Figure-4A.R

sokole

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```r
# This Script Generates Figure 4A
# Script By: Eishani Kumar Sokolowski

# Empty the environment & suppress warnings
rm(list = ls())
options(warn=-1)

#Loading Libraries
library(tidyverse)
```

```
## — Attaching core tidyverse packages ———————————————— tidyverse 2.0.0 —
## ✔ dplyr     1.1.4     ✔ readr     2.1.5
## ✔ forcats   1.0.0     ✔ stringr   1.5.1
## ✔ ggplot2   3.5.1     ✔ tibble    3.2.1
## ✔ lubridate 1.9.3     ✔ tidyr     1.3.1
## ✔ purrr     1.0.2
## — Conflicts ———————————————————————————— tidyverse_conflicts() —
## ✖ dplyr::filter() masks stats::filter()
## ✖ dplyr::lag()    masks stats::lag()
## ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts
to become errors
```

```r
library(ggpubr)
library(ggrepel)
library(stringr)
library(ggplot2)
library(ggrepel)

# Loading the file
df <- read.csv("./Final_Opening_distal_and_proximal_DAPs_with_SNPs.csv")

# Ignoring traits with 0 overlapping SNPs for the plot
traits.to.remove <- c("Insulinogenic_Index",
                      "Disposition_index",
                      "HOMA-IR")

# Exclude
df <- df[!df$Trait %in% traits.to.remove,]

# Changing Type Name
df$Type <- gsub("ERS.specific","C_ERS.specific",df$Type)
df$Type <- gsub("INF.specific","B_INF.specific",df$Type)
df$Type <- gsub("Shared","A_Shared",df$Type)

# Factor levels
df$Trait <- factor(df$Trait, levels = c("HOMA-B",
                                        "Proinsulin",
                                        "2hrGlu",
                                        "HbA1c",
                                        "FI",
                                        "FG",
                                        "Type 1 Diabetes",
                                        "Type 2 Diabetes"))


# Plotting the barplots
p <- ggplot(data=df, aes(x=Number.of.Overlapping.Variants, y=Trait, fill=Type)) +
  geom_bar(stat="identity", color="black", position = "dodge")+
  theme_bw() + scale_fill_manual(values=c('tan4','darkorange','forestgreen')) + xlim(0,2
5)

# View
ggarrange(p, nrow=1, ncol=1)
```