

[Open Peer Review on Qeios](#)

CAMP Responsive Element Binding Protein

National Cancer Institute

Source

National Cancer Institute. *cAMP Responsive Element Binding Protein*. NCI Thesaurus. Code C17286.

Ubiquitously or widely expressed human cAMP Responsive Element Binding Proteins (bZIP/CREB Family) are conserved nuclear bZIP domain dimeric transcription factors that bind to octameric DNA palindrome cAMP-response elements (CRE) present in many viral and cellular promoters and induce gene transcription in response to cAMP signaling pathways. CREB proteins bind to DNA as a homodimer or a heterodimer with JUN/c-Jun or ATF2/CREBP1. Increased cAMP levels following stimulation activate cAMP-dependent protein kinase A, which phosphorylates CREB proteins that stimulate transcription of cAMP-responsive genes. Calcium-regulated CREB transcription factors integrate calcium and cAMP signals. cAMP pathways provide a chief means by which cellular growth, differentiation, and function can be influenced by extracellular signals. (NCI)