Transcription Factor Explorer: integrated analysis database for predicted transcription regulatory elements

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Abstract

In cells, binding of transcription factor to regulatory DNA sequences is a primary mechanism for controlling gene transcription. We developed integrated regulatory element analysis web-database, TFExplorer, for identifying TFBSs in the promoter regions of a human and rodent species. It represents a comprehensive collection of transcription factor binding sites, along with their phylogenetic footprinting information and several gene-based information. It utilizes a library of matrix descriptions to locate transcription factor binding sites in 3000bp upstream and 2000bp downstream from TSS sites of human, mouse, and rat RefSeq genes. In addition, it can search for genes that have a given sequence pattern in their promoter regions the motif searching method. TFExplorer is available at http://tfexplorer.org.