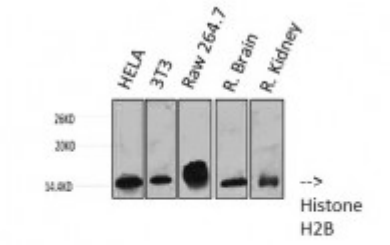
Anti-Histone H2B antibody



Western Blot (WB) analysis of 1. HELA 2. 3T3 3. Raw264.7 4. Rat Brain 5. Rat Kidney cells using Histone H2B Monoclonal Antibody. (STJ97064)

Description	Histone H2B is a protein encoded by the HIST1H2BA gene which is approximately 14,1 kDa. Histone H2B is localised to the nucleus. It is involved in DNA double-strand break repair, cellular senescence, chromosome maintenance and mitotic cell cycle. Histones are basic nuclear proteins that are responsible for the nucleosome structure of the chromosomal fiber in eukaryotes. Two molecules of each of the four core histones (H2A, H2B, H3, and H4) form an octamer, around which approximately 146 bp of DNA is wrapped in repeating units. Histone H2B is mainly expressed in testis, it is also found in some fat cells. STJ97064 was affinity-purified from rabbit antiserum by affinity-chromatography using specific immunogen. This antibody detects endogenous Histone H2B protein.

Model	STJ97064
Host	Mouse
Reactivity	Human, Mouse, Rat
Applications	WB
Immunogen	Synthetic Peptide
Gene ID	3018
Gene Symbol	HIST1H2BB
Dilution range	WB 1:1000-3000
Specificity	The antibody detects endogenous Histone H2B protein.
Purification	The antibody was affinity-purified from mouse ascites by affinity-chromatography using specific immunogen.

Clone ID	Mix
Note	For Research Use Only (RUO).
Protein Name	Histone H2B type 1-B Histone H2B.1 Histone H2B.f H2B/f
Clonality	Monoclonal
Conjugation	Unconjugated
Isotype	IgG1
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:4751OMIM:602803
Alternative Names	Histone H2B type 1-B Histone H2B.1 Histone H2B.f H2B/f
Function	Core component of nucleosome. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of post-translational modifications of histones, also called histone code, and nucleosome remodeling.
Cellular Localization	Nucleus. Chromosome.
Post-translational Modifications	Monoubiquitination at Lys-35 (H2BK34Ub) by the MSL1/MSL2 dimer is required for histone H3 'Lys-4' (H3K4me) and 'Lys-79' (H3K79me) methylation and transcription activation at specific gene loci, such as HOXA9 and MEIS1 loci. Similarly, monoubiquitination at Lys-121 (H2BK120Ub) by the RNF20/40 complex gives a specific tag for epigenetic transcriptional activation and is also prerequisite for histone H3 'Lys-4' and 'Lys-79' methylation. It also functions cooperatively with the FACT dimer to stimulate elongation by RNA polymerase II. H2BK120Ub also acts as a regulator of mRNA splicing: deubiquitination by USP49 is required for efficient cotranscriptional splicing of a large set of exons. Phosphorylation at Ser-37 (H2BS36ph) by AMPK in response to stress promotes transcription . Phosphorylated on Ser-15 (H2BS14ph) by STK4/MST1 during apoptosis; which facilitates apoptotic chromatin condensation. Also phosphorylated on Ser-15 in response to DNA double strand breaks (DSBs), and in correlation with somatic hypermutation and immunoglobulin class-switch recombination. GlcNAcylation at Ser-113 promotes monoubiquitination of Lys-121. It fluctuates in response to extracellular glucose, and associates with transcribed genes . Crotonylation (Kcr) is specifically present in male germ cells and marks testis-specific genes in post-meiotic cells, including X-linked genes that escape sex chromosome inactivation in haploid cells. Crotonylation marks active promoters and enhancers and confers resistance to transcriptional repressors. It is also associated with post-meiotically activated genes on autosomes.