Today is November 26, 2012.

```
> library("vcf2R")
> library("GenomicRanges")

> file = "/home/sgy/jhsph/targeted-sequencing/repo/vcf2R/inst/extdata/snvs.fixed_header.hwe"
> hwe.df <- hwe2R(file = file)
> head(hwe.df)

  chr      pos    chi.sq  p.value homo.major het homo.minor
1   1 18772169  0.000056 1.000000       4494   1          0
2   1 18772190  0.000223 1.000000       4493   2          0
3   1 18772191 15.727310 0.053862       4464  30          1
4   1 18772203  0.000223 1.000000       4493   2          0
5   1 18772218  0.000223 1.000000       4493   2          0
6   1 18772236  0.016134 1.000000       4478  17          0


> file = "/home/sgy/jhsph/targeted-sequencing/repo/vcf2R/inst/extdata/snvs.fixed_header.frq"
> pos.df <- frq2pos(file)
> with(pos.df, table(chr))

chr
    1    10    14    17    20     4     8     9
44713 29857  1559 29486 18740  2444 27639 20751

> pos.gr <- with(pos.df, GRanges(seqnames = paste("chr",
+     chr, sep = ""), ranges = IRanges(start = pos, end = pos),
+     strand = "+"))
> start(pos.gr) <- start(pos.gr) - 1e+05
> end(pos.gr) <- end(pos.gr) + 1e+05
> reduce(pos.gr)

GRanges with 13 ranges and 0 metadata columns:
       seqnames                 ranges strand
          <Rle>              <IRanges>  <Rle>
   [1]      chr1 [ 18671811,  19308536]      +
   [2]      chr1 [ 94224232,  95113570]      +
   [3]      chr1 [209736758, 210568863]      +
   [4]     chr10 [118321219, 119267920]      +
   [5]     chr10 [122995899, 123599252]      +
   [6]     chr14 [ 54282326,  54545461]      +
   [7]     chr17 [  8654615,   9366552]      +
   [8]     chr17 [ 54302391,  55057844]      +
   [9]     chr20 [ 38802239,  39714945]      +
  [10]      chr4 [  4724627,   5001842]      +
  [11]      chr8 [129195457, 130455340]      +
  [12]      chr9 [ 98033217,  98513595]      +
  [13]      chr9 [100257256, 100977263]      +
  ---
  seqlengths:
    chr1 chr10 chr14 chr17 chr20  chr4  chr8  chr9
      NA    NA    NA    NA    NA    NA    NA    NA
```

```
> with(hwe.df, hist(p.value, breaks = 100))
```
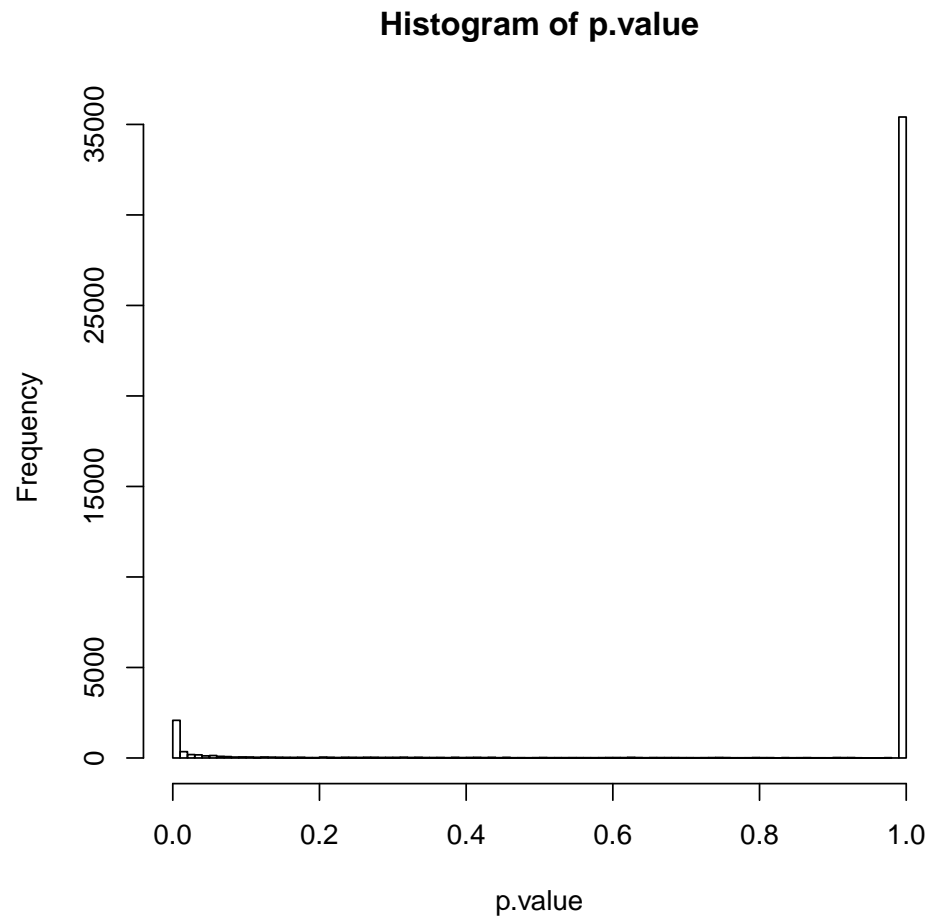
Histogram of p.value

Figure 1: Histogram of Hardy-Weinberg p-values