HBP1 Antibody / HMG-box transcription factor 1 (FY12889)

Catalog No.	Formulation	Size
FY12889	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	O60381
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This HBP1 antibody is available for research use only.

Description

HBP1 antibody detects HMG-box transcription factor 1, a transcriptional repressor that modulates cell cycle progression, differentiation, and Wnt signaling. Encoded by the HBP1 gene on chromosome 7q22.3, this protein belongs to the high mobility group (HMG) family of DNA-binding transcription factors. HBP1 acts as a nuclear regulator that represses proliferation-associated genes, integrating signals from growth factors, oncogenes, and stress pathways to maintain cellular homeostasis and differentiation potential.

Structurally, HBP1 is a 513-amino-acid nuclear protein of approximately 60 kilodaltons containing an HMG-box DNA-binding domain and transcriptional repression domains that interact with histone deacetylases (HDACs) and chromatin remodeling complexes. These interactions enable HBP1 to repress genes such as CCND1 (Cyclin D1) and N-MYC, thereby inhibiting uncontrolled cell proliferation. HBP1 also contains regulatory phosphorylation sites that control nuclear localization and DNA-binding affinity in response to extracellular cues.

The HBP1 antibody is widely used in cell cycle, cancer, and transcription research to study gene repression, differentiation, and tumor suppression mechanisms. Western blot analysis detects a 60 kilodalton band corresponding to HBP1, while immunofluorescence shows strong nuclear localization in epithelial and neuronal cells. This antibody enables detailed examination of transcriptional networks controlling growth arrest and lineage commitment.

Functionally, HBP1 suppresses oncogenic transformation by inhibiting Wnt/beta-catenin signaling and antagonizing MYC-dependent transcription. It also promotes senescence and apoptosis in response to DNA damage and oxidative stress, acting as a barrier to tumorigenesis. Reduced HBP1 expression or mutation is associated with breast, lung, and colon cancers, where loss of repression contributes to hyperproliferation. Beyond cancer, HBP1 regulates differentiation programs in neurons, adipocytes, and muscle cells by coordinating chromatin remodeling and transcriptional silencing. The HBP1 antibody provides a valuable tool for exploring these pathways and assessing transcriptional regulation in normal and diseased tissues. NSJ Bioreagents validates this antibody for western blotting, immunohistochemistry, and immunofluorescence, ensuring specificity and consistency in transcriptional research applications.

Application Notes

Optimal dilution of the HBP1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human HBP1 recombinant protein (Position: D51-R506) was used as the immunogen for the HBP1 antibody.

Storage

After reconstitution, the HBP1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.