

Določanje kateri restriktični encimi so si sorodni med target regijo na plasmidu in cry genu

```
pres <- read.table(file = "plasmid_REs.tsv", sep = "\t", header = T)
fres <- read.table(file = "fragment_REs.tsv", sep = "\t", header = T)
```

```
head(pres)
```

```
##   Enzyme
## 1 AatII
## 2 AccI
## 3 AfIIII
## 4 AhdI
## 5 AlwNI
## 6 ApoI
```

```
head(fres)
```

```
##   Enzyme
## 1 AccI
## 2 AfIIII
## 3 ApaI
## 4 ApaLI
## 5 BbsI
## 6 BlpI
```

```
pvec <- pres[, 1]
fvec <- fres[, 1]
```

```
print(pvec)
```

```
## [1] "AatII"    "AccI"      "AfIIII"    "AhdI"      "AlwNI"     "ApoI"
## [7] "BmgBI"     "BsaI"      "BsaBI"     "BspQI"     "BsrGI"     "BstAPI"
## [13] "BtgI"      "EagI"      "EcoO109I"  "EcoRI"     "EcoRV"     "HincII"
## [19] "HindIII"   "KasI"      "MauBI"     "NarI"      "NcoI"      "NdeI"
## [25] "NotI"      "NsI"       "PluTI"     "PshAI"     "SalI"      "SapI"
## [31] "SbfI"      "ScaI"      "SfoI"      "SphI"      "SspI"      "StyI"
## [37] "TsoI"      "ZraI"
```

```
print(fvec)
```

```
## [1] "AccI"      "AfIIII"    "ApaI"      "ApaLI"     "BbsI"      "BlpI"      "BpuEI"     "BsaI"
## [9] "BseRI"     "BsmBI"     "BstXI"     "BtgZI"     "DraIII"    "Esp3I"     "HincII"    "MluI"
## [17] "MreI"      "MscI"      "NaeI"      "NgoMIV"    "NspI"      "PaeR7I"    "PaqCI"     "PpuMI"
## [25] "PspOMI"    "PstI"      "SalI"      "Sau3AI"    "SphI"      "TsoI"      "XbaI"      "XhoI"
## [33] "XmnI"
```

```
common_res <- pvec[which(pvec %in% fvec)]
uncommon_p <- pvec[which(!(pvec %in% fvec))]
uncommon_f <- fvec[which(!(fvec %in% pvec))]
```

Encimi prisotni v obeh:

```
common_res
```



```
## [1] "AccI"    "BsaI"    "HincII"   "SalI"    "SphI"    "TsoI"
```

Encimi prisotni samo v plazmidu:

```
uncommon_p
```



```
## [1] "AatII"    "AflIII"   "AhdI"     "AlwNI"    "ApoI"    "BmgBI"
## [7] "BsaBI"    "BspQI"    "BsrGI"    "BstAPI"   "BtgI"    "EagI"
## [13] "Eco0109I" "EcoRI"    "EcoRV"    "HindIII"  "KasI"    "Maubi"
## [19] "NarI"      "NcoI"     "NdeI"     "NotI"     "NsiI"    "Pluti"
## [25] "PshAI"    "SapI"     "SbfI"     "ScaI"     "SfoI"    "SspI"
## [31] "StyI"      "ZraI"
```

Encimi prisotni sami v cry genu:

```
uncommon_f
```



```
## [1] "AflIII"   "ApaI"    "ApaLI"   "BbsI"    "BlpI"    "BpuEI"   "BseRI"   "BsmBI"
## [9] "BstXI"    "BtgZI"   "DraIII"  "Esp3I"   "MluI"    "MreI"    "MscI"    "NaeI"
## [17] "NgoMIV"   "NspI"    "PaeR7I"   "PaqCI"   "PpuMI"   "PspOMI"  "PstI"    "Sau3AI"
## [25] "XbaI"     "XhoI"    "XmnI"
```

Encim za vstavljanje

1. ne sme biti prisoten v fragmentu
2. mora se nahajati med promotorjem in GFP genom

Ker jih je malo med promotorjem in GFPjem, sem jih prepisal.

Moti me ker je StyI v fragmentu, ampak ga ni prikazalo na seznamu encimov za fragment.. Dodal ga bom zraven.

```
fvec2 <- c(fvec, "StyI")
```

```
plasmid_candidates <- c("StyI", "BtgI", "NcoI", "AccI", "SalI", "HincII")
```

Kateri od njih je prisoten v fragmentu?

```
plasmid_candidates[which(plasmid_candidates %in% fvec2)]
```

```
## [1] "StyI"    "AccI"    "SalI"    "HincII"
```

Kateri od njih ni prisoten v fragmentu?

```
plasmid_candidates[which(!(plasmid_candidates %in% fvec2))]
```

```
## [1] "BtgI"   "NcoI"
```