

EGR2 Antibody / Early growth response protein 2 (FY12723)

Catalog No.	Formulation	Size
FY12723	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P11161
Applications	Western Blot: 0.25-0.5ug/ml Flow Cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This EGR2 antibody is available for research use only.

Description

EGR2 antibody detects Early growth response protein 2 (also known as Krox-20), a zinc finger transcription factor that governs peripheral nerve myelination, hindbrain segmentation, and immune regulation. Encoded by the EGR2 gene on chromosome 10q21.3, this transcription factor belongs to the early growth response family of immediate-early genes activated by mitogenic and stress stimuli. EGR2 contains three C2H2-type zinc finger motifs that bind GC-rich DNA sequences to regulate genes controlling differentiation and growth arrest. It is essential for Schwann cell maturation and myelin gene expression in the peripheral nervous system.

During development, EGR2 plays a critical role in establishing segmental identity within the hindbrain by defining rhombomere boundaries and activating patterning genes. In Schwann cells, EGR2 drives transcription of myelin structural proteins including MPZ, PMP22, and MBP, ensuring proper myelin sheath formation and maintenance. Mutations in EGR2 cause hereditary neuropathies such as Charcot-Marie-Tooth disease type 1D and Dejerine-Sottas syndrome, underscoring its indispensable function in myelination. The protein also participates in T-cell anergy and macrophage activation by regulating cytokine gene expression.

The EGR2 antibody is widely used in neurobiology, developmental biology, and immunology to detect EGR2 protein

expression and localization. Western blot analysis typically shows a 50 kilodalton band, while immunohistochemistry reveals strong nuclear staining in Schwann cells and developing neurons. Expression of EGR2 is inducible by growth factors, nerve injury, and mechanical stress, making it a sensitive marker for differentiation and regeneration. In the immune system, EGR2 acts as a transcriptional repressor in T cells to maintain peripheral tolerance by suppressing activation genes.

Beyond its physiological roles, EGR2 has been implicated in tumor biology and inflammatory disease. Altered EGR2 signaling can disrupt differentiation programs and contribute to leukemogenesis or autoimmune disorders. In cancer models, EGR2 functions context-dependently as either a tumor suppressor or pro-survival factor, depending on cellular environment. The EGR2 antibody allows researchers to explore these regulatory networks, providing a means to monitor transcriptional changes during neural development and immune modulation. NSJ Bioreagents provides this antibody validated for its applications, ensuring consistent and specific detection across experimental systems.

Application Notes

Optimal dilution of the EGR2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human EGR2 recombinant protein (Position: M1-R257) was used as the immunogen for the EGR2 antibody.

Storage

After reconstitution, the EGR2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.