

Gene Section

Short Communication

ATF1 (activating transcription factor 1)

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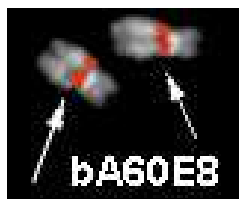
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Identity

Other names: TREB36

HGNC (Hugo): ATF1

Location: 12q13



Probe(s) - Courtesy Mariano Rocchi, Resources for Molecular Cytogenetics.

DNA/RNA

Transcription

816 bp mRNA.

Protein

Description

271 amino acids; possess a basic motif and a leucine zipper; dimerisation with other ATF family members (e.g. ATF-1 homodimers and ATF-1/CREB heterodimers).

Localisation

Nuclear.

Function

DNA binding protein, binds the consensus sequence: 5'GTGACGT(A/C)(A/G)-3'; cAMP-inducible transcription factor (cAMP-responsive enhancer-binding protein (CRE), like CREB.

Homology

Members of the CREB protein family.

Implicated in

Malignant melanoma of soft parts

Disease

Very rare neuroectodermal tumour.

Prognosis

Very poor.

Cytogenetics

Characterised by the translocation t(12;22)(q13;q12).

Hybrid/Mutated gene

5' EWSR1- 3' ATF1.

Abnormal protein

The chimaeric protein is composed of the N-terminal domain of EWS linked to the bZIP domain of ATF-1.

Oncogenesis

Binds to ATF sites present in cAMP-responsive promoters via the ATF1 bZIP domain and activates transcription constitutively, dependent on the activation domain (EAD) present in EWSR1.

References

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