**Author Summary**

**Title:** A functional analysis of the CREB signaling pathway using HaloCHIP-chip and high throughput reporter assays.

**Abstract:**

Regulation of gene expression is essential for normal development and cellular growth. Transcriptional events are tightly controlled both spatially and temporally by specific DNA-protein interactions. In this study we finely map the genome-wide targets of the CREB protein across all known and predicted human promoters, and characterize the functional consequences of a subset of these binding events using high-throughput reporter assays. To measure CREB binding, we used HaloCHIP, an antibody-free alternative to the ChIP method that utilizes the HaloTag fusion protein, and also high-throughput promoter-luciferase reporter assays, which provide rapid and quantitative screening of promoters for transcriptional activation or repression in living cells.

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**Experimental Details**

**BIOBASE experiment accession:** EX00075

**Binding factor:** CREB1(h)

**Consensus binding sequence for the factor:** TGAC

**Details of the experiment which identified binding by the factor:** ChIP-on-chip using cell source: HeLa S3

**Data Prepared for Further Analysis**

**Sequenced fragments**

- Complete fragments (2807 items)
- Predicted best binding sites (2807 items) for CREB1(h) within the fragments

[FASTA](#)  [.BED](#)

**Genes located near sequenced fragments**

Nearest genes located within

- 10,000 bp of sequenced fragments
- 150,000 bp of sequenced fragments
- specified bp of sequenced fragments: [ ]

[Tab-delimited gene list](#)