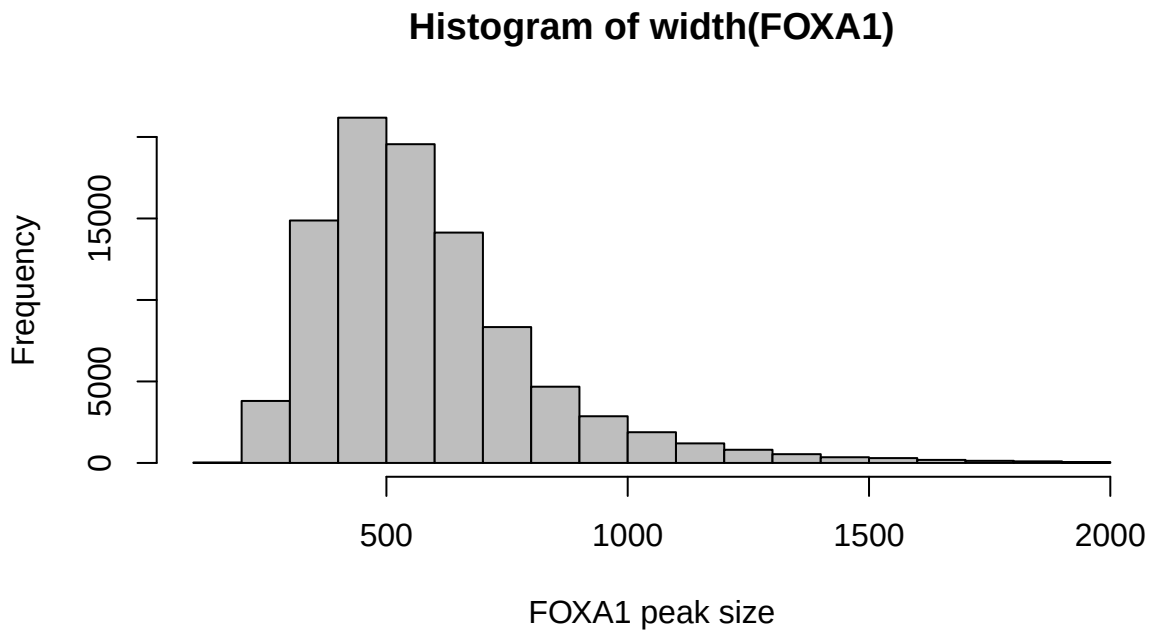
3.1
number of peaks in FOXA1: 95314

3.2
mean: 594.9
median: 538.0
max: 98453.0

3.4

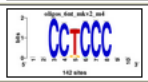
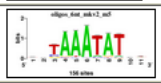
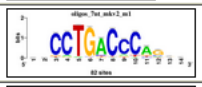
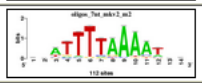


4.3
8176 peaks of ER and FOXA1 overlap
6
Human p53 Entrez: 7157
R code:

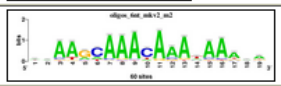
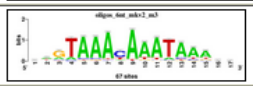
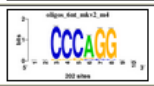
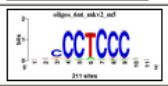
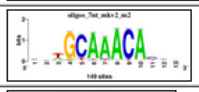
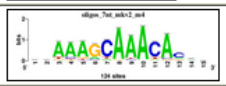
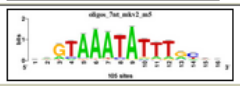
```
p53 <- 7157
p53 %in% ER.genes$gene_id
```

returns False
According to this data, ER does not bind to the promotor of the p53 gene.

8.2
ER motifs:

Motif	Logo	3 Top hits in databases
oligos_6nt_mkv2_m1		versus jaspar_core_nonredundant_vertebrates: NR2F1, NR2F2, NR4A1,
oligos_6nt_mkv2_m2		versus jaspar_core_nonredundant_vertebrates: NR2F1, PAX5, RORB,
oligos_6nt_mkv2_m3		versus jaspar_core_nonredundant_vertebrates: ELF5, EWSR1_FLI1, SPIB,
oligos_6nt_mkv2_m4		versus jaspar_core_nonredundant_vertebrates: SP1, ZNF740, KLF5,
oligos_6nt_mkv2_m5		versus jaspar_core_nonredundant_vertebrates: Arid5a, FOXB1, FOXC1,
oligos_7nt_mkv2_m1		versus jaspar_core_nonredundant_vertebrates: RORA, RORC, RORA_var_2_,
oligos_7nt_mkv2_m2		versus jaspar_core_nonredundant_vertebrates: LIN54,
oligos_7nt_mkv2_m3		versus jaspar_core_nonredundant_vertebrates: NR2F2, NR4A1, Esrrg,
oligos_7nt_mkv2_m4		versus jaspar_core_nonredundant_vertebrates: FOXP2, FOXP1, FOXO3,
oligos_7nt_mkv2_m5		versus jaspar_core_nonredundant_vertebrates: FOSB_JUN, FOSL2_JUN_var_2_, CREB1,

8.3
FOXA1 motifs:

Motif	Logo	3 Top hits in databases
oligos_6nt_mkv2_m1		versus jaspar_core_nonredundant_vertebrates: FOXK1, FOXA1, FOXP1,
oligos_6nt_mkv2_m2		versus jaspar_core_nonredundant_vertebrates: FOXA1, Foxj3, FOXC2,
oligos_6nt_mkv2_m3		versus jaspar_core_nonredundant_vertebrates: Foxj3, FOXP2, FOXP1,
oligos_6nt_mkv2_m4		versus jaspar_core_nonredundant_vertebrates: MZF1,
oligos_6nt_mkv2_m5		versus jaspar_core_nonredundant_vertebrates: SP1, KLF5, ZNF740,
oligos_7nt_mkv2_m1		versus jaspar_core_nonredundant_vertebrates: Arid5a, FOXB1, FOXC1,
oligos_7nt_mkv2_m2		versus jaspar_core_nonredundant_vertebrates: FOXP1, FOXK1, FOXC2,
oligos_7nt_mkv2_m3		versus jaspar_core_nonredundant_vertebrates: FOXP1, FOXK2, FOXP2,
oligos_7nt_mkv2_m4		versus jaspar_core_nonredundant_vertebrates: FOXA1, FOXF2, Foxj3,
oligos_7nt_mkv2_m5		versus jaspar_core_nonredundant_vertebrates: Arid5a, FOXB1, FOXC1,

9.2
ESR1 in vertebrata:
xxAGGTCACxxxGACCxx