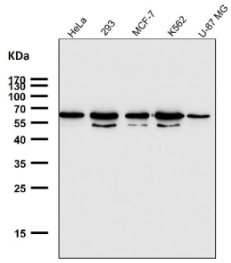
GTF2E1 Antibody / TFIIE alpha [clone 31G53] (FY13088)

Catalog No.	Formulation	Size
FY13088	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

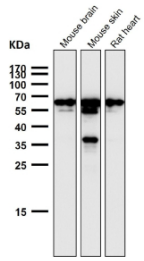
Recombinant RABBIT MONOCLONAL

Bulk quote request

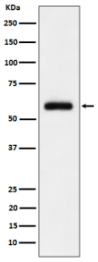
Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31G53
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P29083
Applications	Immunofluorescence : 1:50-1:200 Immunohistochemistry : 1:50-1:200 Immunocytochemistry/Western Blot : 1:500-1:2000
Limitations	This GTF2E1 antibody is available for research use only.



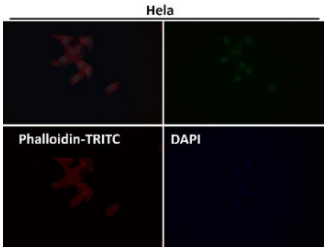
Western blot testing of human samples using the GTF2E1 antibody at 1:1000 dilution for 1 hour at room temperature. A dominant band is detected at ~60-65 kDa with a second band at ~50-55 kDa, although the calculated molecular weight is ~49 kDa. The higher-migrating species is consistent with hyper-phosphorylated TFIIE alpha during transcription initiation, while the lower band represents a less-phosphorylated form.



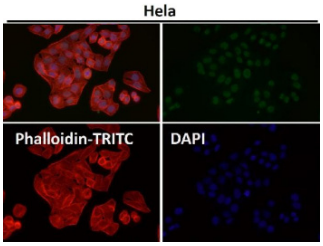
Western blot testing of mouse and rat samples using the GTF2E1 antibody at 1:1000 dilution for 1 hour at room temperature. A dominant band is detected at ~60-65 kDa with a second band at ~50-55 kDa, although the calculated molecular weight is ~49 kDa. The higher-migrating species is consistent with hyper-phosphorylated TFIIE alpha during transcription initiation, while the lower band represents a less-phosphorylated form.



Western blot analysis of TFIIE alpha/GTF2E1 expression in HeLa cell lysate using GTF2E1 antibody. Commonly observed at 60-65 kDa.



Immunofluorescent analysis using the GTF2E1 antibody at 1:150 dilution.



Immunofluorescent analysis using the GTF2E1 antibody at 1:50 dilution.

Description

GTF2E1 antibody detects General transcription factor IIE subunit 1, also known as TFIIE alpha, encoded by the GTF2E1 gene. This protein is a subunit of the general transcription factor TFIIE complex, which functions in RNA polymerase II transcription initiation. Together with TFIIE beta, it plays a key role in recruiting TFIIH to promoter regions, facilitating promoter opening, and enabling transcription initiation. GTF2E1 antibody provides researchers with a critical tool for studying basal transcription, gene expression regulation, and RNA polymerase II function.

General transcription factor IIE subunit 1 is essential for formation of the preinitiation complex. Research using GTF2E1 antibody has shown that TFIIE alpha interacts directly with TFIIH, stabilizing its association with RNA polymerase II. This promotes ATP dependent unwinding of DNA and formation of the open complex, a prerequisite for RNA synthesis. Without TFIIE alpha, transcription initiation is severely impaired, highlighting its fundamental role in gene expression.

Beyond its structural role, GTF2E1 has regulatory functions. Studies with GTF2E1 antibody have revealed that TFIIE alpha influences the kinase activity of TFIIH, modulating phosphorylation of the C terminal domain of RNA polymerase II. This links TFIIE to transcriptional regulation and elongation. Because transcription is tightly coupled to cell cycle progression and differentiation, TFIIE alpha plays broad roles in physiology and development.

Mutations and altered expression of GTF2E1 have been associated with developmental abnormalities and cancer. Research using GTF2E1 antibody has shown that defects disrupt transcriptional fidelity, leading to gene expression changes that contribute to disease. Its role in basal transcription makes it a potential biomarker for transcriptional dysregulation in oncology and genetic disorders.

GTF2E1 antibody is widely applied in western blotting, immunohistochemistry, and immunoprecipitation. Western blotting demonstrates expression in proliferative tissues, immunohistochemistry reveals nuclear localization, and immunoprecipitation identifies interaction with TFIIH. These applications make GTF2E1 antibody essential in transcription biology.

By supplying validated GTF2E1 antibody reagents, NSJ Bioreagents supports research into transcription initiation, RNA polymerase II function, and gene expression. Detection of General transcription factor IIE subunit 1 provides insight into how basal transcription is coordinated and disrupted in disease.

Application Notes

Optimal dilution of the GTF2E1 antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human TFIIE alpha was used as the immunogen for the GTF2E1 antibody.

Storage

Store the GTF2E1 antibody at -20oC.