

# Package ‘cgdv17’

April 13, 2017

**Title** Complete Genomics Diversity Panel, chr17 on 46 individuals  
**Version** 0.12.0  
**Author** VJ Carey <stvjc@channing.harvard.edu>  
**Maintainer** VJ Carey <stvjc@channing.harvard.edu>  
**Description** Complete Genomics Diversity Panel, chr17 on 46 individuals  
**Depends** R (>= 2.15), methods, VariantAnnotation (>= 1.15.15)  
**Imports** BiocGenerics, S4Vectors, IRanges, GenomicRanges, Biobase  
**Suggests** parallel, GGtools, TxDb.Hsapiens.UCSC.hg19.knownGene,  
org.Hs.eg.db, illuminaHumanv1.db  
**License** Artistic-2.0  
**LazyLoad** yes  
**biocViews** SequencingData, SNPData, BiocViews  
**NeedsCompilation** no

## R topics documented:

cgdv17-package . . . . .	1
countVariants . . . . .	2
getRVS . . . . .	3
padToReference . . . . .	3
raggedVariantSet-class . . . . .	4
variantGRanges . . . . .	5
<b>Index</b>	<b>6</b>

---

cgdv17-package	<i>Complete Genomics Diversity Panel, chr17 on 46 individuals</i>
----------------	---

---

## Description

Complete Genomics Diversity Panel, chr17 on 46 individuals, illustrating subject-specific variant sets

## Details

```

Package:    cgdv17
Version:    0.0.9
Suggests:
Imports:    Biobase, IRanges
Depends:    R (>= 2.14), VariantAnnotation, org.Hs.eg.db, methods
License:    Artistic 2.0
LazyLoad:  yes
biocViews: genetics
Built:      R 2.15.0; ; 2012-03-09 12:45:57 UTC; unix

```

#### Index:

countVariants	count variants in a raggedVariantSet instance
getRVS	acquire data for and construct a ragged variant set instance
padToReference	create a snpStats SnpMatrix instance by padding a ragged variant set to reference alleles wherever a variant is not recorded
raggedVariantSet-class	Class "raggedVariantSet"
variantGRanges	acquire a list of GRanges recording variants and locations

see vignette; CY17 is an ExpressionSet on individuals from CEU and YRI overlapping with the diversity set, popvec enumerates source populations, h1 is an exemplar VCF header structure

#### Author(s)

VJ Carey <stvjc@channing.harvard.edu>  
 Maintainer: VJ Carey <stvjc@channing.harvard.edu>

---

countVariants	<i>count variants in a raggedVariantSet instance</i>
---------------	--

---

#### Description

count variants in a raggedVariantSet instance

#### Usage

```
countVariants(rvs, delim, qthresh = 160, applier = lapply)
```

#### Arguments

rvs	instance of <a href="#">raggedVariantSet</a>
delim	GRanges instance
qthresh	quality threshold for keeping a variant in count
applier	lapply-like function

**Author(s)**

VJ Carey <stvjc@channing.harvard.edu>

---

getRVS	<i>acquire data for and construct a ragged variant set instance</i>
--------	---

---

**Description**

acquire data for and construct a ragged variant set instance

**Usage**

```
getRVS(packname, fns2samplenames = function(x)
  gsub(".*(NA.....).*", "\\1", x))

getrd(x, id)
```

**Arguments**

packname	string naming package where the resources are found
fns2samplenames	function to transform filenames to sample name tokens
x	instance of raggedVariantSet
id	character to select sample

**Details**

currently very specialized, as the protocol for managing collections of VCF files with discrepant variant sets per subject is not clear

assumes the package has inst/rowranges where row ranges of [readVcf](#) results are held

**Author(s)**

VJ Carey <stvjc@channing.harvard.edu>

---

padToReference	<i>create a snpStats SnpMatrix instance by padding a ragged variant set to reference alleles wherever a variant is not recorded</i>
----------------	---

---

**Description**

create a snpStats SnpMatrix instance by padding a ragged variant set to reference alleles wherever a variant is not recorded

**Usage**

```
padToReference(rv, gr, qthresh = 160, applier = lapply)
```

**Arguments**

rv	raggedVariantSet instance
gr	GRanges instance
qthresh	quality lower bound for retention of variant
applier	lapply like function

**Author(s)**

VJ Carey <stvjc@channing.harvard.edu>

---

raggedVariantSet-class

*Class "raggedVariantSet"*

---

**Description**

manage information on non-aligned variant sets from multiple VCFs

**Objects from the Class**

Objects can be created by calls of the form `new("raggedVariantSet", ...)`.

**Slots**

**filenames:** files will be held in `inst/rowranges`, named here

**sampleNames:** names of samples managed

**Methods**

[ signature(x = "raggedVariantSet", i = "ANY", j = "ANY", drop = "ANY"): familiar  
subsetting syntax

**sampleNames** signature(object = "raggedVariantSet"): getter

**show** signature(object = "raggedVariantSet"): concise report

**variantGRanges** signature(rvs = "raggedVariantSet", delim = "GRanges", qthresh = "missing", applier  
getter

**variantGRanges** signature(rvs = "raggedVariantSet", delim = "GRanges", qthresh = "numeric", applier  
getter with quality threshold

**Author(s)**

VJ Carey <stvjc@channing.harvard.edu>

**Examples**

```
showClass("raggedVariantSet")
```

---

variantGRanges	<i>acquire a list of GRanges recording variants and locations</i>
----------------	---

---

**Description**

acquire a list of GRanges recording variants and locations

**Usage**

```
variantGRanges(rvs, delim, qthresh = 160, applier = lapply)
```

```
variantNames(rvs, delim, qthresh=160, applier=lapply)
```

**Arguments**

rvs	<a href="#">raggedVariantSet</a> instance
delim	GRanges instance for confinement
qthresh	lower bound on quality
applier	lapply like function

**Author(s)**

VJ Carey <stvjc@channing.harvard.edu>

# Index

## \*Topic **classes**

raggedVariantSet-class, 4

## \*Topic **models**

countVariants, 2

getRVS, 3

padToReference, 3

variantGRanges, 5

## \*Topic **package**

cgdv17-package, 1

[, raggedVariantSet, ANY, ANY, ANY-method  
(raggedVariantSet-class), 4

[, raggedVariantSet, ANY, ANY-method  
(raggedVariantSet-class), 4

cgdv17 (cgdv17-package), 1

cgdv17-package, 1

countVariants, 2

CY17 (cgdv17-package), 1

getrd (getRVS), 3

getRVS, 3

h1 (cgdv17-package), 1

padToReference, 3

popvec (cgdv17-package), 1

raggedVariantSet, 2, 4, 5

raggedVariantSet-class, 4

readVcf, 3

sampleNames, raggedVariantSet-method

(raggedVariantSet-class), 4

show, raggedVariantSet-method

(raggedVariantSet-class), 4

variantGRanges, 5

variantGRanges, raggedVariantSet, GRanges, missing, missing-method  
(raggedVariantSet-class), 4

variantGRanges, raggedVariantSet, GRanges, numeric, function-method  
(raggedVariantSet-class), 4

variantNames (variantGRanges), 5