PPARG bound promoters

2023-11-16

```
library(ggplot2)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(tidyr)
library(here); i_am("R/Figure3/Fig3E_PPARG_bound_promoters.Rmd")
```

```
## here() starts at /projects/imb-pkbphil/sp/rnaseq/six_donor_trans/splicing_paper

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```

```
figs = here("R/plots")
LEAF =  here("31_leafcutter/promoter_binding/intersects")
```

```
pparg_perc = read.delim(here(LEAF, "summary.txt"), header=F, sep=" ", col.names= c("bound_TSSs","interse
                        )
pparg_perc = mutate(pparg_perc, tss_set=gsub("--.*", "", intersect), pparg_set = gsub(".*--","", gsub("
#head(pparg_perc)
total_tsss = read.delim(here(LEAF, "../line_summary.txt"), header=F, sep=" ", col.names= c("total_TSSs"
total_tsss$tss_set = gsub(".bed","",total_tsss$bed_file)
head(total_tsss)
```

```
##   total_TSSs                             bed_file
## 1        170     lc_3db_beige_promoters.uniq.bed
## 2        174     lc_3db_white_promoters.uniq.bed
## 3         63 white_and_beige_promoters.merged.bed
## 4      12275  lc_3db_not_sig_promoters.merged.bed
## 5      12682                                total
##                            tss_set
## 1      lc_3db_beige_promoters.uniq
## 2      lc_3db_white_promoters.uniq
## 3 white_and_beige_promoters.merged
## 4  lc_3db_not_sig_promoters.merged
## 5                            total
```
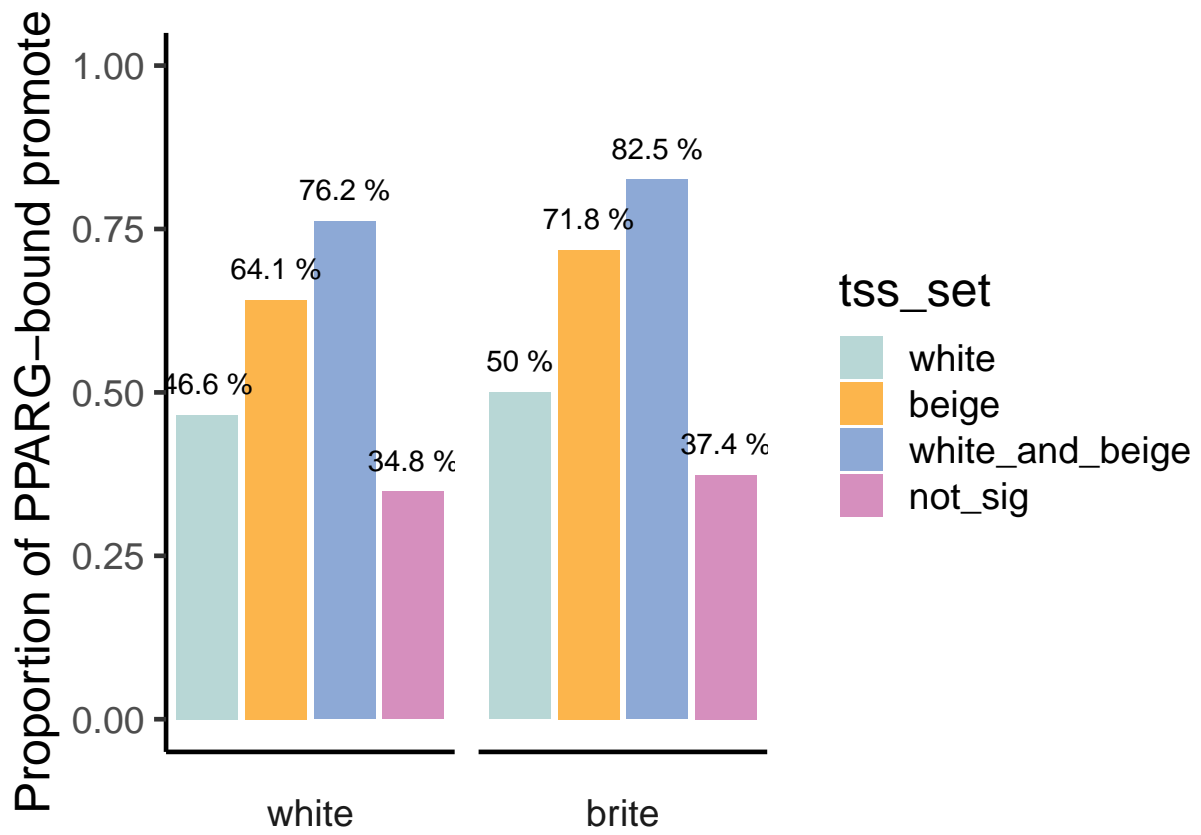
```r
pparg_perc = merge(pparg_perc, total_tsss, by="tss_set")
pparg_perc = mutate(pparg_perc, fraction=bound_TSSs/total_TSSs,
                    tss_set = gsub("lc_3db_", "",gsub( "_promoters\\.(uniq|merged)", "",tss_set)),
                    pparg_set = gsub("PPARgamma_hMADS_", "", pparg_set))
head(pparg_perc)
```

```
##    tss_set bound_TSSs                                           intersect
## 1    beige        122     lc_3db_beige_promoters.uniq--PPARgamma_hMADS_brite.bed
## 2    beige        109     lc_3db_beige_promoters.uniq--PPARgamma_hMADS_white.bed
## 3  not_sig       4586 lc_3db_not_sig_promoters.merged--PPARgamma_hMADS_brite.bed
## 4  not_sig       4275 lc_3db_not_sig_promoters.merged--PPARgamma_hMADS_white.bed
## 5    white         87     lc_3db_white_promoters.uniq--PPARgamma_hMADS_brite.bed
## 6    white         81     lc_3db_white_promoters.uniq--PPARgamma_hMADS_white.bed
##    pparg_set total_TSSs                           bed_file   fraction
## 1      brite        170     lc_3db_beige_promoters.uniq.bed 0.7176471
## 2      white        170     lc_3db_beige_promoters.uniq.bed 0.6411765
## 3      brite      12275 lc_3db_not_sig_promoters.merged.bed 0.3736049
## 4      white      12275 lc_3db_not_sig_promoters.merged.bed 0.3482688
## 5      brite        174     lc_3db_white_promoters.uniq.bed 0.5000000
## 6      white        174     lc_3db_white_promoters.uniq.bed 0.4655172
```

```r
pparg_perc$tss_set = factor(pparg_perc$tss_set, levels=c("white","beige","white_and_beige","not_sig"))
pparg_perc$pparg_set = factor(pparg_perc$pparg_set, levels=c("white","brite"))
ggplot(filter(pparg_perc,pparg_set!="total"), aes(x=tss_set, y=fraction, fill=tss_set)) + geom_bar(stat=
  coord_cartesian(ylim=c(0,1)) + theme_classic(base_size=18) +
  geom_text(aes(label=paste(round(fraction*100, 1), "%")),
            vjust=-1) + scale_fill_manual(values=c("#B8D7D6","#FCB54C","#8DA9D6","#D68FBE")) +
  labs(y="Proportion of PPARG-bound promoters") + facet_wrap(~pparg_set, switch ="x") +
    theme(axis.text.x = element_blank(), axis.ticks.x = element_blank(), strip.placement="outside",stri
          axis.title.x = element_blank())
```

```
## Warning: The 'switch' argument of 'facet_wrap()' is deprecated as of ggplot2 2.2.0.
## i Please use the 'strip.position' argument instead.
## This warning is displayed once every 8 hours.
## Call 'lifecycle::last_lifecycle_warnings()' to see where this warning was
## generated.
```

```
ggsave(file.path(figs,"PPARG_promoter_fraction.pdf"), width = 10, height=5)
```