Package ‘allelic’

February 19, 2015

Version 0.1
Date 2006-05-19
Title A fast, unbiased and exact allelic exact test
Author Karl Forner <Karl.Forner@gmail.com>
Maintainer Mickael Guedj <guedj@genopole.cnrs.fr>
Description This is the implementation in R+C of a new association test described in "A fast, unbiased and exact allelic exact test for case-control association studies" (Submitted). It appears that in most cases the classical chi-square test used for testing for allelic association on genotype data is biased. Our test is unbiased, exact but fast through careful optimization.
License GPL (>= 2)
Repository CRAN
Date/Publication 2006-05-24 08:12:01
NeedsCompilation yes

R topics documented:

  allelic.exact.test ................................................................. 1

Index

  allelic.exact.test        Fast Unbiased Exact Allelic Test

Description

This is the implementation in R+C of a new association test described in "A fast, unbiased and exact allelic exact test for case-control association studies" (Submitted). It appears that in most cases the classical chi-square test used for testing for allelic association on genotype data is biased. Our test is unbiased, exact but fast through careful optimization.
Usage

```r
allelic.exact.test(d0, d1, d2, h0, h1, h2)
```n
Arguments

Takes the 2x3 contingency table on which to compute the test

<table>
<thead>
<tr>
<th></th>
<th>aa</th>
<th>aA</th>
<th>AA</th>
</tr>
</thead>
<tbody>
<tr>
<td>[case (diseased)]</td>
<td>d0</td>
<td>d1</td>
<td>d2</td>
</tr>
<tr>
<td>[control (healthy)]</td>
<td>h0</td>
<td>h1</td>
<td>h2</td>
</tr>
</tbody>
</table>

- `d0`: nb of first homozygous among cases
- `d1`: nb of heterozygous among cases
- `d2`: nb of second homozygous among cases
- `h0`: nb of first homozygous among controls
- `h1`: nb of heterozygous among controls
- `h2`: nb of second homozygous among controls

Value

return the p-value of the test, or -1 if the sum of all cells in table is greater than `TABLE\_OF\_LOG\_FACTORIALS\_SIZE`, a C symbol defined in `src/newallelic.c`

See Also

`chisq.test`, `fisher.test`

Examples

```r
allelic.exact.test(160, 80, 60, 160, 160, 30)
```
Index

*Topic univar
  allelic.exact.test, 1

allelic.exact.test, 1

chisq.test, 2

fisher.test, 2