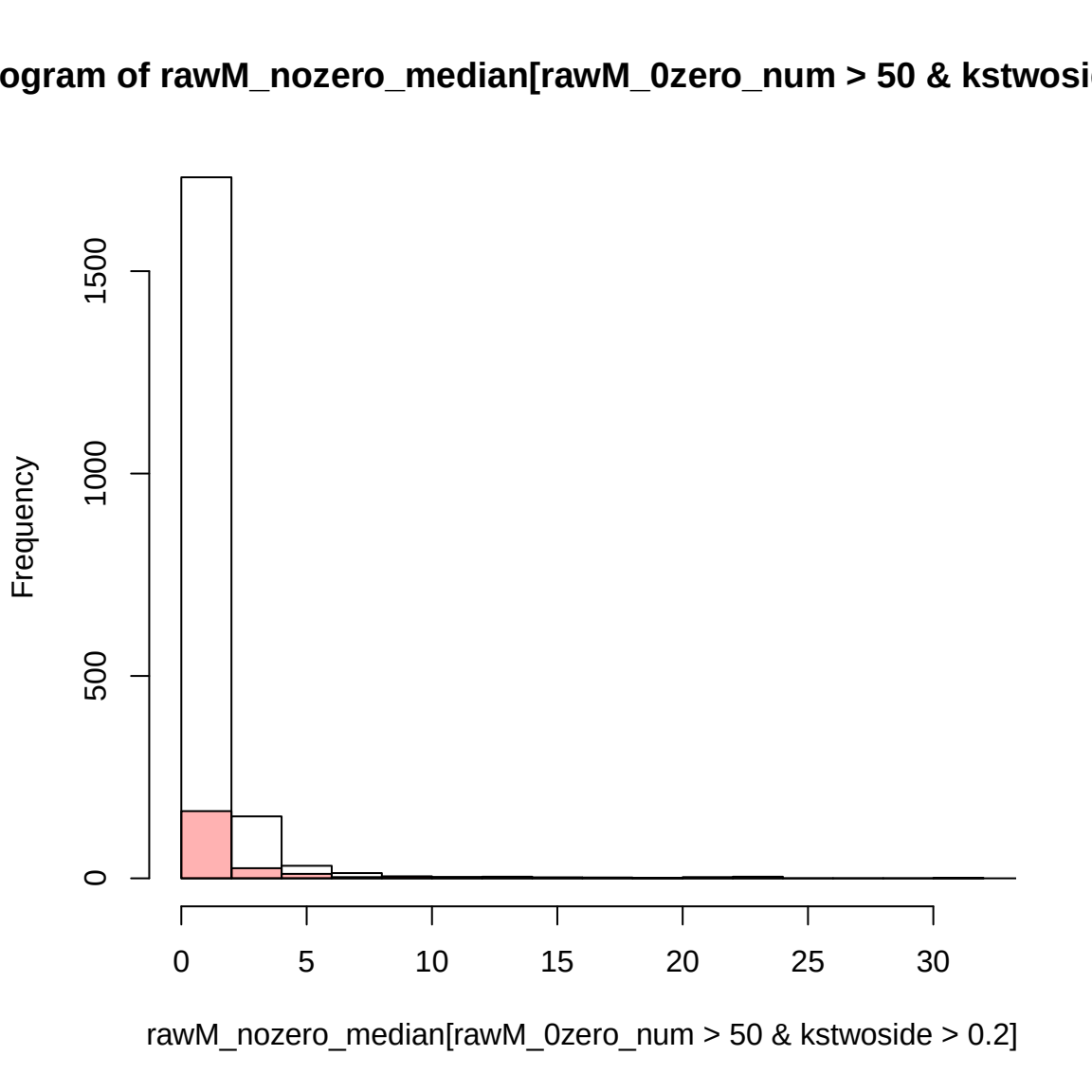

S nonsig: log expression of gene#9, pval ob=0.2979, non−zero nu
Frequency
0
20
40
60
80
100
120
1
2
3
4
5
6
7
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

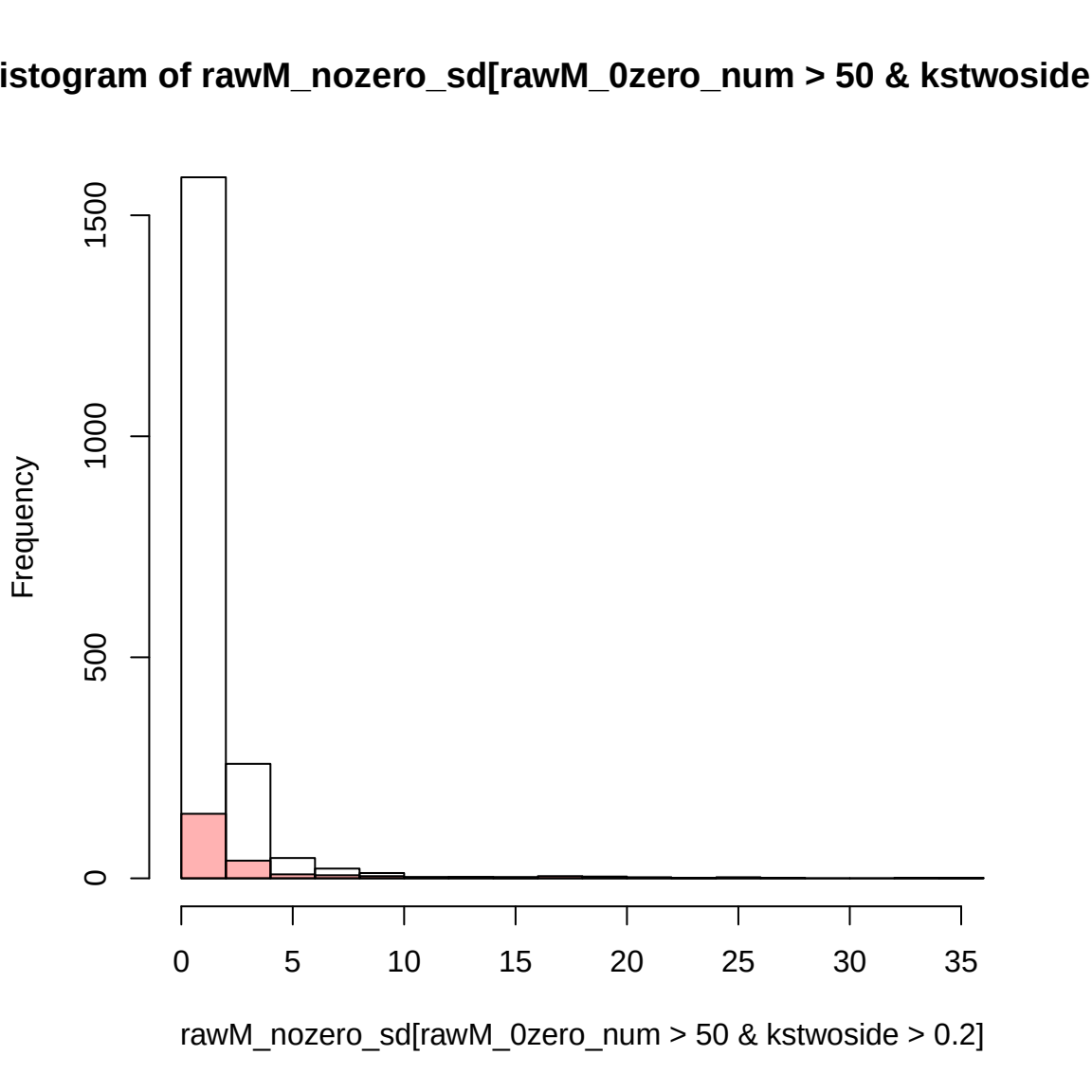

KSless nonsig: individual expression cell count of gene#9
Frequency
0
2
4
6
8
0
5
10
15
20
25
table(meta$individual[non_zero_flag])

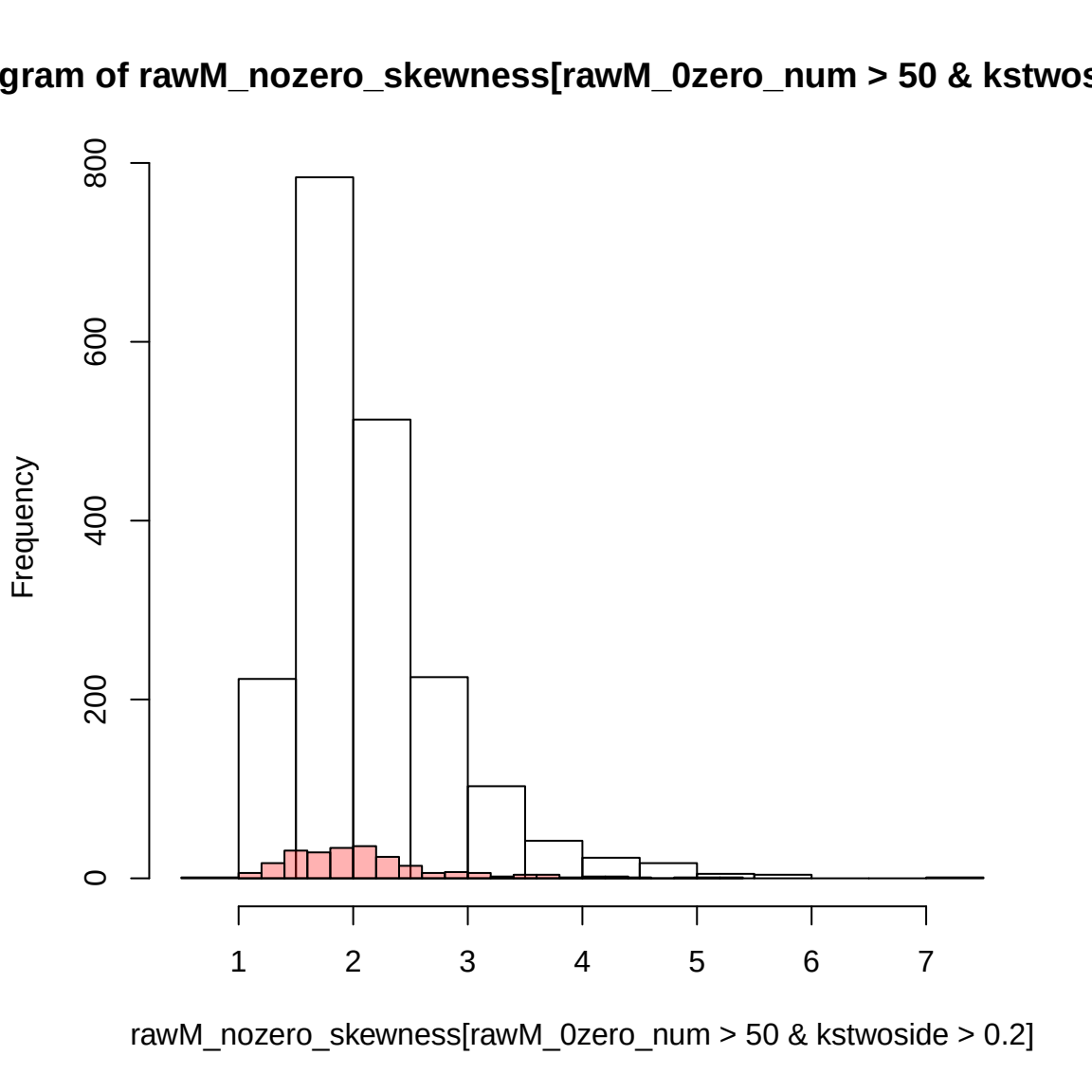

S nonsig: log expression of gene#11, pval ob=0.118, non−zero nu
Frequency
0
20
40
60
80
100
120
1
2
3
4
5
6
7
rawM[i, non_zero_flag]
ind#: 31, diag#: 2

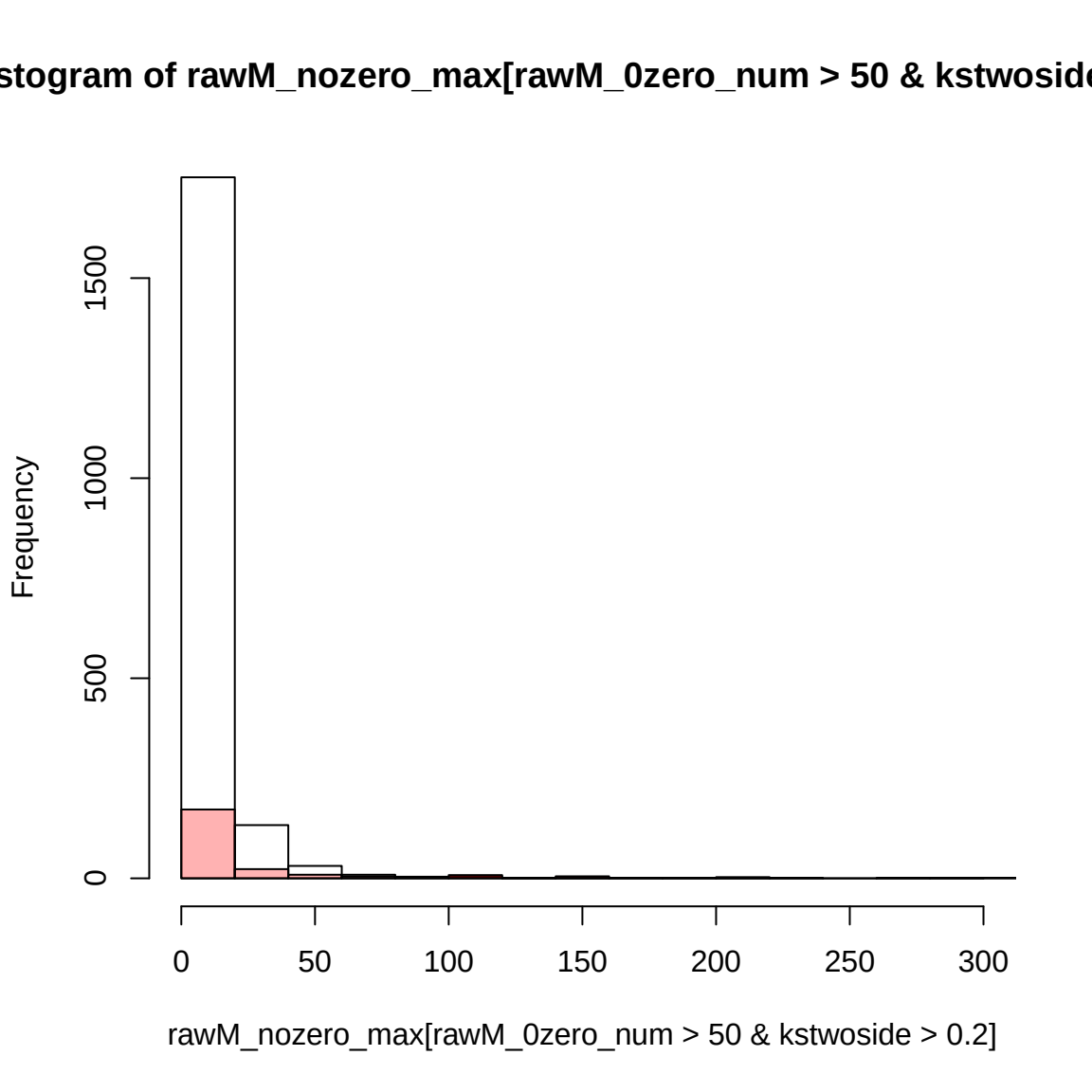

KSless nonsig: individual expression cell count of gene#11
Frequency
0
1
2
3
4
5
6
7
0
5
10
15
20
table(meta$individual[non_zero_flag])

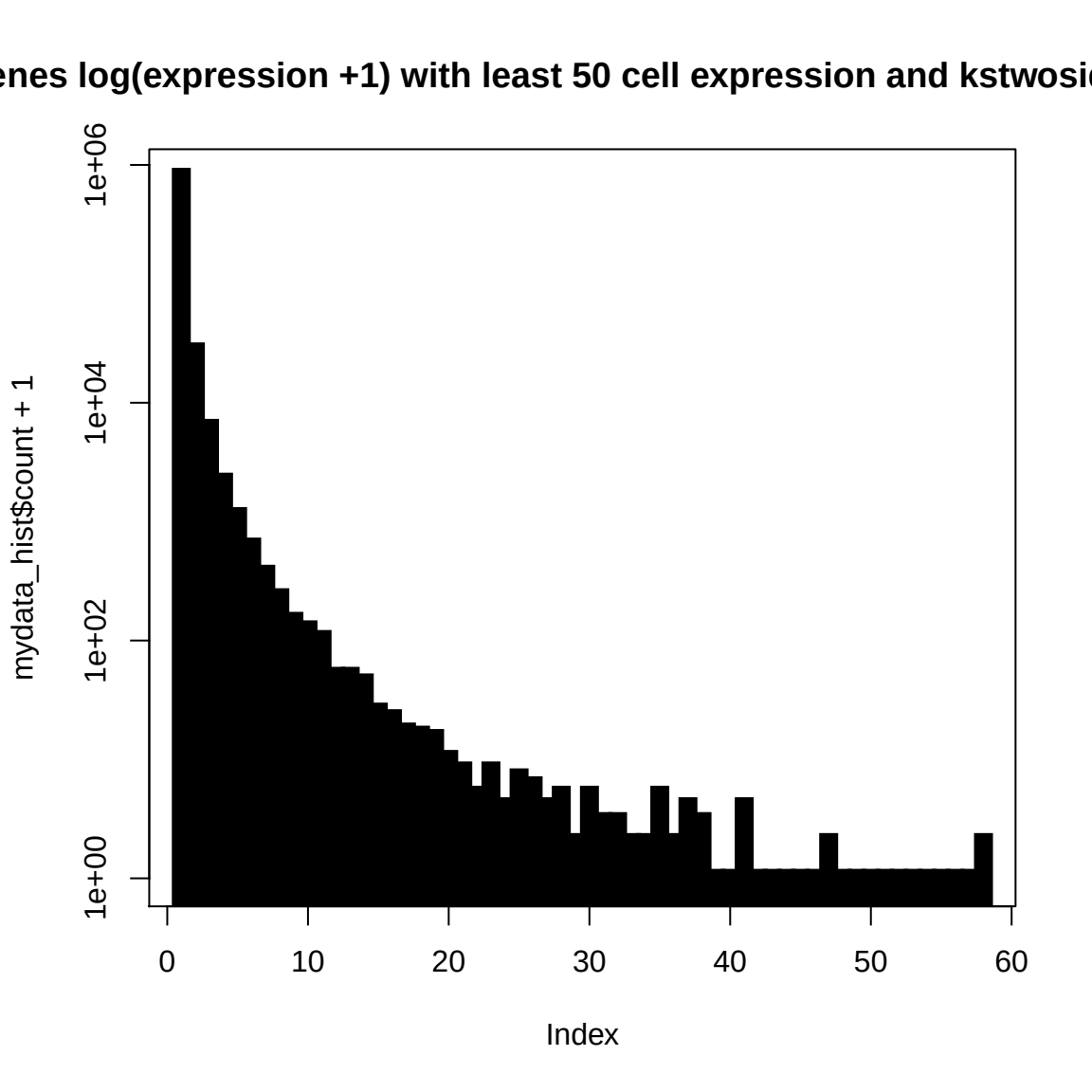

stogram of rawM_nozero_mean[rawM_0zero_num > 50 & kstwosid
Frequency
0
200
400
600
800
1000
1200
0
10
20
30
rawM_nozero_mean[rawM_0zero_num > 50 & kstwoside > 0.2]

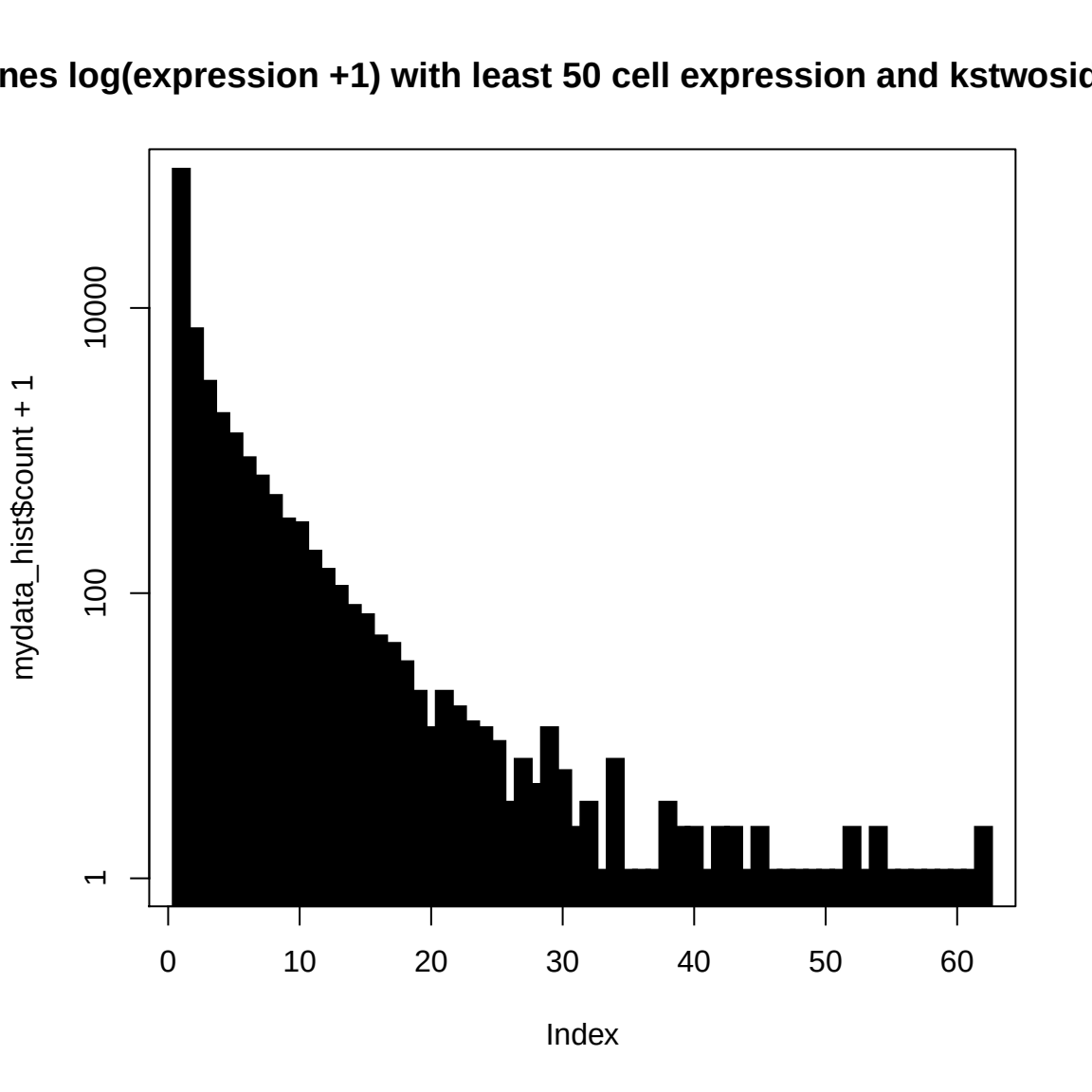

ogram of rawM_nozero_median[rawM_0zero_num > 50 & kstwosi
Frequency
0
500
1000
1500
0
5
10
15
20
25
30
rawM_nozero_median[rawM_0zero_num > 50 & kstwoside > 0.2]

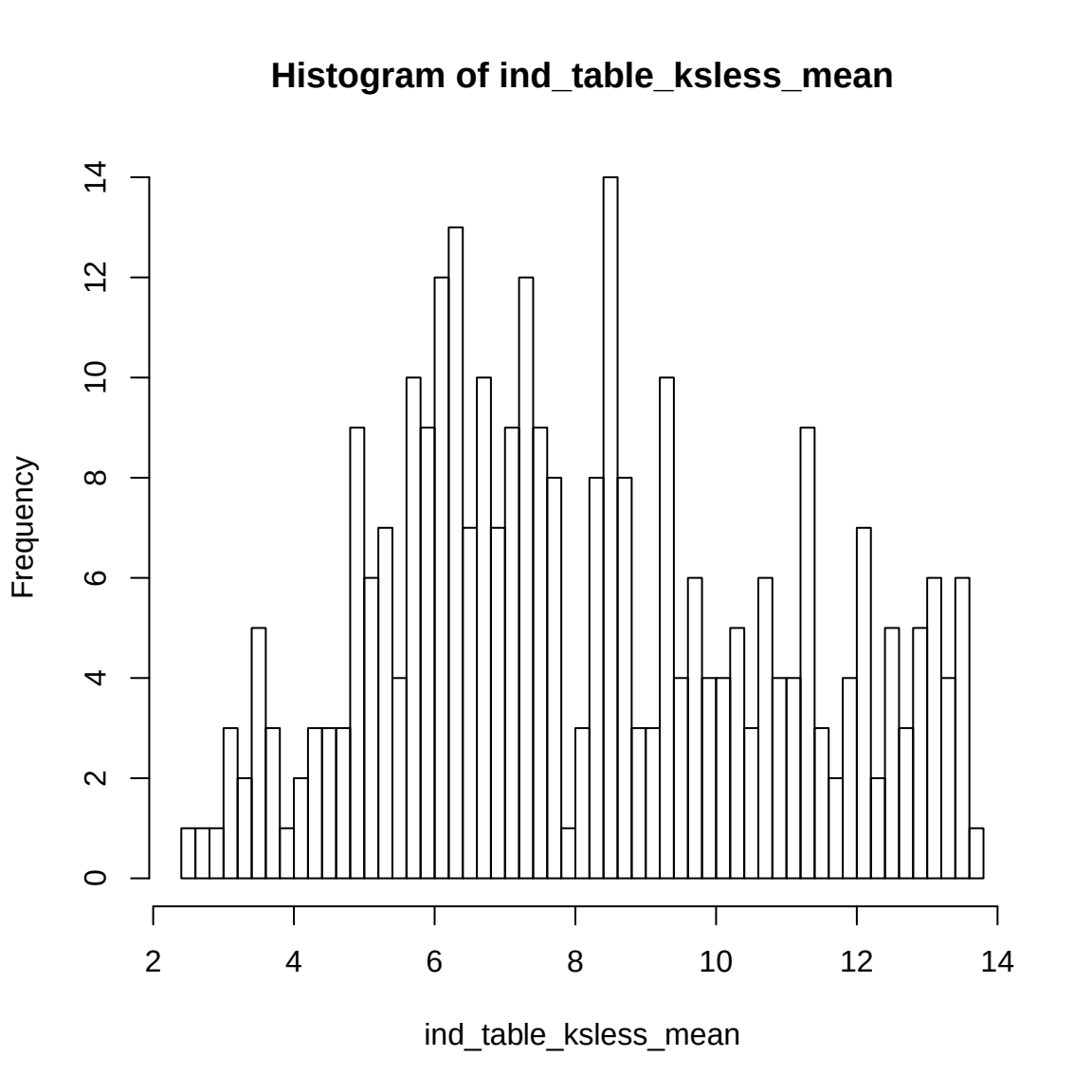

istogram of rawM_nozero_sd[rawM_0zero_num > 50 & kstwoside
Frequency
0
500
1000
1500
0
5
10
15
20
25
30
35
rawM_nozero_sd[rawM_0zero_num > 50 & kstwoside > 0.2]

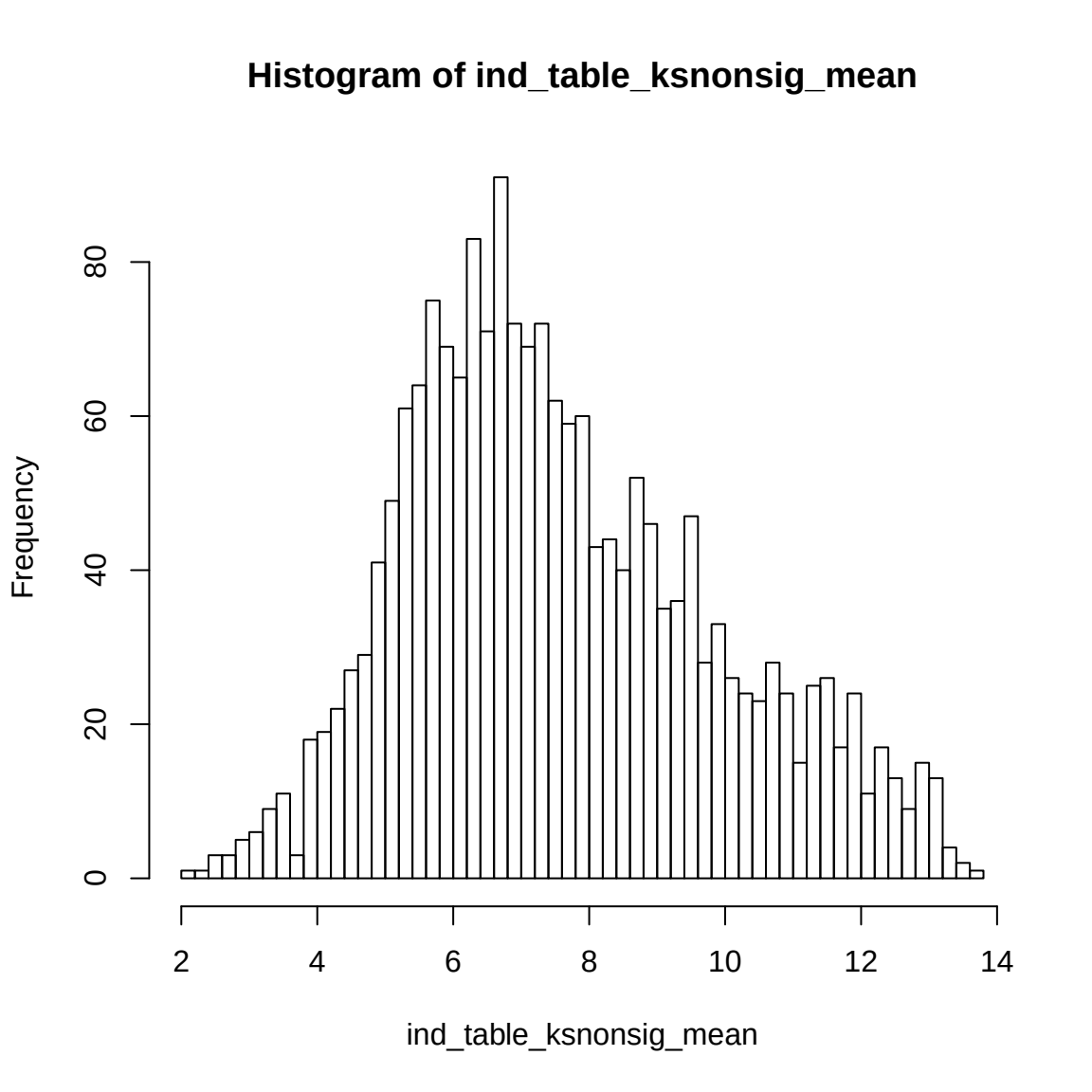

gram of rawM_nozero_skewness[rawM_0zero_num > 50 & kstwos
Frequency
0
200
400
600
800
1
2
3
4
5
6
7
rawM_nozero_skewness[rawM_0zero_num > 50 & kstwoside > 0.2]

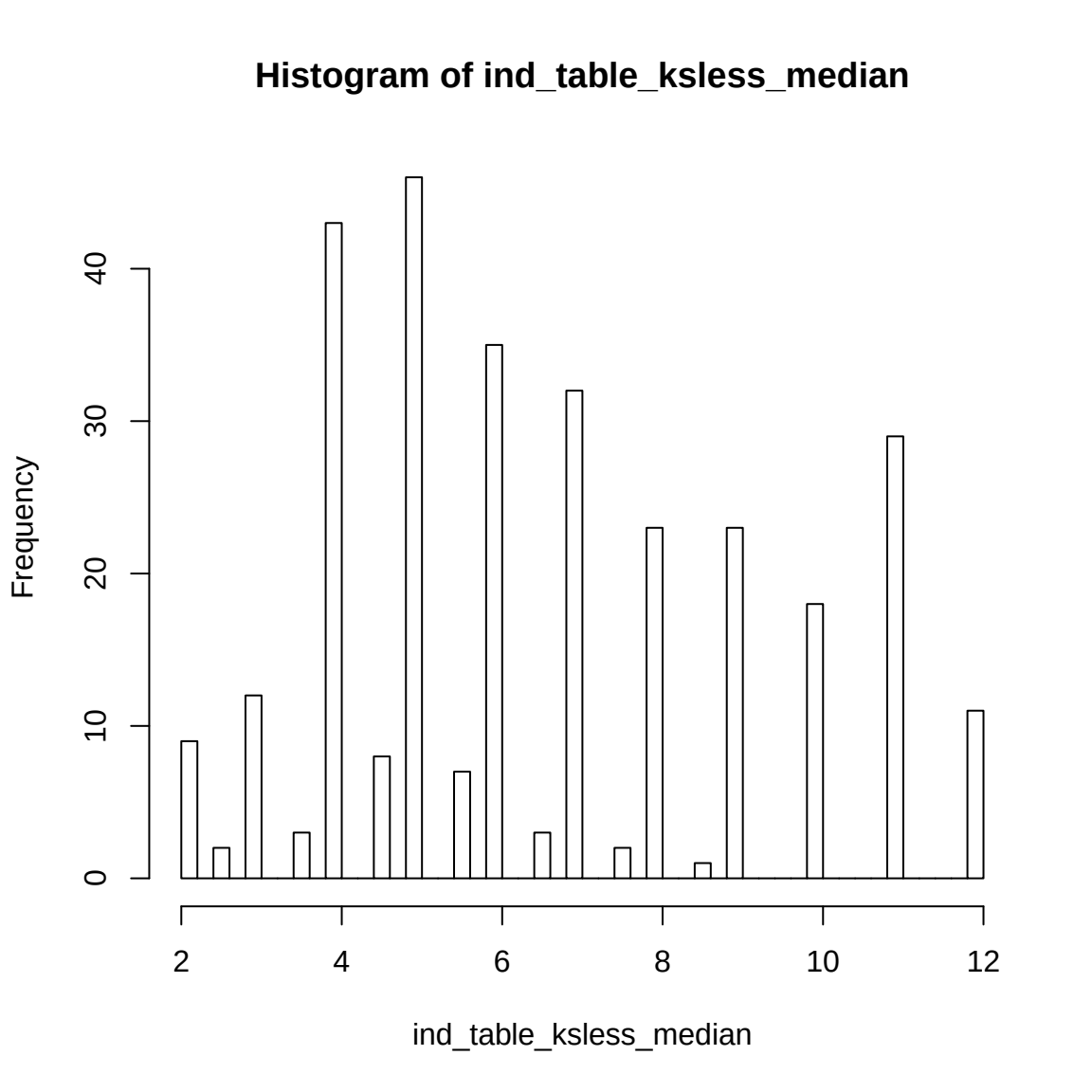

stogram of rawM_nozero_max[rawM_0zero_num > 50 & kstwoside
Frequency
0
500
1000
1500
0
50
100
150
200
250
300
rawM_nozero_max[rawM_0zero_num > 50 & kstwoside > 0.2]

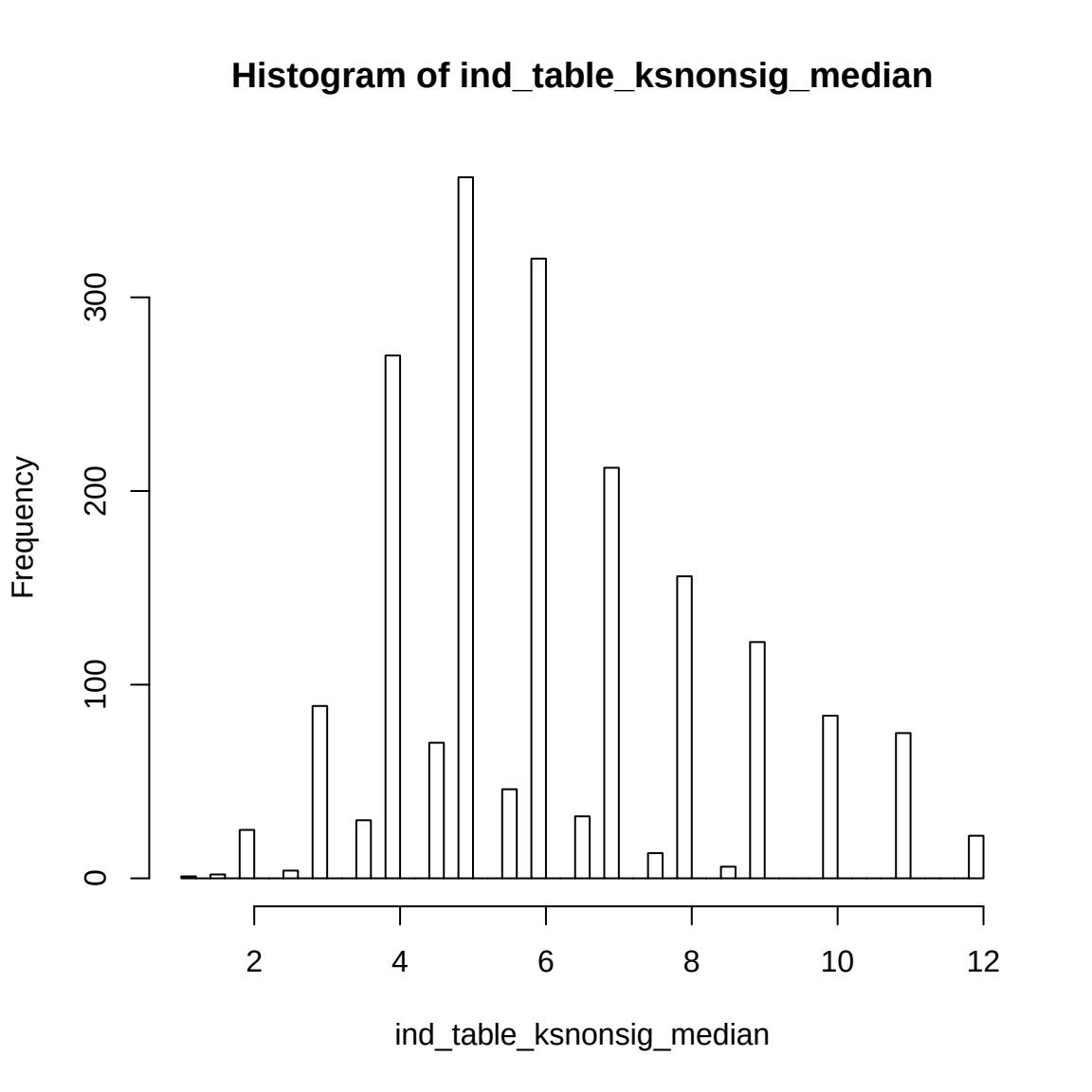

enes log(expression +1) with least 50 cell expression and kstwosi
mydata_hist$count + 1
1e+00
1e+02
1e+04
1e+06
0
10
20
30
40
50
60
Index

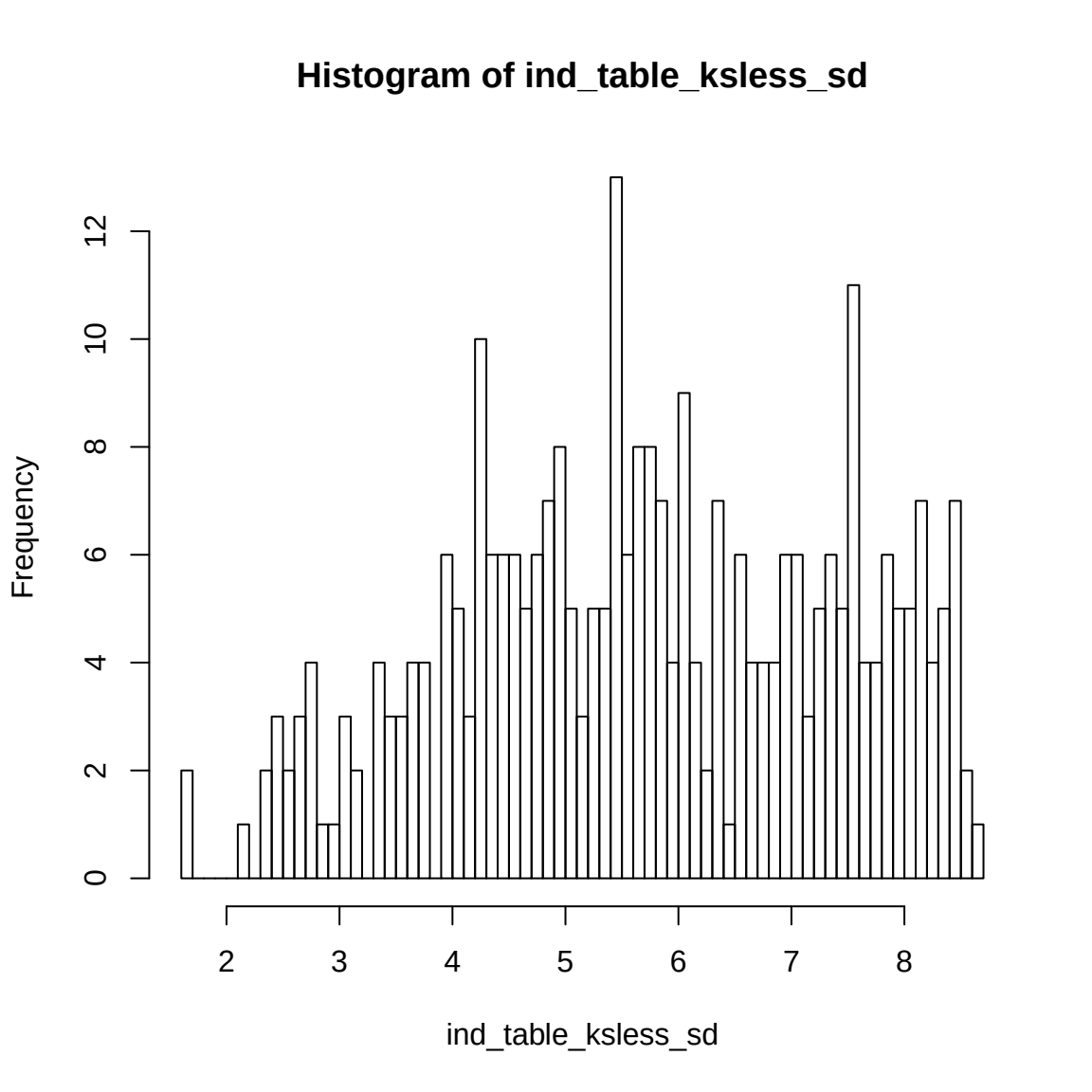

nes log(expression +1) with least 50 cell expression and kstwosic
mydata_hist$count + 1
1
100
10000
0
10
20
30
40
50
60
Index

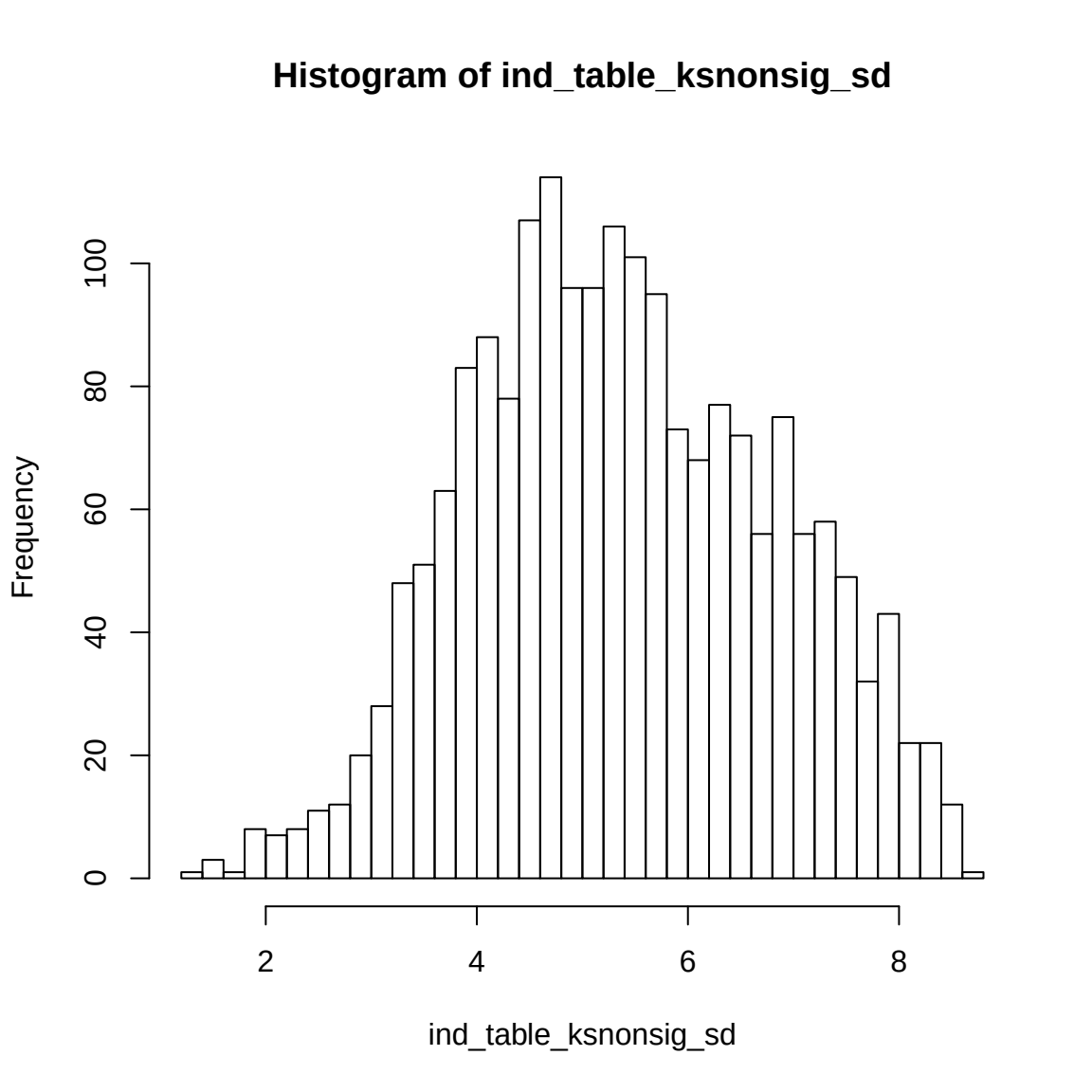

Histogram of ind_table_ksless_mean
Frequency
0
2
4
6
8
10
12
14
2
4
6
8
10
12
14
ind_table_ksless_mean

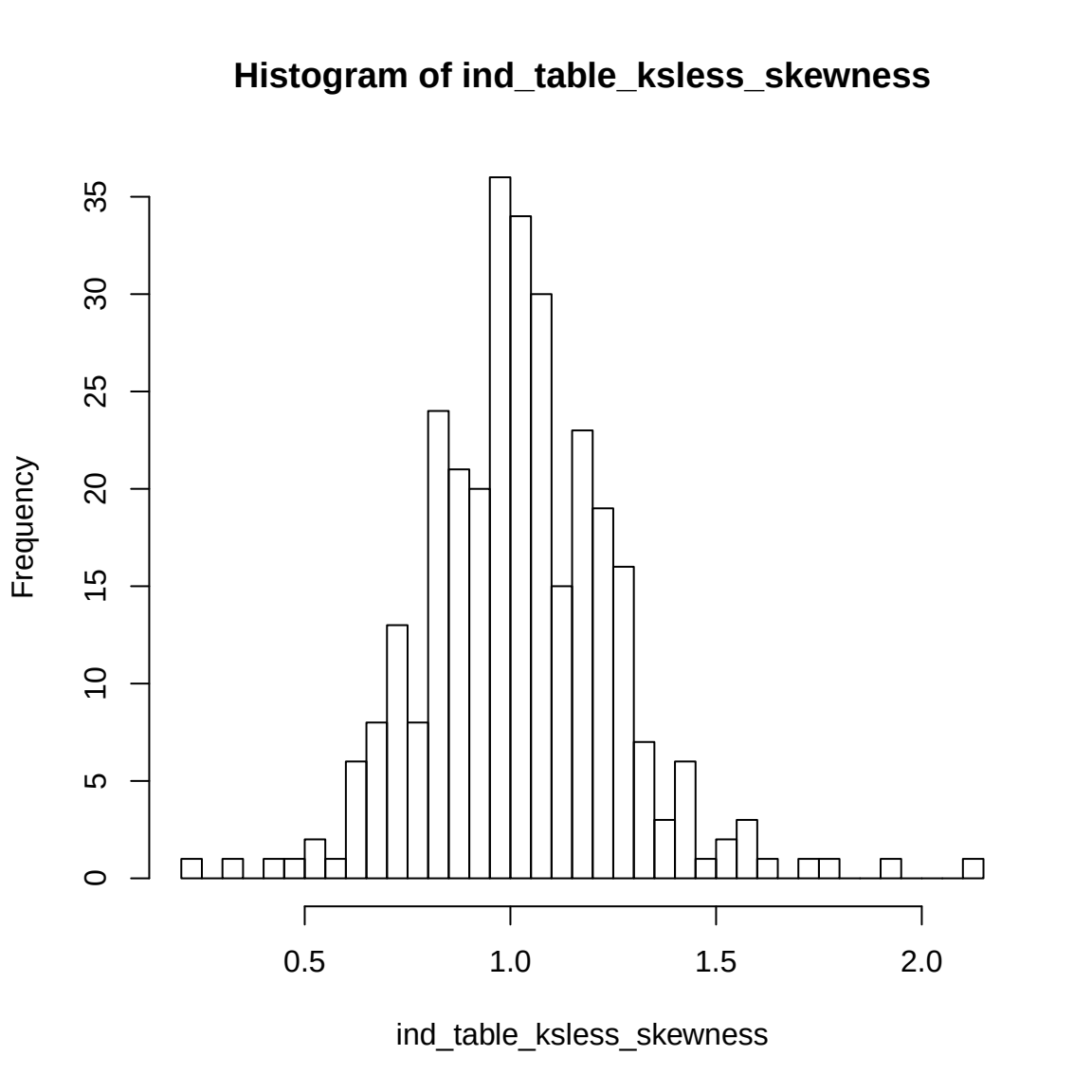

Histogram of ind_table_ksnonsig_mean
Frequency
0
20
40
60
80
2
4
6
8
10
12
14
ind_table_ksnonsig_mean

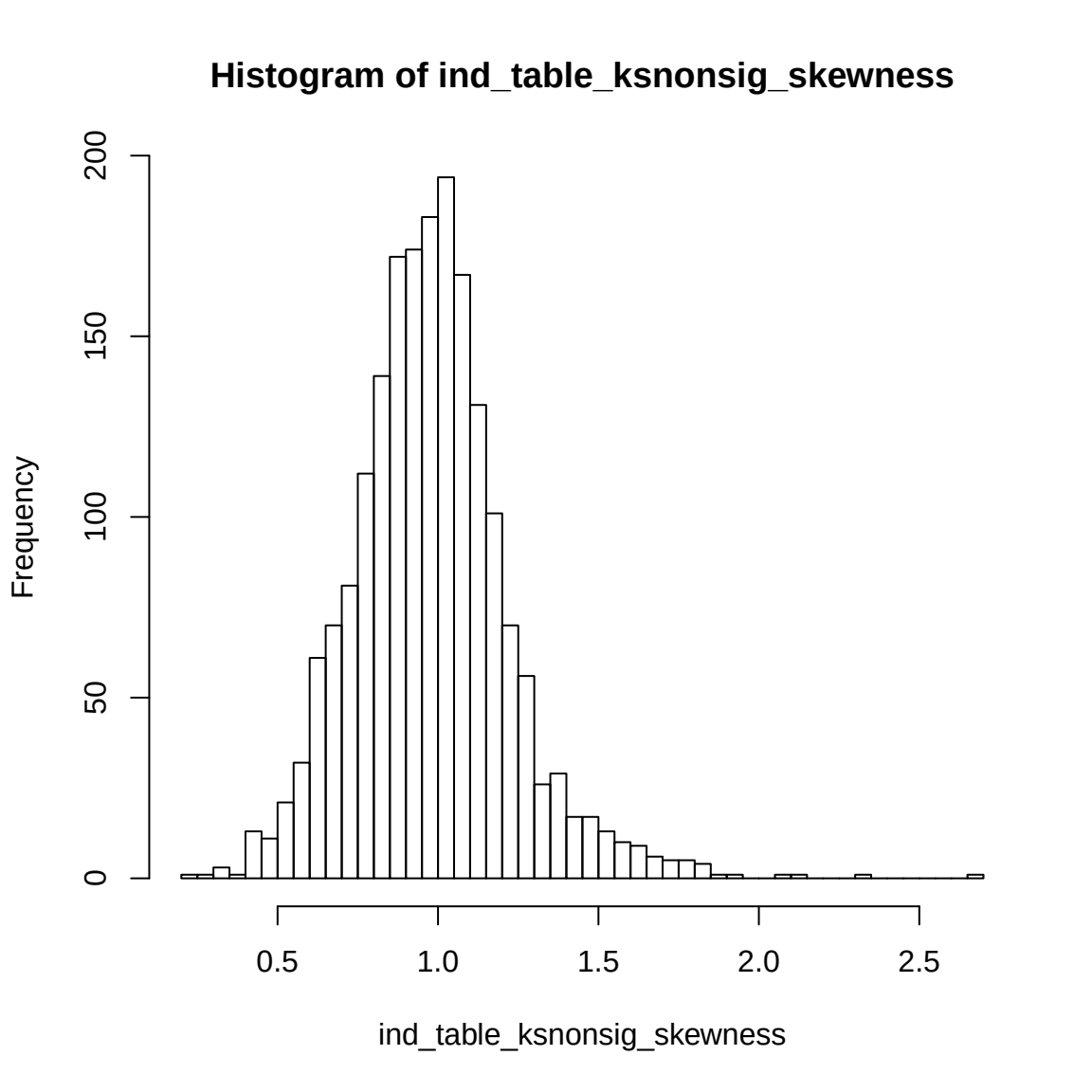

Histogram of ind_table_ksless_median
Frequency
0
10
20
30
40
2
4
6
8
10
12
ind_table_ksless_median

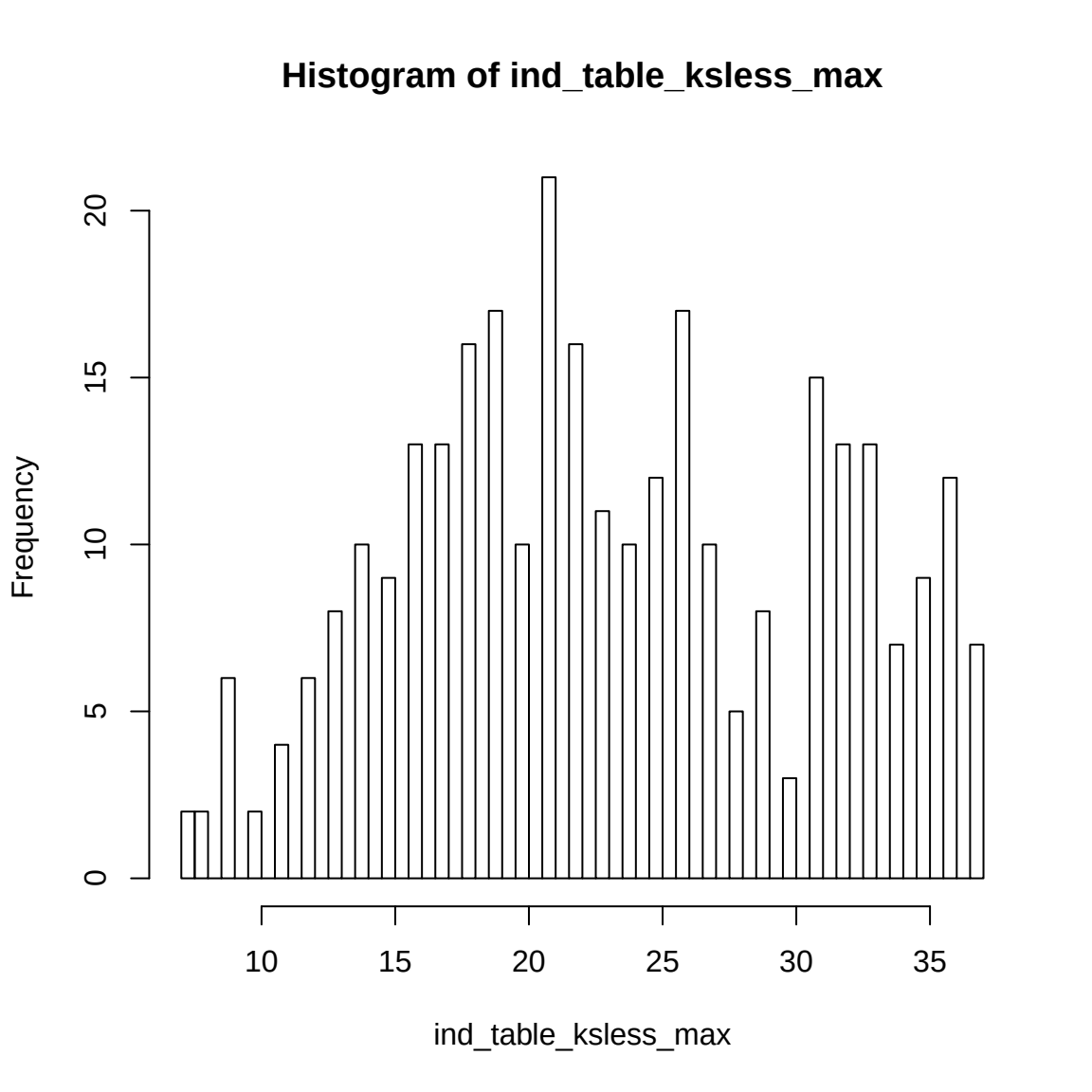

Histogram of ind_table_ksnonsig_median
Frequency
0
100
200
300
2
4
6
8
10
12
ind_table_ksnonsig_median

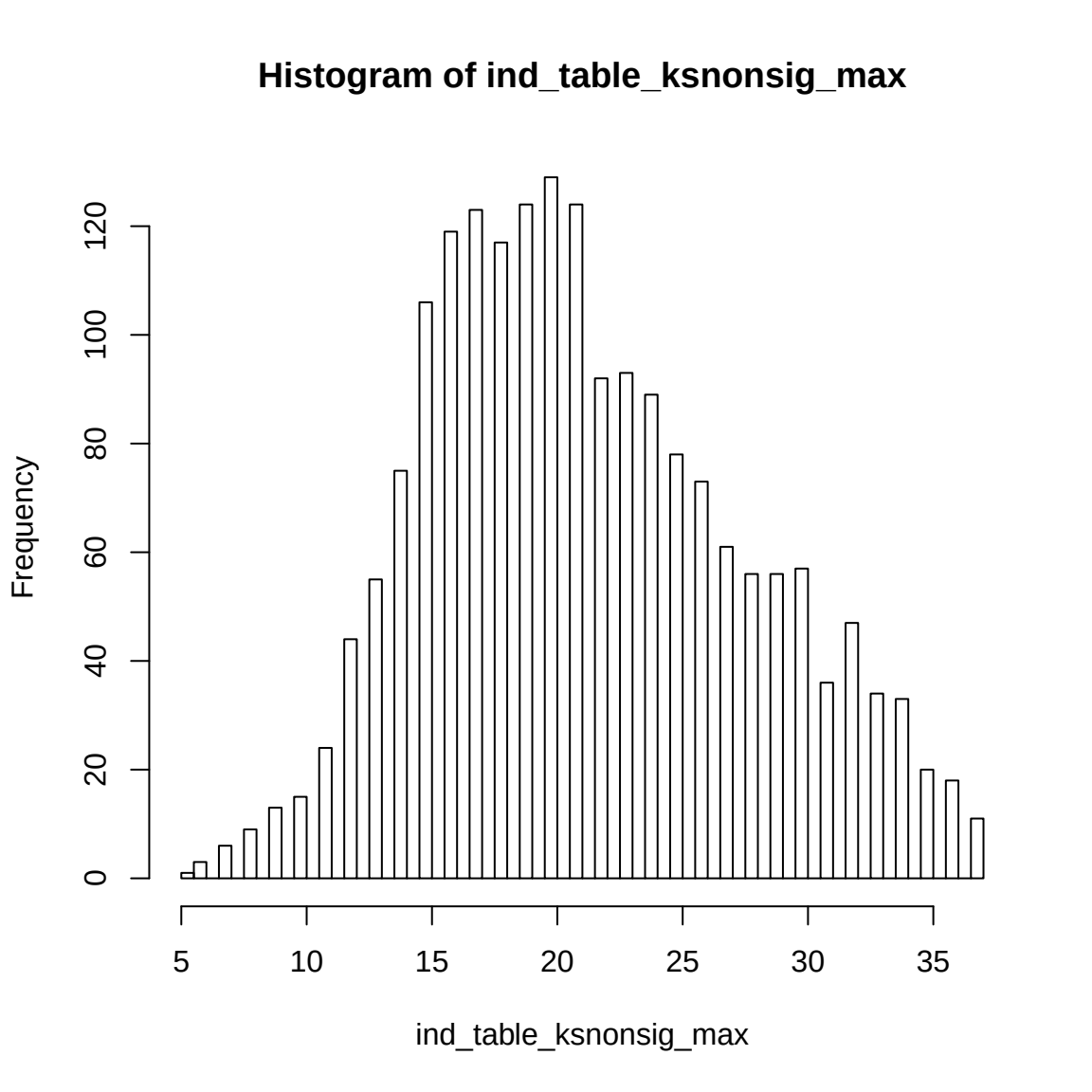

Histogram of ind_table_ksless_sd
Frequency
0
2
4
6
8
10
12
2
3
4
5
6
7
8
ind_table_ksless_sd


Histogram of ind_table_ksnonsig_sd
Frequency
0
20
40
60
80
100
2
4
6
8
ind_table_ksnonsig_sd


Histogram of ind_table_ksless_skewness
Frequency
0
5
10
15
20
25
30
35
0.5
1.0
1.5
2.0
ind_table_ksless_skewness


Histogram of ind_table_ksnonsig_skewness
Frequency
0
50
100
150
200
0.5
1.0
1.5
2.0
2.5
ind_table_ksnonsig_skewness


Histogram of ind_table_ksless_max
Frequency
0
5
10
15
20
10
15
20
25
30
35
ind_table_ksless_max


Histogram of ind_table_ksnonsig_max
Frequency
0
20
40
60
80
100
120
5
10
15
20
25
30
35
ind_table_ksnonsig_max