

```
> grl = exonsBy(TxDb.Hsapiens.UCSC.hg19.knownGene, "tx", use.names=TRUE); grl
```

GRangesList of length 82960:

\$uc001aaa.3

GRanges with 3 ranges and 3 metadata columns:

	seqnames	ranges	strand	exon_id	exon_name	exon_rank
	<Rle>	<IRanges>	<Rle>	<integer>	<character>	<integer>
[1]	chr1	[11874, 12227]	+	1	<NA>	1
[2]	chr1	[12613, 12721]	+	3	<NA>	2
[3]	chr1	[13221, 14409]	+	5	<NA>	3

GRangesList  
(list of GRanges)  
length(grl)  
grl[1:3]  
shift(grl, 1)  
range(grl)

\$uc010nxq.1

GRanges with 3 ranges and 3 metadata columns:

	seqnames	ranges	strand	exon_id	exon_name	exon_rank
[1]	chr1	[11874, 12227]	+	1	<NA>	1
[2]	chr1	[12595, 12721]	+	2	<NA>	2
[3]	chr1	[13403, 14409]	+	6	<NA>	3

GRanges  
grl[[2]]  
grl[["uc010nxq.1"]]

\$uc010nxr.1

GRanges with 3 ranges and 3 metadata columns:

	seqnames	ranges	strand	exon_id	exon_name	exon_rank
[1]	chr1	[11874, 12227]	+	1	<NA>	1
[2]	chr1	[12646, 12697]	+	4	<NA>	2
[3]	chr1	[13221, 14409]	+	5	<NA>	3

...  
<82957 more elements>

---  
seqinfo: 93 sequences (1 circular) from hg19 genome

Two kinds of fun!  
introns =  
  psetdiff(range(grl), grl)  
  
grr = unlist(grl)  
## transform grr, then...  
grl = relist(grr, grl)

‘flesh’      ‘skeleton’