

Advance your Epigenetics Research

With ChIPAb+™ and RIPAb+™ Validated Antibody and Primer Sets

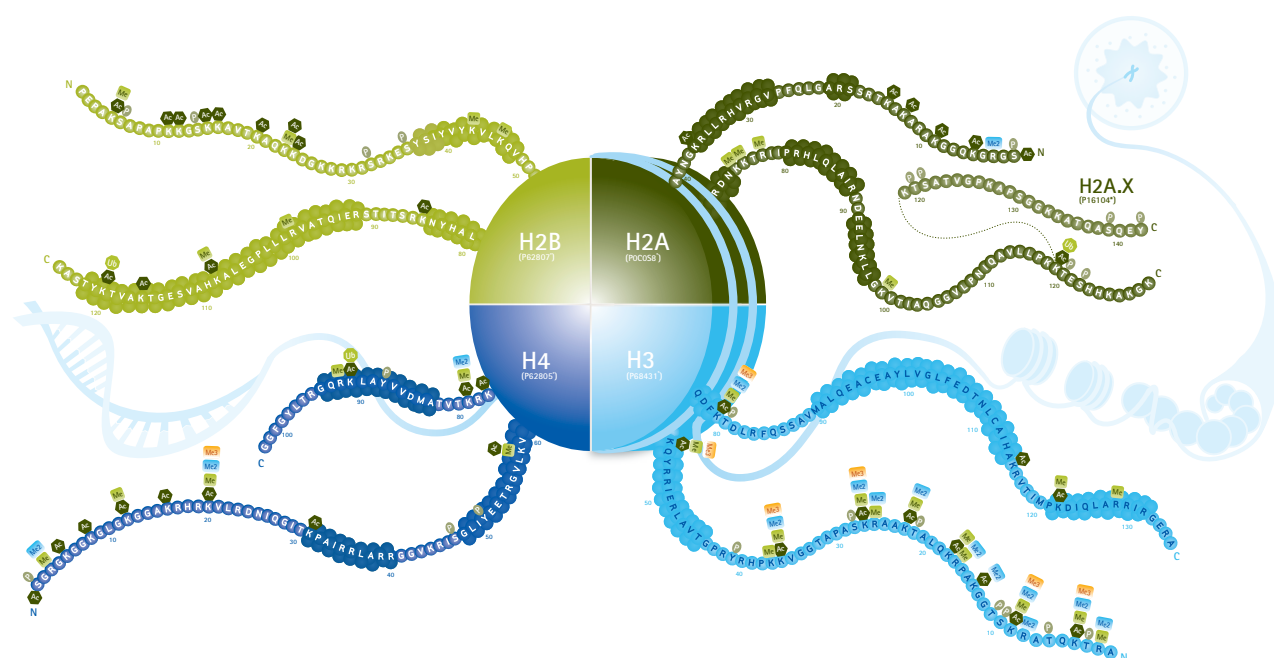
Epigenetics describes heritable changes in gene expression caused by non-genetic mechanisms. Epigenetic regulation allows a cell to vary its response based on its biological and environmental contexts. Epigenetic changes can effect transcriptional and post-transcriptional regulation via mechanisms such as histone modification, chromatin and nucleosome remodeling, DNA methylation, and small and non-coding RNA-mediated regulation. These mechanisms, in cooperation with transcription factors and other nucleic acid-binding proteins, regulate gene expression. Epigenetic mechanisms of gene regulation impacts diverse areas of research—from agriculture to human health.

Common epigenetic assays such as chromatin immunoprecipitation (ChIP) and RNA immunoprecipitation (RIP) rely on high quality antibodies that recognize specific epigenetic modifications for accurate results.

Merck Millipore offers over 100 ChIPAb+™ and RIPAb+™ validated antibody kits that are quality tested on ChIP/RIP assays and are conveniently provided with control qPCR primers and negative control antibodies to ensure first time ChIP/RIP success.

Features and Benefits

- Individually validated for ChIP/RIP. Every lot, every time.
- Contains positive and negative qPCR control primers and negative control antibody for ChIP/RIP validation.
- Comprehensive selection of over 100 epigenetic targets.



www.merckmillipore.com/chipab+

www.merckmillipore.com/ripab+

ChIPAb+™ Kits to Study Histone Post-Translational Modifications

Description	Cat. No.
Histone H2A/B	
ChIPAb+™ Histone H2A.Z	17-10048
ChIPAb+™ Histone H2A.Bbd	17-10246
ChIPAb+™ Histone H2B	17-10054
ChIPAb+™ Ubiquityl-Histone H2B	17-650
Histone H3	
ChIPAb+™ Acetyl-Histone H3	17-615
ChIPAb+™ Acetyl-Histone H3 (Lys14), rabbit monoclonal	17-10051
ChIPAb+™ Acetyl-Histone H3 (Lys27)	17-683
ChIPAb+™ Acetyl-Histone H3 (Lys4)	17-10050
ChIPAb+™ Acetyl-Histone H3 (Lys56)	17-10259
ChIPAb+™ Acetyl-Histone H3 (Lys9) Purified	17-658
ChIPAb+™ Acetyl-Histone H3 (Lys9) Serum	17-609
ChIPAb+™ Acetyl Histone H3 (Lys23)	17-10112
ChIPAb+™ Acetyl-Histone H3 (Lys18)	17-10111
ChIPAb+™ Acetyl-Histone H3 (Lys9/18)	17-10241
ChIPAb+™ Monomethyl-Histone H3 (Lys27)	17-643
ChIPAb+™ Monomethyl-Histone H3 (Lys36)	17-10498
ChIPAb+™ Monomethyl-Histone H3 (Lys4)	17-676
ChIPAb+™ Monomethyl-Histone H3 (Lys9)	17-680
ChIPAb+™ Dimethyl-Histone H3 (Lys27), rabbit monoclonal	17-10108
ChIPAb+™ Dimethyl-Histone H3 (Lys36)	17-10136
ChIPAb+™ Dimethyl-Histone H3 (Lys4)	17-677
ChIPAb+™ Dimethyl-Histone H3 (Lys9)	17-648
ChIPAb+™ Dimethyl-Histone H3 (Lys9)	17-681
ChIPAb+™ Dimethyl-Histone H3 (Lys79), rabbit monoclonal	17-10125
ChIPAb+™ Trimethyl-Histone H3 (Lys27)	17-622
ChIPAb+™ Trimethyl-Histone H3 (Lys36)	17-10493

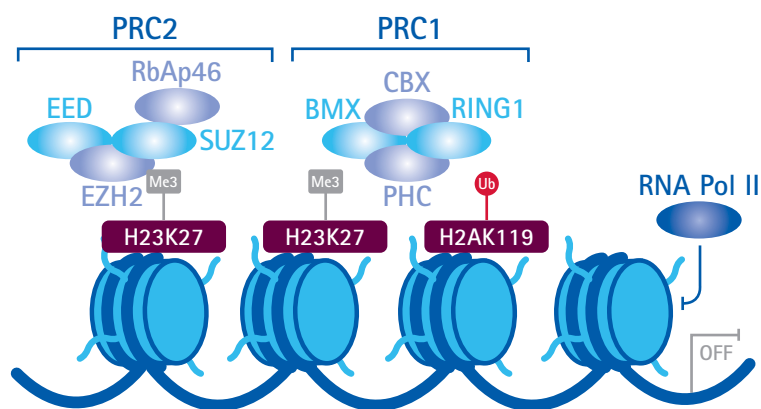
Description	Cat. No.
Histone H3 (continued)	
ChIPAb+™ Trimethyl-Histone H3 (Lys36), rabbit monoclonal	17-10032
ChIPAb+™ Trimethyl-Histone H3 (Lys4)	17-678
ChIPAb+™ Trimethyl-Histone H3 (Lys4), rabbit monoclonal	17-614
ChIPAb+™ Trimethyl-Histone H3 (Lys9)	17-625
ChIPAb+™ Trimethyl-Histone H3 (Lys79)	17-10130
ChIPAb+™ Trimethyl-Histone H3 (Lys9)	17-10242
ChIPAb+™ Phospho-Histone H3 (Ser28) Antibody	17-10269
ChIPAb+™ Phospho-Histone H3 (Thr11)	17-10139
ChIPAb+™ Phospho-Histone H3 (Thr3), rabbit monoclonal	17-10141
ChIPAb+™ Histone H3 (CT), rabbit monoclonal	17-10046
ChIPAb+™ Histone H3 (Unmodified Lys4)	17-675
ChIPAb+™ Histone H3 (CT)	17-10254
ChIPAb+™ Histone H3.3	17-10245
Histone H4	
ChIPAb+™ Acetyl-Histone H4	17-630
ChIPAb+™ Acetyl-Histone H4 (Lys12), rabbit monoclonal	17-10121
ChIPAb+™ Acetyl-Histone H4 (Lys16)	17-10101
ChIPAb+™ Acetyl-Histone H4 (Lys5), rabbit monoclonal	17-10045
ChIPAb+™ Acetyl-Histone H4 (Lys8)	17-10099
ChIPAb+™ Histone H4, rabbit monoclonal	17-10047
ChIPAb+™ Monomethyl-Histone H4 (Lys20)	17-651
ChIPAb+™ Trimethyl-Histone H4 (Lys20), rabbit monoclonal	17-671
ChIPAb+™ Dimethyl-Histone H4 (Arg3) Symmetric	17-10250

ChIPAb+™ Kits for Transcription Factors and other Chromatin Associated Proteins

Description	Cat. No.
ChIPAb+™ Androgen Receptor	17-10489
ChIPAb+™ Bmi-1	17-664
ChIPAb+™ CBX8	17-10135
ChIPAb+™ CHD1 Antibody	17-10533
ChIPAb+™ CREB, rabbit monoclonal	17-600
ChIPAb+™ CTCF	17-10044
ChIPAb+™ E2F-1	17-10061
ChIPAb+™ E2F-3	17-10062
ChIPAb+™ EED	17-663
ChIPAb+™ EED	17-10034
ChIPAb+™ Estrogen Receptor α	17-603
ChIPAb+™ EZH2, clone AC22	17-662
ChIPAb+™ FOXA1 Antibody	17-10267
ChIPAb+™ FOXA2	17-10258
ChIPAb+™ HDAC1	17-608
ChIPAb+™ HDAC1 Antibody, rabbit monoclonal	17-10199
ChIPAb+™ HDAC2	17-10237
ChIPAb+™ HDAC3 Antibody	17-10238
ChIPAb+™ HP1 γ	17-646
ChIPAb+™ JHDM1B Antibody	17-10264
ChIPAb+™ JMJD1C	17-10262
ChIPAb+™ JMJD6	17-10263
ChIPAb+™ LEF1	17-604

Description	Cat. No.
ChIPAb+™ LSD1 (KDM1A) Antibody	17-10531
ChIPAb+™ LSF	17-10252
ChIPAb+™ MeCP2	17-10491
ChIPAb+™ MED1 Antibody	17-10530
ChIPAb+™ N-CoR Antibody	17-10260
ChIPAb+™ Nanog Antibody	17-655
ChIPAb+™ NF κ B p65 (RelA)	17-10060
ChIPAb+™ p53	17-613
ChIPAb+™ PCAF Antibody	17-10532
ChIPAb+™ Phospho-CREB (Ser133)	17-10131
ChIPAb+™ Phospho-Histone H3 (Ser10)	17-685
ChIPAb+™ REST	17-641
ChIPAb+™ REST	17-10456
ChIPAb+™ RNA Pol II	17-620
ChIPAb+™ RNA Pol II	17-672
ChIPAb+™ SMRT	17-10057
ChIPAb+™ SOX-2	17-10256
ChIPAb+™ Sox-2, clone 6F1.2	17-656
ChIPAb+™ Sp1	17-601
ChIPAb+™ SUZ12	17-661
ChIPAb+™ TATA Binding Protein (TBP)	17-10098
ChIPAb+™ TCF-4	17-10109

PcG-mediated Epigenetic Gene Silencing



H3K27me3 is associated with gene silencing at promoter regions of the genome. PRC2 (polycomb repressive complex 2) induces EZH2-mediated Histone H3 Lysine-27 trimethylation (H3K27me3). H3K27me3 recruits PRC1 that ubiquitinates H2AK119, leading RNA Pol II inhibition, chromatin compaction and gene silencing. Merck Millipore offers validated ChIPAb+™ kits for the investigation of PcG-mediated epigenetic gene silencing.

ChIPAb+™ Related Products:

Description	Cat. No.
ChIPAb+™ EZH2, clone AC22	17-662
ChIPAb+™ RNA Pol II	17-620
ChIPAb+™ RNA Pol II	17-672
ChIPAb+™ SUZ12	17-661
ChIPAb+™ Trimethyl-Histone H3 (Lys27)	17-622
Anti-Ubiquitin Histone H2A.X (Lys119) Antibody	AB10029

RIPAb+™ Kits to Study RNA Binding Proteins

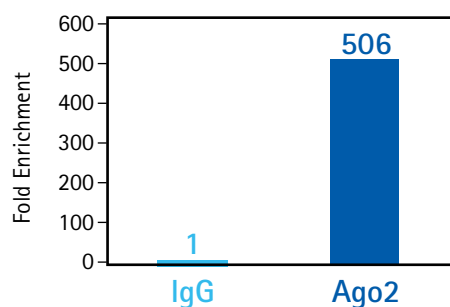
Description	Cat. No.	Description	Cat. No.
RIPAb+™ Ago2	03-110	RIPAb+™ hnRNPA1 (M9 Region)	03-181
RIPAb+™ Upf1	03-191	RIPAb+™ hnRNPA1	03-204
RIPAb+™ SUZ12	03-179	RIPAb+™ hnRNP U	03-206
RIPAb+™ STAU1 (Staufen 1)	03-116	RIPAb+™ hnRNP M1-M4	03-100
RIPAb+™ SNRNP70	03-103	RIPAb+™ hnRNP C1/C2	03-205
RIPAb+™ SMN	03-178	RIPAb+™ Hexim 2	03-245
RIPAb+™ SMN	03-200	RIPAb+™ Hexim 1	03-177
RIPAb+™ QKI-5	03-112	RIPAb+™ Gemin6	03-203
RIPAb+™ PUM2	03-241	RIPAb+™ Gemin2	03-202
RIPAb+™ PUM1	03-242	RIPAb+™ G3BP1	03-180
RIPAb+™ Phospho-eIF4E (Ser209), rabbit monoclonal	03-199	RIPAb+™ FXR2	03-246
RIPAb+™ pan Ago	03-248	RIPAb+™ FXR1	03-176
RIPAb+™ PABPC1	03-101	RIPAb+™ Fragile X Mental Retardation Protein	03-108
RIPAb+™ p54nrb/NonO	03-113	RIPAb+™ EF1α	03-107
RIPAb+™ Musashi 2, rabbit monoclonal	03-115	RIPAb+™ EED	03-196
RIPAb+™ Musashi 1, rabbit monoclonal	03-114	RIPAb+™ CUGBP2	03-119
RIPAb+™ LSM14A	03-184	RIPAb+™ CUGBP1	03-104
RIPAb+™ Lin28	03-105	RIPAb+™ AUF1	03-111
RIPAb+™ IGF2BP2	03-251	RIPAb+™ Aly/REF	03-120
RIPAb+™ IGF2 mRNA-binding protein 3	03-198	RIPAb+™ Ago3	03-250
RIPAb+™ HuR	03-102	RIPAb+™ Ago1	03-249

Ago2 mediated RNA silencing mechanism

Ago2, or protein argonaute-2, also known as eukaryotic translation initiation factor 2C (EIF2C2), is an endonuclease required for the unwinding of siRNA duplex and assembly of siRNA into RNA-induced silencing complexes (RISC), which appear to include Ago2 bound to a short guide RNA such as a microRNA (miRNA) or short interfering RNA (siRNA). Ago2 interacts with DICER1 through its Piwi domain. This Piwi domain is thought to provide RNA cleavage activity via a mechanism similar to RNase H. Ago2 activity is necessary for embryonic development as well as RNA-mediated gene silencing (RNAi).

Product Highlight:

RIPAb+™ Ago2, RIP Validated Antibody and Primer Set (Catalog Number 03-110)



RNA Binding Protein Immunoprecipitation

RIP Lysate prepared from HeLa cells (2×10^7 cell equivalents per IP) were subjected to immunoprecipitation using RIPAb+™ Ago2, RIP Validated Antibody and Primer Set (Cat. No. 03-110) and the Magna RIP™ RNA-Binding Protein Immunoprecipitation Kit (Cat. No. 17-700). 5 μ L of either a normal mouse IgG or Anti-Ago2 antibody was used. Successful immunoprecipitation of Ago2-associated RNA was verified by qPCR using RIP Primers for FOS.

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