SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

[Primary Antibody]

Rabbit Anti-Histone H4 antibody

Catalog Number: SL23810R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	Histone H4
Immunogen:	KLH conjugated synthetic peptide derived from human Histone H4: 51-103/103
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	WB (1:500-2000) IHC-P (1:100-500) IHC-F (1:100-500) IF (1:100-500) Flow-Cyt (1ug/Test) Not yet tested in other applications. Optimal working dilutions must be determined by the end user.
Reactivity:	Human, Mouse, Rat
Predicted MW.:	11kDa
Subcellular Location:	The nucleus
Background:	Histones are basic nuclear proteins that are responsible for the nucleosome structure of the chromosomal fiber in eukaryotes. Nucleosomes consist of approximately 146 bp of DNA wrapped around a histone octamer composed of pairs of each of the four core histones (H2A, H2B, H3, and H4). The chromatin fiber is further compacted through the interaction of a linker histone, H1, with the DNA between the nucleosomes to form higher order chromatin structures. This gene is intronless and encodes a member of the histone H4 family. Transcripts from this gene lack polyA tails; instead, they contain a palindromic termination element. [provided by RefSeq, Jul 2008]. **Function:** Core component of nucleosome. Nucleosomes wrap and compact

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

	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. **Subunit:** The nucleosome is a histone octamer containing two molecules each of H2A, H2B, H3 and H4 assembled in one H3-H4 heterotetramer and two H2A-H2B heterodimers. The octamer wraps approximately 147 bp of DNA. **Subcellular Location:** Nucleus. Chromosome. **Post-translational modifications:** Acetylation at Lys-6 (H4K5ac), Lys-9 (H4K8ac), Lys-13 (H4K12ac) and Lys-17 (H4K16ac) occurs in coding regions of the genome but not in heterochromatin. Citrullination at Arg-4 (H4R3ci) by PADI4 impairs methylation. Monomethylation and asymmetric dimethylation at Arg-4 (H4R3me1 and H4R3me2a, respectively) by PRMT1 favors acetylation at Lys-9 (H4K8ac) and Lys-13 (H4K12ac). Demethylation is performed by JMJD6. Symmetric dimethylation on Arg-4 (H4R3me2s) by the PRDM1/PRMT5 complex may play a crucial role in the germ-cell lineage. Monomethylated, dimethylated or trimethylated at Lys-21 (H4K20me1, H4K20me2, H4K20me3). Monomethylation is performed by SET8. Trimethylation is performed by SUV420H1 and SUV420H2 and induces gene silencing. Phosphorylated by PAK2 at Ser-48 (H4S47ph). This phosphorylation increases the association of H3.3-H4 with the histone chaperone HIRA, thus promoting nucleosome assembly of H3.3-H4 and inhibiting nucleosome assembly of H3.1-H4. Ubiquitinated by the CUL4-DDB-RBX1 complex in response to ultraviolet irradiation. This may weaken the interaction between histones and DNA and facilitate DNA accessibility to repair proteins. Monoubiquitinated at Lys-92 of histone H4 (H4K91ub1) in response to DNA damage. The exact role of H4K91ub1 in DNA damage response is still unclear but it may function as a licensing signal for additional histone H4 post-translational modifications such as H4 Lys-21 methylation (H4K20me). Sumoylated, which is associated with transcriptional repression. 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.

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

	Similarity: Belongs to the histone H4 family. **Database links:** **Entrez Gene:** 121504 Human **Entrez Gene:** 554313 Human **Entrez Gene:** 8294 Human **Entrez Gene:** 8359 Human **Entrez Gene:** 8360 Human **Entrez Gene:** 8361 Human **Entrez Gene:** 8362 Human **Entrez Gene:** 8363 Human **Entrez Gene:** 8364 Human **Entrez Gene:** 8365 Human **Entrez Gene:** 8366 Human **Entrez Gene:** 8367 Human **Entrez Gene:** 8368 Human **Entrez Gene:** 8370 Human **Entrez Gene:** 100041230 Mouse **Entrez Gene:** 100862646 Mouse **Entrez Gene:** 319155 Mouse **Entrez Gene:** 319156 Mouse **Entrez Gene:** 319157 Mouse **Entrez Gene:** 319158 Mouse **Entrez Gene:** 319159 Mouse **Entrez Gene:** 319160 Mouse **Entrez Gene:** 319161 Mouse **Entrez Gene:** 320332 Mouse **Entrez Gene:** 326619 Mouse **Entrez Gene:** 326620 Mouse **Entrez Gene:** 69386 Mouse **Entrez Gene:** 97122 Mouse GenBank: NM_003548 Human Omim: 142750 Human **SwissProt:** P02304 Human **SwissProt:** P62805 Human **SwissProt:** P02304 Mouse **SwissProt:** P62806 Mouse **SwissProt:** P02304 Rat **Unigene:** 143080 Human **Unigene:** 247816 Human **Unigene:** 248172 Human

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

SunLong Biotech Co.,LTD
Tel: 0086-571-56623320 Fax:0086-571-56623318
E-mail:sales@sunlongbiotech.com
www.sunlongbiotech.com

	Unigene: 248178 Human **Unigene:** 248179 Human **Unigene:** 278483 Human **Unigene:** 352191 Human **Unigene:** 46423 Human **Unigene:** 528055 Human **Unigene:** 533295 Human **Unigene:** 55468 Human **Unigene:** 591790 Human **Unigene:** 655235 Human **Unigene:** 662174 Human **Unigene:** 706635 Human **Unigene:** 742244 Human **Unigene:** 14775 Mouse **Unigene:** 158272 Mouse **Unigene:** 227295 Mouse **Unigene:** 228709 Mouse **Unigene:** 246720 Mouse **Unigene:** 255646 Mouse **Unigene:** 260530 Mouse **Unigene:** 261642 Mouse **Unigene:** 261662 Mouse **Unigene:** 261664 Mouse **Unigene:** 377875 Mouse **Unigene:** 442307 Mouse **Unigene:** 486099 Mouse **Unigene:** 489077 Mouse

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

SunLong Biotech Co.,LTD

Tel: 0086-571-56623320 Fax:0086-571-56623318

E-mail:sales@sunlongbiotech.com

www.sunlongbiotech.com

[VALIDATION IMAGES]

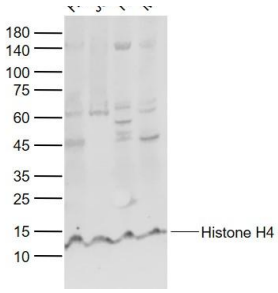


Figure 1. Sample: Lane 1: Human Hela cell lysates Lane 2: Human Jurkat cell lysates Lane 3: Human HL60 cell lysates Lane 4: Human MCF-7 cell lysates Primary: Anti-Histone H4 (SL23810R) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 11 kD Observed band size: 13 kD

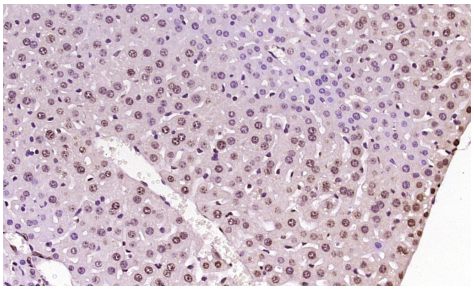


Figure 2. Paraformaldehyde-fixed, paraffin embedded (Mouse liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

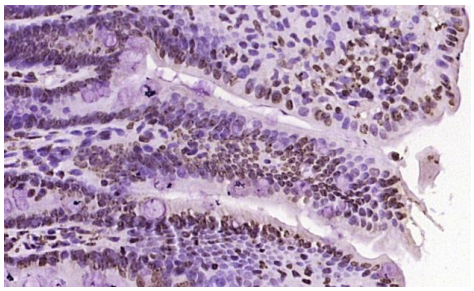


Figure 3. Paraformaldehyde-fixed, paraffin embedded (Mouse small intestine); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining

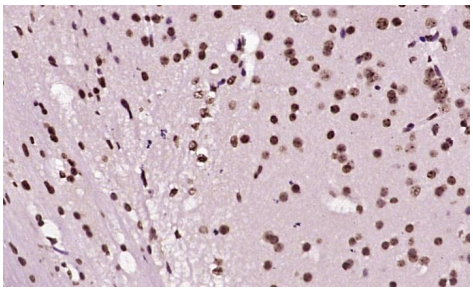


Figure 4. Paraformaldehyde-fixed, paraffin embedded (mouse brain tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

SunLong Biotech Co.,LTD

Tel: 0086-571-56623320 Fax:0086-571-56623318

E-mail:sales@sunlongbiotech.com

www.sunlongbiotech.com

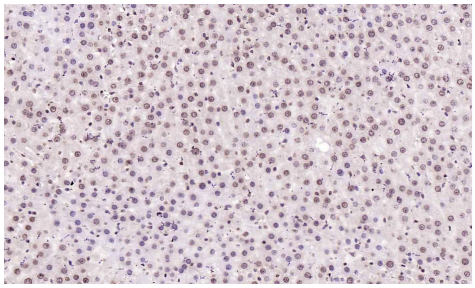


Figure 5. Paraformaldehyde-fixed, paraffin embedded (rat liver); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

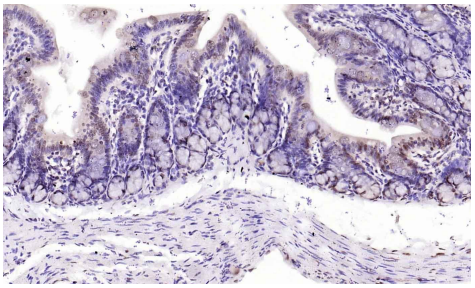


Figure 6. Paraformaldehyde-fixed, paraffin embedded (rat colon); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

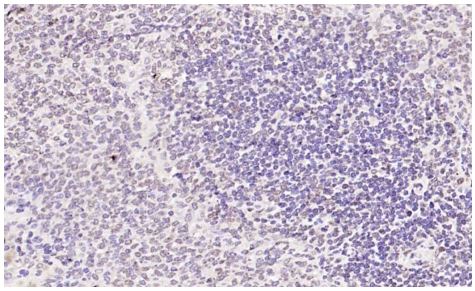


Figure 7. Paraformaldehyde-fixed, paraffin embedded (rat spleen); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

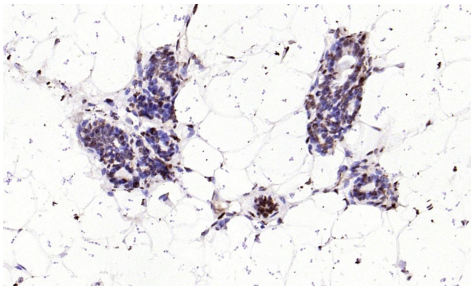


Figure 8. Paraformaldehyde-fixed, paraffin embedded (rat mammary gland); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

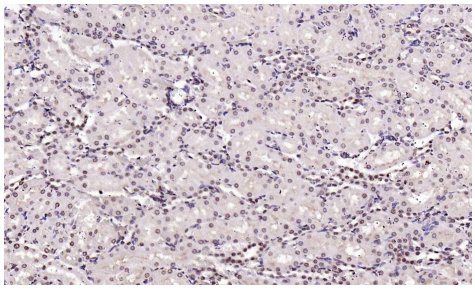


Figure 9. Paraformaldehyde-fixed, paraffin embedded (rat kidney); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

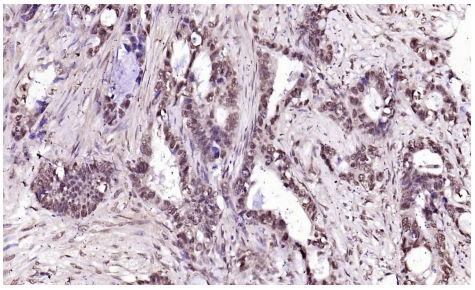


Figure 10. Paraformaldehyde-fixed, paraffin embedded (human colon carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

SunLong Biotech Co.,LTD

Tel: 0086-571-56623320 Fax:0086-571-56623318

E-mail:sales@sunlongbiotech.com

www.sunlongbiotech.com

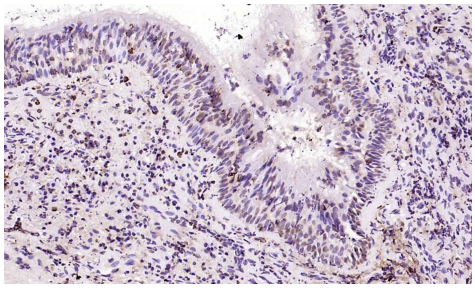


Figure 11. Paraformaldehyde-fixed, paraffin embedded (human breast carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

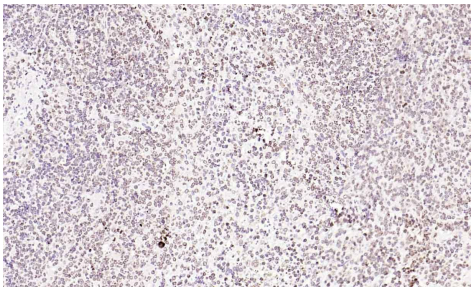


Figure 12. Paraformaldehyde-fixed, paraffin embedded (mouse spleen); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

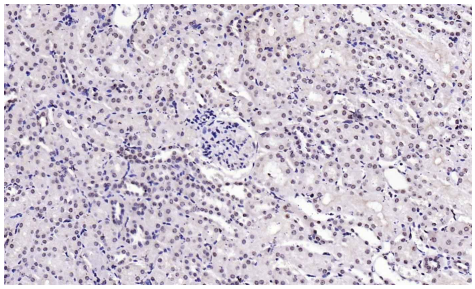


Figure 13. Paraformaldehyde-fixed, paraffin embedded (mouse kidney); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

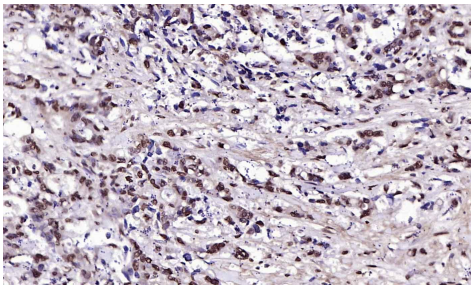


Figure 14. Paraformaldehyde-fixed, paraffin embedded (human rectal carcinoma); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Incubation with (Histone H4) Polyclonal Antibody, Unconjugated (SL23810R) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

SunLong Biotech Co.,LTD

Tel: 0086-571-56623320 Fax:0086-571-56623318

E-mail:sales@sunlongbiotech.com

www.sunlongbiotech.com

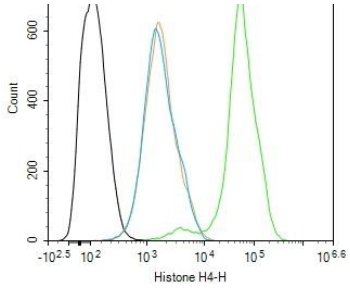


Figure 15. Blank control (black line) :NIH/3T3. Primary Antibody (green line): Rabbit Anti-Histone H4 antibody (SL23810R) Dilution:1ug/Test; Secondary Antibody (white blue line) : Goat anti-rabbit IgG-BF488 Dilution: 0.5ug/Test. Isotype control (orange line) : Normal Rabbit IgG Protocol The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at -20℃, The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature.Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed

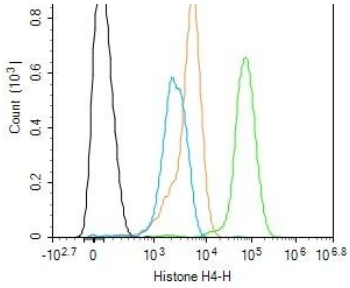


Figure 16. Blank control (black line) :Hela. Primary Antibody (green line): Rabbit Anti-IHistone H4 antibody (SL23810R) Dilution:1ug/Test; Secondary Antibody: Goat anti-rabbit IgG-BF488 Dilution: 0.5ug/Test. Isotype control (orange line) : Normal Rabbit IgG Protocol The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at -20℃.The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature.Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed

Important Note: This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.