

# Anti Histone H3 Antibody-HRP

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## 1. Product Description

### 1.1 Product Description

Histones are a class of highly basic proteins rich in lysine and arginine residues. There are five main types of histones in biological organisms: H1, H2A, H2B, H3, and H4. H2A, H2B, H3, and H4 form heterodimers that constitute the histone octamer, which serves as the core of the nucleosome. Histone H1 functions by binding to linker DNA to facilitate the formation of higher-order chromatin structures. Histone H3 features a major globular domain and a long N-terminal tail, making it a common standard loading control for nuclear proteins.

The Anti Histone H3 Antibody-HRP is produced by conjugating Horseradish Peroxidase (HRP) to the Histone H3 antibody. During Western Blot (WB) experiments, the addition of chemiluminescent substrates A and B (typically Luminol and Hydrogen Peroxide) initiates a reaction. Under the catalysis of HRP, Luminol reacts with Hydrogen Peroxide to form a peroxide intermediate. This intermediate is unstable and rapidly decomposes to form an excited-state electron intermediate capable of emitting light. As this intermediate transitions from the excited state back to the ground state, fluorescence is generated, thereby enabling the detection of Histone H3 protein.

### 1.2 Basic Information

Antibody Source: Recombinant Antibody

Cross Reactivity: Human, Mouse, Rat

Clone Type: Monoclonal Antibody

Conjugate: Horseradish Peroxidase (HRP)

Purification Method: rProtein A Affinity Purification

Storage Buffer: 1×PBS (pH 7.4), 0.05% ProClin 300, 50% Glycerol

Storage Conditions: Shipped with dry ice. Stable for 2 years at -20°C. Avoid freeze/thaw cycles.

## 2. Product Applications

WB: 1:500 - 1:3000

## 3. Precautions

- 1) This product is an HRP-conjugated antibody. Store at -20°C or -80°C and protect from light.
- 2) This product exhibits high sensitivity. Please strictly adhere to the recommended dilution ratios provided in the manual for Western Blotting (WB) to avoid potential non-specific bands.
- 3) Prior to transfer, the PVDF membrane must be pre-wetted (activated) with methanol. Use an excess volume of antibody diluent after transfer. Avoid the formation of air bubbles during both the transfer and antibody incubation steps.
- 4) A strong signal can be generated by incubating at 37°C for 30–60 minutes. If incubating at room temperature, extend the incubation time accordingly.
- 5) This product is not recommended for ELISA or IP applications. For interaction studies, please consider purchasing Anti-Histone-057 mAb

(Catalog No.: BP0125).

#### 4. Reference Information

- 1) Sample Information: 293, HeLa cell lines.
- 2) Sample Processing: After washing  $3 \times 10^6$  cells three times with PBS, resuspend in 1 ml PBS. Mix 10  $\mu$ l of the suspension with 10  $\mu$ l of 2 $\times$  loading buffer and denature by boiling at 100°C for 10 min.
- 3) Loading Volume: 10  $\mu$ l (containing 2 $\times$  loading buffer).
- 4) Antibody Dilution Ratios: Dilute Anti Histone H3 Antibody-HRP in 3 ml antibody dilution buffer at the following ratios: 1.5  $\mu$ l (1:500), 3  $\mu$ l (1:1000), and 1  $\mu$ l (1:3000).
- 5) Antibody Incubation Conditions: Incubate at 37°C with agitation for 30 min.
- 6) Results:

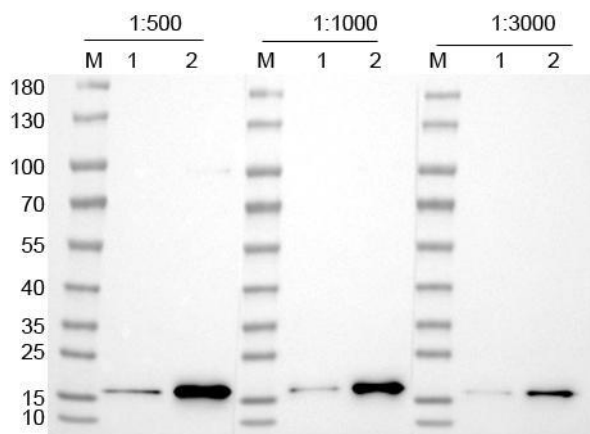


Figure 1. Western Blot Analysis of Histone H3 Antibody in Various Cell Lines

As shown in the figure, the Anti Histone H3 Antibody-HRP detects Histone H3 protein across different cell lines, yielding a single band at approximately 20 kDa.

#### 5. Product Ordering

Product	Cat.No.	Size
Anti Histone H3 Antibody-HRP	BP5021-01	20 $\mu$ l
	BP5021-02	100 $\mu$ l
	BP5021-03	1ml

#### 6. Related Products

Product	Name	Cat.No.
Whole Cell Lysate Loading Control Antibod	Anti GAPDH Antibody-HRP	BP5018
	Anti Hsp90 Antibody-HRP	BP5019
Cytoskeletal Loading Control Antibody	Anti $\beta$ -tubulin Antibody-HRP	BP5020
Nuclear Loading Control Antibody	Anti Histone H3 Antibody-HRP	BP5021