Fuzzy Integral Similarity for TFBSs. Additional File 3. Jaspar Clustering

Jaspar clustering

In this section we describe the results obtained for the application of kcmeans to the Jaspar motifs:

All five TRPs motifs are contained in two homogeneous clusters with two and three motifs. Five of ten BHLHs motifs form one homogeneous cluster. Four of the remaining five BHLHs are grouped together with one ETS motif. All six remaining ETSs motifs form one cluster together with three of four bZIP EBPs motifs. Four of five MADSs motifs are grouped in one homogeneous cluster. The remaining MADS motif is contained in one cluster together with five of six HOMEOs motifs. There exists one heterogeneous cluster formed by the remaining HOMEO motif, one HMG motif and one FORKHEAD motif. Four of the remaining five HMGs motifs are grouped in two homogeneous clusters of two motifs each. Five of the remaining six FORKHEAD motifs form one homogeneous cluster. Seven of eight NUCLEAR motifs form one homogeneous cluster. Finally, all five bZIP CREBs motifs form one homogeneous cluster, and all six RELs motifs form two homogeneous clusters with four and two motifs. Figure 1 shows the clustering result. Logos for the different clusters can be found in the next section. As a summary, ten out of 15 of the obtained clusters are homogeneous, while eight motifs are not clustered and are considered as outliers.

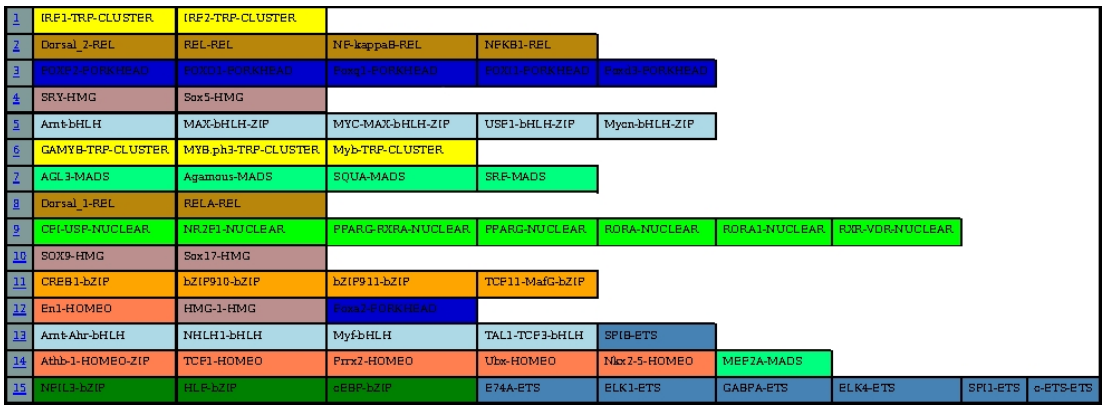

Figure 1: Clusters obtained by kcmeans for the Jaspar motifs. The motifs that share the same background color belong to the same Jaspar family.

Logos of the clustering

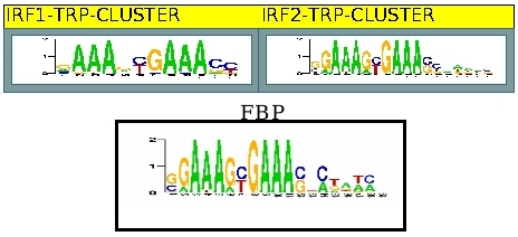

Figure 2: Cluster 1

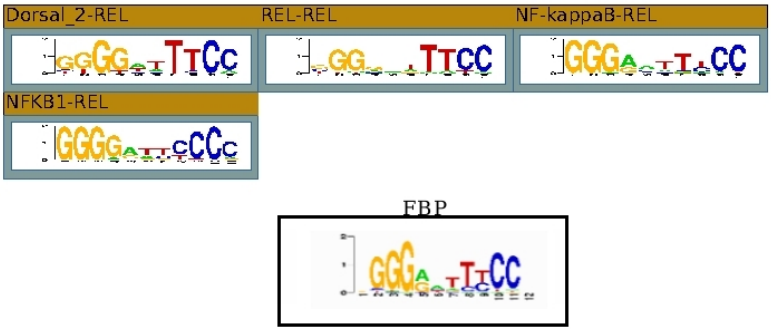

Figure 3: Cluster 3

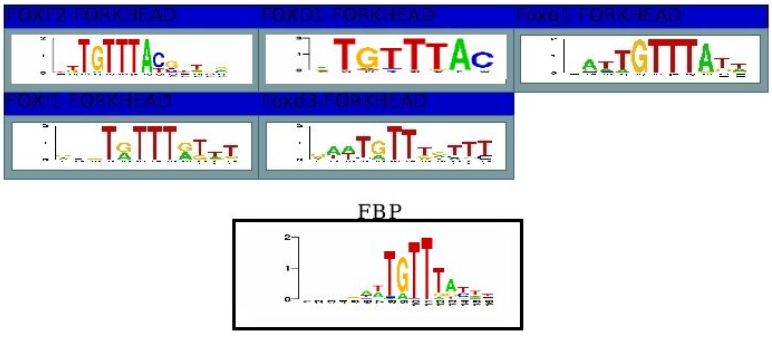

Figure 4: Cluster 3

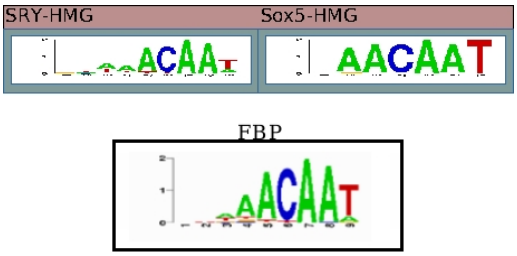

Figure 5: Cluster 4

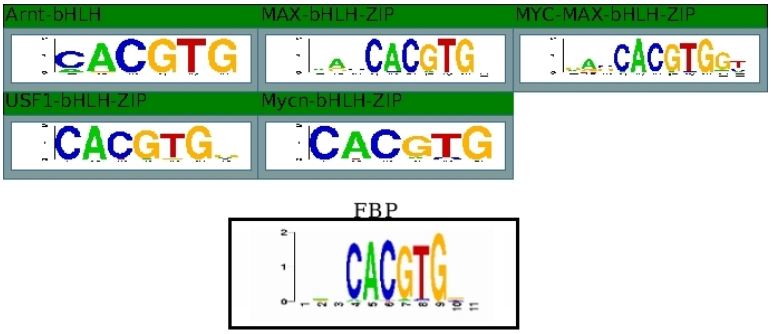

Figure 6: Cluster 5

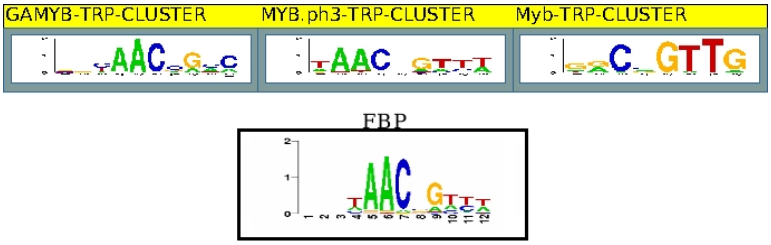

Figure 7: Cluster 6

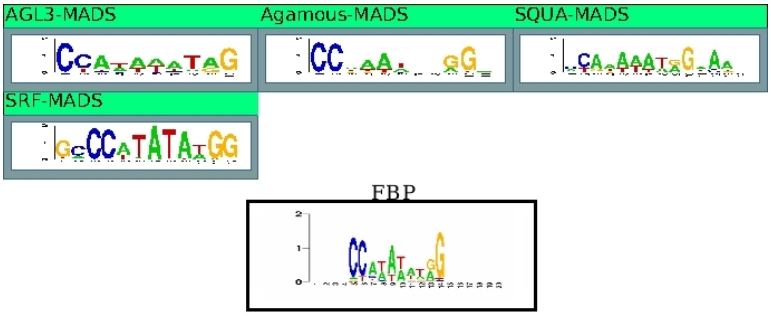

Figure 8: Cluster 7

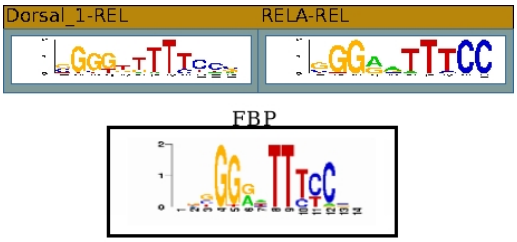

Figure 9: Cluster 8

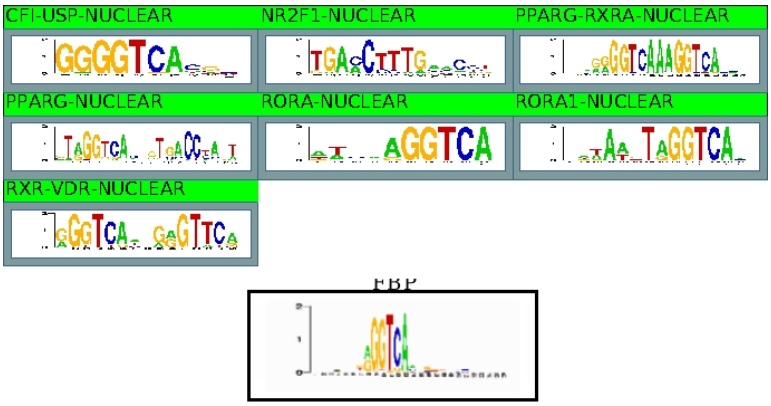

Figure 10: Cluster 9

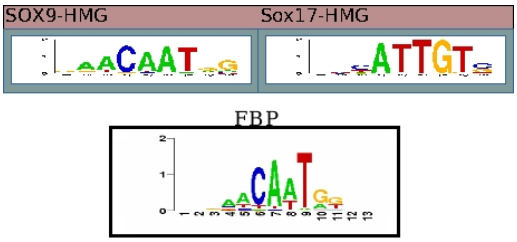

Figure 11: Cluster 10

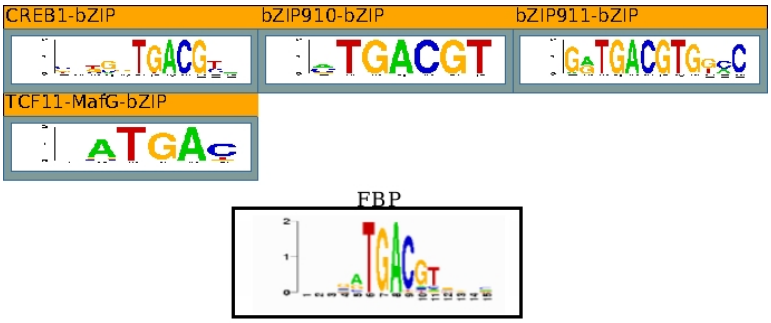

Figure 12: Cluster 11

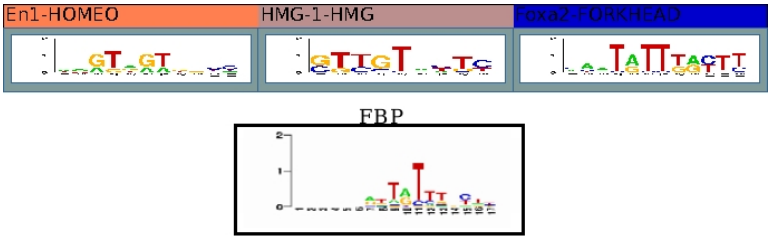

Figure 13: Cluster 12

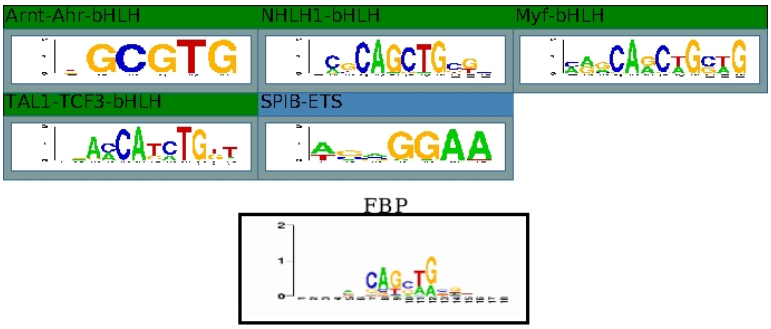

Figure 14: Cluster 13

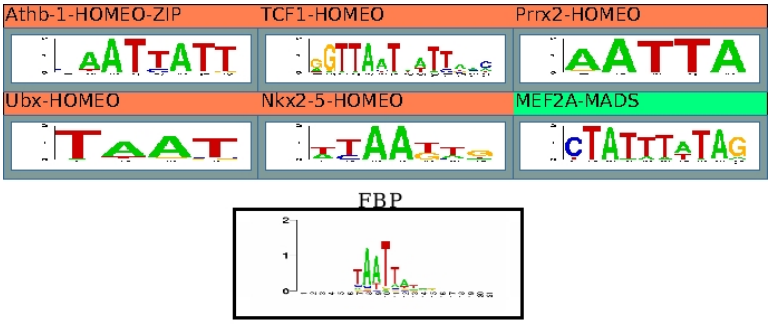

Figure 15: Cluster 14

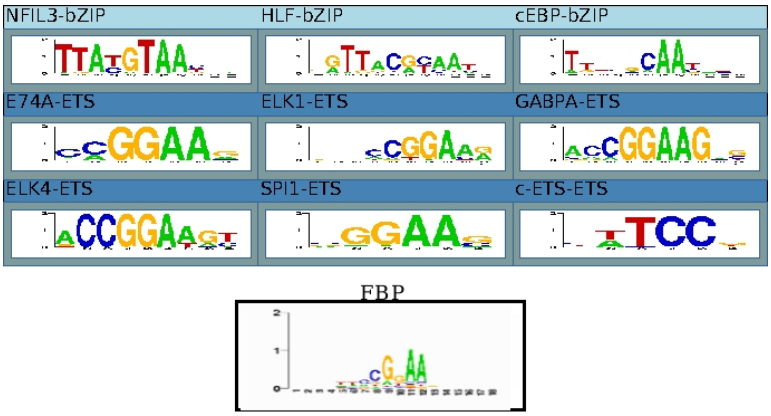

Figure 16: Cluster 15