



EGR1 (Zif268, Early Growth Response Protein 1, Krox-24, NGFI-A, TIS8, ZENK)

Catalog number

E2215-31A

Supplier

United States Biological

EGR family members are transcriptional factors with 3 repetitive Zinc finger DNA binding domains which bind to EGR response element (ER) and regulate target gene expression. The expression of EGR family members is induced by growth factors. Among the family members, EGR1 expression has been specifically shown to be induced by NGF. EGR1 expression further activates transcription of other signaling molecules including CDK5 and tyrosine hydroxylase to exert long term effects on neural cell growth and differentiation.

Zif268 is a mammalian transcription factor that is now officially known as Egr1 (Early Growth Response Protein 1). It was also named Krox-24, NGFI-A, TIS8, and ZENK. It was originally discovered in mouse.

The protein encoded by this gene belongs to the EGR family of C2H2-type zinc-finger proteins. It is a nuclear protein and functions as a transcriptional regulator. The products of target genes it activates are required for differentiation and mitogenesis. Studies suggest this is a tumor suppressor gene.

The DNA binding domain of Zif268 consists of three zinc finger domains of the Cys2His2 type. The crystal structure of DNA bound by the zinc finger domain of Zif268 was solved in 1991, which greatly aided early research in zinc finger DNA-binding domains. The human Zif268/EGR1 protein contains (in its unprocessed form) 543 amino acids with a molecular weight of 57.5kD, and the gene is located on the chromosome 5.

Zif268 binds the DNA sequence 5'-GCG[G/T]GGGCG-3'. It has a distinct pattern of expression in the brain, and its induction has been shown to be associated with neuronal activity. Several studies suggest it has a role in neuronal plasticity. Zif268 has also been found to regulate the expression of synaptobrevin II (a protein important for synaptic exocytosis).

Zif268 has been shown to interact with NAB1, CEBPB, EP300, CREB binding protein, PSMA3 and P53.

Applications

Suitable for use in ELISA, Western Blot and Immunohistochemistry. Other applications not tested.

Recommended Dilution

ELISA: 1:4000-1:6000

Western Blot: 1:500-1:3000

Immunohistochemistry: 10ug/ml

Optimal dilutions to be determined by the researcher.

Storage and Stability



May be stored at 4°C for short-term only. Aliquot to avoid repeated freezing and thawing. Store at -20°C. Aliquots are stable for 12 months after receipt. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.

Immunogen

Synthetic peptide corresponding to aa94-108 of human EGR1, KLH-conjugated.

Formulation

Supplied as a liquid in PBS, pH 7.2, 0.01% sodium azide.

Purity

Purified by immunoaffinity chromatography.

Specificity

Recognizes human EGR1.

Product Type

Pab

Source

human

Isotype

IgG

Grade

Affinity Purified

Applications

E IHC WB

Crossreactivity

Hu

Storage

-20°C