

Epigenetics

Epigenetics 為專門針對基因的修飾機制所進行的研究，在不影響基因序列的情況下，達到調控基因表現，影響生物表現型 (phenotype) 差異的一門科學。

目前 Epigenetics 的研究主要分成三大類：

1. Histone modification：目前研究 histone modification 包括 acetylation、phosphorylation、methylation 以及 ubiquitination。研究發現 histone 不同位置的胺基酸被甲基化，可正向或負向調控基因的表現；而當 promoter 區域的 histone 被 acetylation 則會促進基因的轉錄。目前認為 histone modification 與 DNA 轉錄、修復、重組、複製息息相關並會影響染色體結構。
2. DNA methylation：研究發現 DNA 甲基化可以調控 DNA 轉錄，特別是 CpG islands 在活化的基因中與 transcription start sites、promoter 相關。因此一般認為 CpG islands 甲基化與基因表現，人類癌症發展具有相關性。
3. Non-coding RNA：此為一個新興的研究領域，non-coding RNA 包括了 microRNA、small RNA、large RNA 以及 pi-RNA。目前研究發現 non-coding RNA 亦參與影響基因的轉錄與轉譯的表現。

Histone modifications

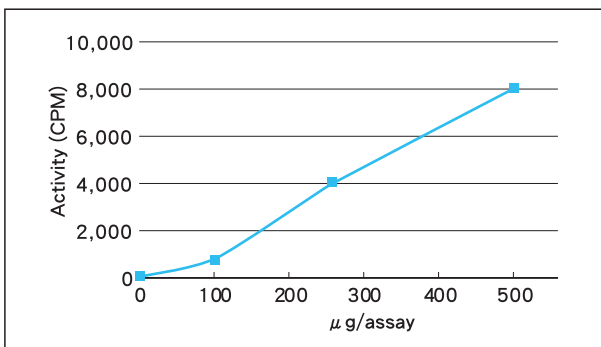
目前研究 histone modification 大多和 methylation、acetylation、phosphorylation、citrullination 以及 ubiquitination 有關，並認為 histone modification 會進而影響 DNA 轉錄、修復、重組、複製以及影響染色質結構。

Millipore 擁有選擇性多且具有品質認證的 modification-state-specific antibodies 和 assay kits，對於 histone 和不同 chromatin-related targets 都有完整的選擇。

Methylation

Histone 甲基化近來已成為基因調控研究的重點之一。目前研究發現染色質的 histone 甲基化以及特定的 histone residues modifications 可強烈證明為 euchromatin 以及基因轉錄活化；而 heterochromatin 甲基化則會抑制基因轉錄。

Millipore 提供 Histone Methyltransferase Assay Reagent Kit (17-330) 讓您可以輕鬆偵測 methylated histones 活性的表現，進而探討 chromatin modification 與基因表現的相關性。



PRMT1 Histone Methyltransferase Assay:
100-500 ng of active PRMT1 (14-474) methylated core histones in vitro, using the Histone Methyltransferase Assay Reagent Kit (17-330). Assay background was subtracted from the actual counts to yield the results.

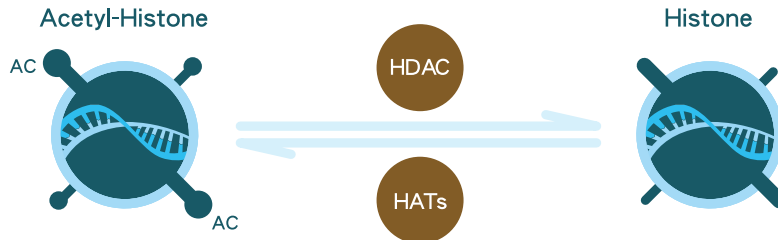
Cat. No.	Description	Qty/Pk
17-330*	Histone Methyltransferase Assay Reagent Kit	1 kit
07-673	Anti-dimethyl-Histone H2B (Lys5)	100 μL
07-751	Anti-dimethyl-Histone H2B (Lys11)	200 μL
07-436	Anti-monomethyl-Histone H3 (Lys4)	200 μg
07-030	Anti-dimethyl-Histone H3 (Lys4)	200 μL
05-745R	Anti-Trimethyl-Histone H3 (Lys4), clone 15-10C-E4, Recombinant	100 μL
07-450	Anti-monomethyl-Histone H3 (Lys9)	100 μg
07-441	Anti-dimethyl-Histone H3 (Lys9)	100 μg
05-1242	Anti-trimethyl-Histone H3 (Lys9), clone 6F12-H4	200 μL
07-448	Anti-monomethyl-Histone H3 (Lys27)	200 μg
07-452	Anti-dimethyl-Histone H3 (Lys27)	200 μg
07-449	Anti-trimethyl-Histone H3 (Lys27)	200 μg
07-548	Anti-monomethyl-Histone H3 (Lys36)	100 μL
07-369	Anti-dimethyl-Histone H3 (Lys36)	100 μL
04-801	Anti-trimethyl-Histone H3 (Lys36), clone MC86	100 μL
04-735	Anti-monomethyl-Histone H4 (Lys20), clone NL314	100 μL
07-1584	Anti-dimethyl Histone H4 (Lys20)	100 μg
07-463	Anti-trimethyl-Histone H4 (Lys20)	200 μL
14-575	CARM1, active	10 μg
14-546	G9a, active	50 μg
14-474	PRMT1, active	25 μg
14-539	PR-SET7, active	100 μg
14-469	SET9, active	100 μg

* Use radioactive material in this kit.

Acetylation

近來研究發現染色質 histone 的乙醯化和去乙醯化是調控基因表現的關鍵因素之一。組蛋白乙醯酶 (histone acetylases, HATs) 和組蛋白去乙醯酶 (histone deacetylases, HDACs) 扮演著 histone 的乙醯化和去乙醯化的調控者。 HATs 會將乙醯基團轉移至組蛋白的 lysine residues 導致染色質的結構打開，進而促進基因轉錄； HDACs 則可將 histone 上的乙醯基團移除，進而抑制基因的表現。

Millipore 提供多種 assay kits 讓您可以輕鬆偵測乙醯化和去乙醯化活性的表現，進而探討 chromatin modification 與基因表現的相關性。

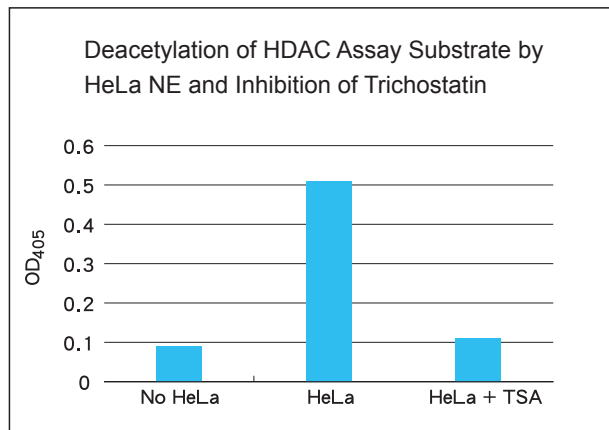


HDAC Assay Kit, colorimetric detection (17-374)

特點 ▶

- 96 well 偵測形式
- Two-step 操作簡單、快速
- 包含實驗所需之 ready-to use 的 reagents 和 buffer
- Millipore 亦有提供 fluorometric 或是 radiometric 偵測形式

Cat. No.	Description	Qty/Pk
17-320	Histone Deacetylase Assay Kit (HDAC)	1 kit
17-374	HDAC Assay Kit, Colorimetric Detection	96 assays
17-356	HDAC Assay Kit, Fluorometric Detection	96 assays
17-372	HDAC Assay Kit, Fluorometric Detection	384 assays



Inhibition of HeLa Nuclear Extract by Trichostatin A

HeLa Nuclear Extract in the absence or presence of 1 μ M Trichostatin A was assayed with the Colorimetric HDAC Assay Kit (17-374). Absorbance was detected at 405 nm.

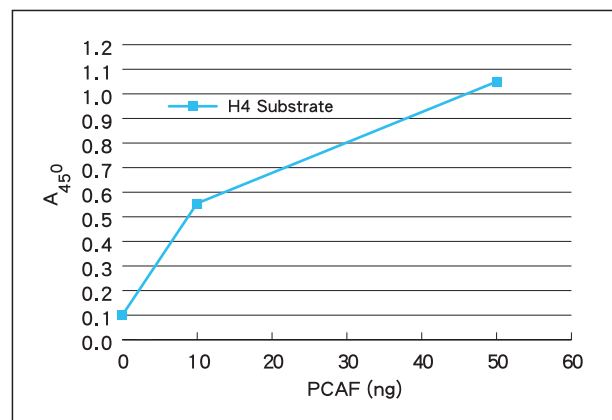
HAT Assay Kit (17-289)

特點 ▶

- Indirect ELISA Assay 偵測形式
- 操作簡單、快速
- 包含實驗所需之 ready-to use 的 reagents 和 substrate
- biotinylated histone peptides 方便偵測 histone H3 or H4 上 acetylated lysine residues
- 包含 positive control，讓您輕鬆利用 standard curves 進行定量

Cat. No.	Description	Qty/Pk
17-289	HAT Assay Kit	96 assays
17-329*	HAT Assay Reagent Kit	100 assays
17-284	p300/CBP Immunoprecipitation HAT Assay Kit	96 assays

* Use radioactive material in this kit.



HAT Assay (17-289): Biotinylated Histone H4 peptide was acetylated for 30 minutes with 10-50 ng of recombinant PCAF (14-309) in the presence of 100 mM Acetyl-CoA and 1X HAT Assay buffer.

Phosphorylation

H2A.X Phosphorylation Assay Kit

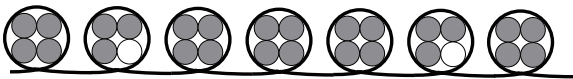
(Chemiluminescence Detection) (17-327)

當 DNA 發生 damage 時，Histone H2A.X 會磷酸化進而形成穩定的 repair complex，並且是 double strand breaks 的重要指標之一。

特點 ▶

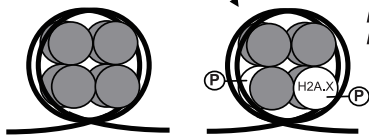
- Cell base assay format，可定量 phosphorylated H2A.X
- 包含實驗所需 reagents 和抗體
- 操作方法簡單

Native chromatin with infrequent H2A.X occurrence:



Culture Adherent Cells;
Induce DNA Damage (i.e., Apoptosis) with:

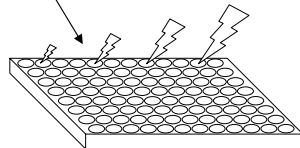
4. Varying amount of inducer
5. Different inducers
6. Varying induction time



DNA fragmentation,
H2A.X phosphorylation

Fix and Permeabilize Cells;
Incubate with:

1. Anti-phospho H2A.X
2. Anti-mouse-HRP conjugate
3. LumiGLO™ substrate



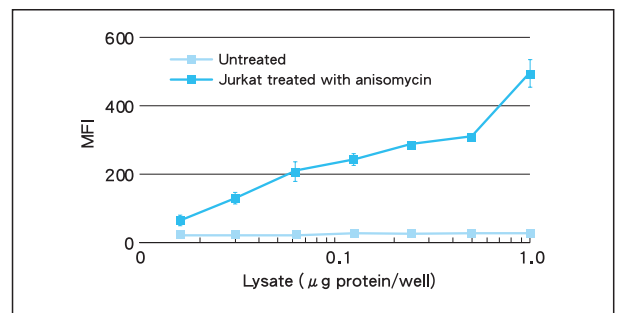
H2A.X Phosphorylation Assay Kit

(46-692)

Millipore Milliplex MAP kits 利用免疫偵測原理可讓您快速、精確、大量地檢查出 sample 內多種信號指標物質的含量，最後利用 Luminex 進行檢測分析。您僅需少量的 sample (10-50 μ l) 便可多重分析你欲感興趣的物質，Milliplex 的靈敏度高於 ELISA 或 RIA，且不再需要花費更長的時間等待，讓您在快速得到實驗結果。Millipore 目前提供完整的 Milliplex MAP kits 研究範圍包括 metabolic diseases (diabetes, obesity, cardiovascular)、inflammation、immunology、neuroscience 以及 oncology。

特點 ▶

- 方便、all-in-one box
- Kit 包括 internal control
- Kit 包含 xMAP beads、anti-H2A.X 以及 biotinylated anti-phospho-H2A.X 讓您輕鬆偵測 sample 內 histone H2A.X (Ser139) 磷酸化變化。



MILLIPLEX MAP detection of changes in phosphorylation of Histone H2A.X (Ser139) in Jurkat cells stimulated with or without 25 mM anisomycin. The Median Fluorescent Intensity (MFI) was measured using the Luminex Instrument.

Cat. No.	Description	Qty/Pk
17-344	H2A.X Phosphorylation Assay Kit (Flow Cytometry)	100 assays
17-327	H2A.X Phosphorylation Assay Kit (Chemiluminescence Detection)	192 assays
17-720	H2A.X (Ser139) Dual Detect CELISA ASSAY Kit (Fluorogenic Detection)	96 assays
HCS224	H2A.X Phosphorylation/DNA Damage Assay	5 X 96 assays
HCS225	H2A.X Phosphorylation & p53 DNA Damage Assay	5 X 96 assays
46-692	Milliplex Map Human Phospho-Histone H2A.X (Ser 139)	100 assays

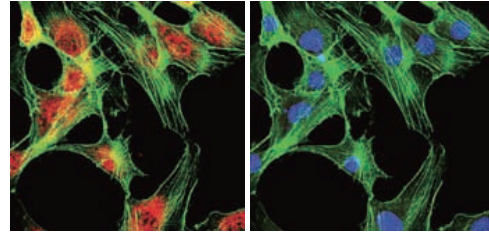
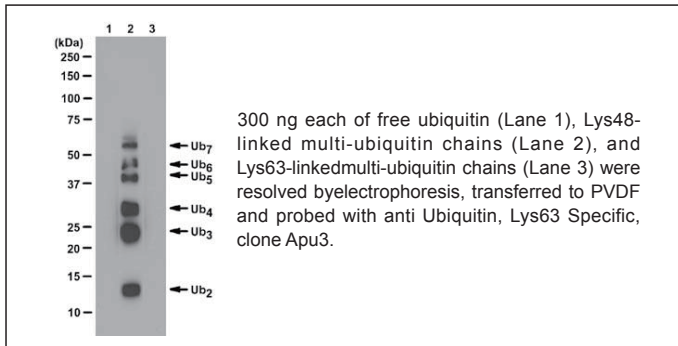
Citrullination

Citrullination 為精胺酸之轉錄後修飾，目前研究發現與自發性免疫疾病如：類風溼性關節炎、多發性硬化症等息息相關。Millipore 擁有選擇性多且具有品質認證的 antibodies，幫助您輕鬆偵測 citrulline-modified Histone H4 或是 unique amino acid。

Cat. No.	Description	Qty/Pk
07-596	Anti-Histone H4 (citrulline 3)	200 µL
AB5612	Anti-Citrulline	100 µL

Ubiquitination

研究發現染色質組蛋白的 ubiquitination 與 histone methylation 具有密切關係，且可幫助維持染色質結構。Millipore 擁有選擇性多且具有品質認證的抗體，幫助您輕鬆偵測 histone ubiquitination 或是 particular modified histone residues。



Confocal IF analysis of NIH/3T3 cells using anti-Ubiquitin (Lys48-specific) (Red). Actin filaments were labeled with AlexaFluor 488-Phalloidin (Green). Nuclear material is stained with DAPI (Blue).

Cat. No.	Description	Qty/Pk
05-678	Anti-ubiquityl-Histone H2A, clone E6C5	200 µL
05-1312	Anti-Ubiquityl-Histone H2B, clone 56	100 µg
05-1307	Anti-Ubiquitin, Lys48-Specific, clone Apu2	100 µL
05-1308	Anti-Ubiquitin, Lys63-Specific, clone Apu3	200 µL
05-1313	Anti-Ubiquitin, Lys63-Specific, clone HWA4C4	100 µg
12-558	Ubiquitin, recombinant	1 mg

Availability of Antibodies to Histone Modifications

Modifications	Histone	Cat. No. and descriptions
Unmodified	H1	05-457
	H2A	07-146
	H2B	07-371
	H3	05-499
	H4	07-108
Acetyl	H2A	07-376 (any), 07-290 (K5), 07-386 (K7), 07-289 (K9)
	H2B	07-373 (any), 07-382 (K5), 07-341 (K16), 07-347 (K20), 07-564 (K120)
	H3	06-599 (any), 07-539 (K4), 07-352 (K9), 06-911 (K14), 07-354 (K18), 07-355 (K23), 07-360 (K27), 07-540 (K36), 07-677 (K56), 07-750 (K79)
	H4	06-598, 07-328 (K8), 07-595 (K12), 07-329 (K16)
Monomethyl	H3	07-436 (K4), 07-450 (K9), 07-448 (K27), 07-548 (K36)
	H4	07-1570 (K20)
Dimethyl	H2B	07-673 (K5), 07-751 (K11)
	H3	07-030 (K4), 07-427 (K14), 07-608 (K23), 04-821 (K27), 07-369 (K36), 07-441 (K9), 04-835 (K79), 07-215 (R26), 05-808 (R2), 07-214 (R17)
	H4	07-031 (K20), 07-401 (K79), 07-213 (R3)
Trimethyl	H3	07-473 (K4), 07-523 (K9), 07-449 (K27), 07-549 (K36)
	H4	07-749 (K20)
Phospho	H1	06-597 (any), 05-1324 (any)
	H2A	07-179 (S1), 07-745 (S129)
	H2B	07-191 (S14), 05-751 (S14)
	H3	04-746 (T3), 04-789 (T11), 05-806 (S10), 07-145 (S28)
Ubiquityl	H2A	05-678 (any)
	H2B	05-1312 (any)
Citrulline	H4	07-596 (citrulline 3)

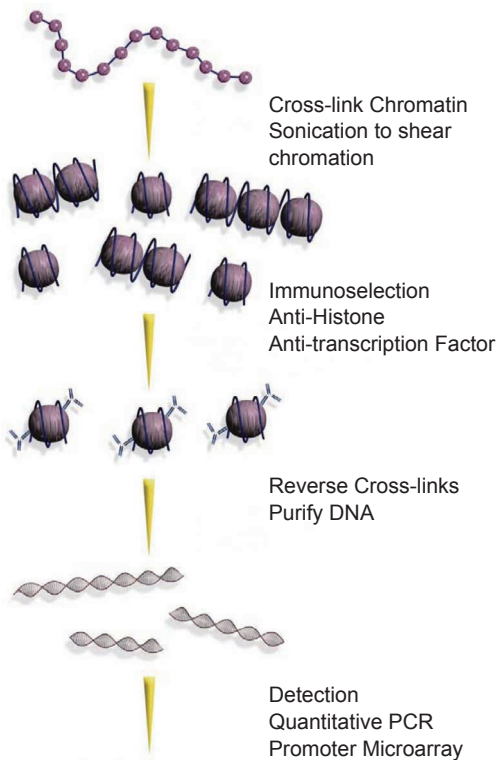
Chromatin

Chromatin immunoprecipitation assay (ChIP assay)

在後基因體時代，DNA 與 protein 的交互作用以及 histone modification 之生物作用是研究基因表達調控的重要領域。利用 ChIP assay 可深入探討 DNA-protein interaction network，也可進而探討基因活化表現的情形。與傳統的 EMSA 技術相比，ChIP assay 技術能更加真實完整地反映結合在 DNA 序列上的調控蛋白，利用 ChIP 更可精準探討基因表現調控中 DNA 與 protein 之間的相關性。

Millipore 提供多種 ChIP assay kits 讓您的實驗可以更加簡單、快速和高再現性。

實驗流程



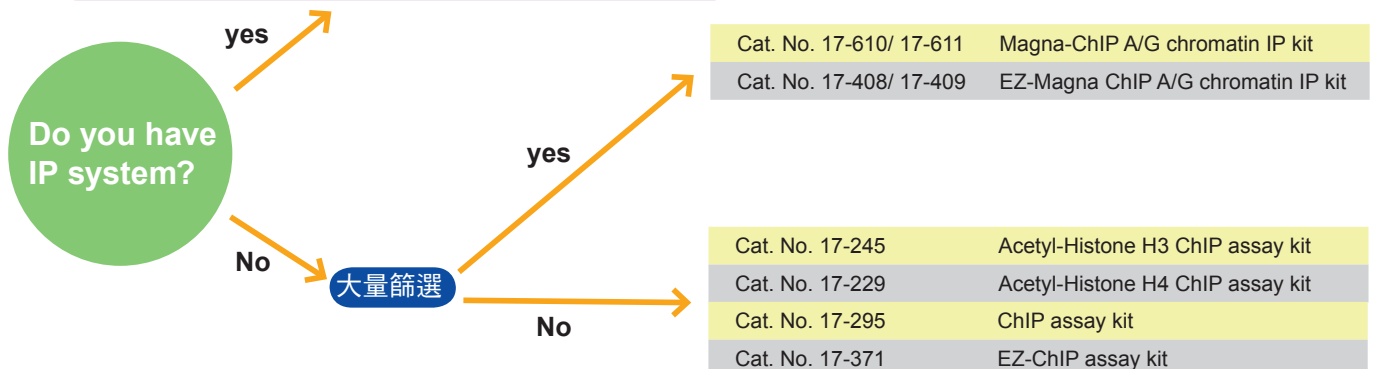
- 1 利用 formaldehyde 使 protein 與 chromatin 進行 cross-link
再將 chromatin 打斷形成小片段
(最適當的片段大小為 200-1000bp)
- 2 利用特定抗體進行免疫沉澱，以分離出 DNA-protein cross-linked 的片段
- 3 利用溶液將 DNA 與 protein 分離
- 4 將得到的 DNA 進行 PCR 反應，可利用 qPCR 或是 microarray 的分析，即可得知 DNA 是否與 protein 有交互作用

Millipore ChIP choose point

ChIP 選擇小撇步

Cat No.	Description	Qty/PK
17-375	EZ-Zyme Chromatin Prep kit	22 assays

其它 Millipore ChIP 相關產品
請上 www.millipore.com 並搜尋 “ChIP”



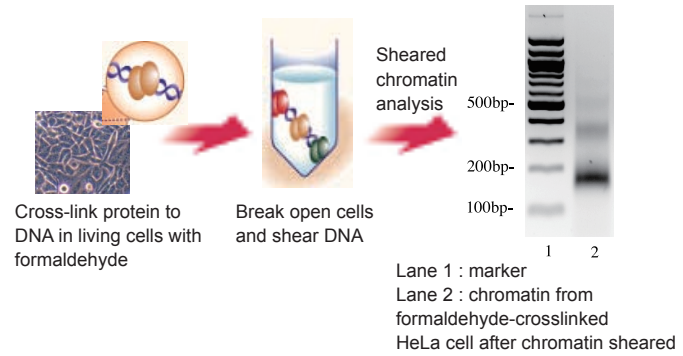
EZ-Zyme™ Chromatin Prep Kit

Chromatin shearing 為 ChIP assay 成功的第一個關鍵步驟，EZ-Zyme™ Chromatin Prep kit 提供了所需的 buffers 和 reagents 以達到成功的 chromatin shearing

特點 ▶

- 簡單、容易
- 高質量 sheared chromatin
- **ChIP assay** 成功率高
- 減少實驗變異性
- 快速

實驗流程



Cat No.	Description	Qty/PK
17-375	EZ-Zyme Chromatin Prep kit	22 assays

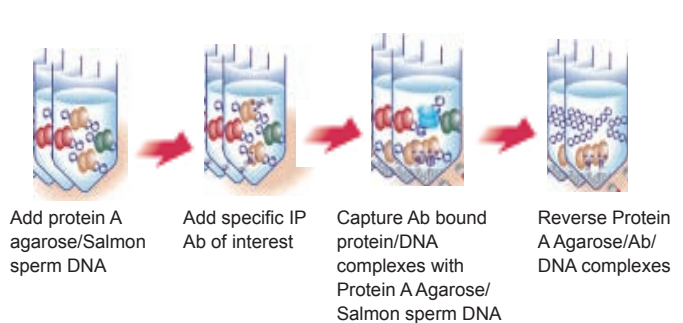
ChIP Assay Kit & EZ ChIP™ assay

此 assay kit 透過 immunoprecipitation 可成功分離 protein-DNA complexes，讓你一共可做 22次 ChIP assays

特點 ▶

- 提供 **Protein A agarose/Salmon sperm DNA**
- 可避免非特異性結合
- 含有完整 **ChIP assay** 中 IP 所需 reagents
- 減少實驗變異性
- 快速、easy-to-use
- **EZ-ChIP assay** 另外包括有
 - Positive control
 - Negative control
 - Control primer

實驗流程



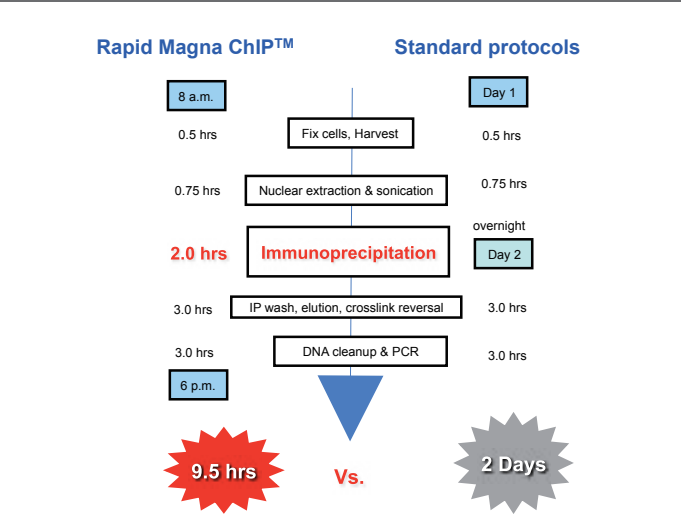
Cat No.	Description	Qty/PK
17-295	ChIP assay kit	22 assays
17-371	EZ-ChIP assay kit	22 assays

Magna ChIP™ assay & EZ-Magna ChIP™ assay

特點 ▶

- 利用 **magnetic protein A/G beads** 以達到 high throughput 可快速完成實驗
- **DNA purification** 容易 – polypropylene spin column 可輕鬆分離 DNA、protein 與 cell debris
- **EZ-Magna ChIP™** 另外包括有
 - Positive control
 - Negative control
 - Control primer
- 包括 **ChIP assay** 所需的 buffer、reagents
- 操作簡單
- 適用少量 **sample**，節省抗體使用量
- 省時，只要一天內就可以完成，比傳統方法快速、簡單

ChIP assay 與傳統方法大評比



Cat No.	Description	Qty/PK
17-610/ 17-611	Magna-ChIP A/G chromatin IP kit	22 assays
17-408/ 17-409	EZ-Magna ChIP A/G chromatin IP kit	22 assays

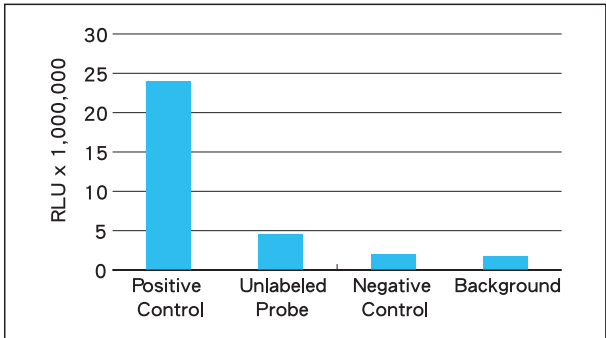
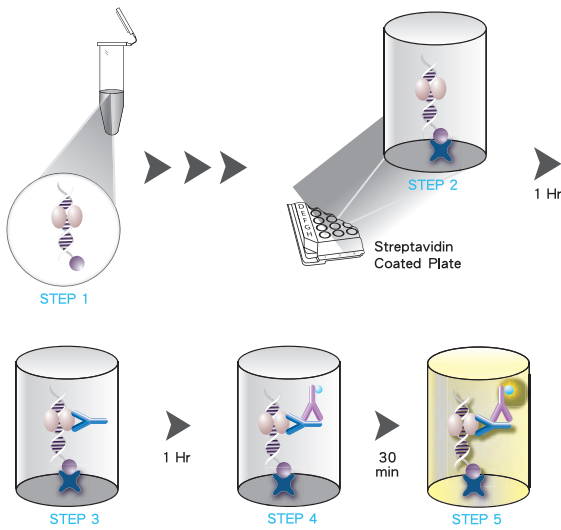
Nuclear function

Epigenetics 的重要性源於細胞核功能的調控，因為多數細胞核調控的發生皆是以染色質作為受質所引發的 enzymatic reactions。Millipore 提供多種 nuclear function 的研究工具，其中包括有 gene regulation 以及 DNA replication and repair。

Transcription factors

Millipore 之 EZ-TFA transcription factor assays 以 96 well ELISA 形式結合 EMSA 原理提供您快速 (4 個小時內即可完成實驗)、高靈敏度以及不需使用 isotope，即可偵測 whole cell or nuclear extracts 內 transcription factor 的 DNA binding activity。

- 特點**
- 以 96 well 型式偵測
 - 比 radioactive gel-shift assays 方式快速且靈敏度更高
 - 操作時間僅4小時



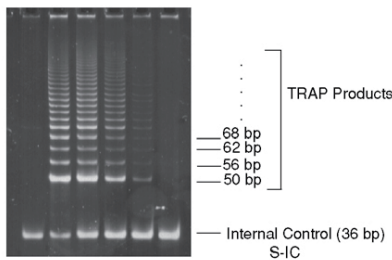
The Universal EZ-TFA kit was used to measure the DNA binding activity of the transcription factor, NFkB p65, in TNF α -stimulated HeLa cell extract. While the assay detected NFkB p65 bound to a positive control DNA probe, the binding was disrupted using unlabeled competitor probe. Minimal signal was observed using either a negative control DNA sequence or with no added DNA.

Cat. No.	Description	Qty/Pk
70-500	EZ-TFA (Universal Transcription Factor Assay, colorimetric)	96 assays
70-600	Universal EZ-TFA Chemiluminescent Transcription Factor Assay	96 assays
70-510/610	NFkB p50/p65 EZ-TFA Transcription Factor Assay Colorimetric/chemiluminescent	96 assays
70-515/615	NF κ B p50 EZ-TFA Transcription Factor Assay Colorimetric/chemiluminescent	96 assays
70-550/650	AP-1 Family EZ-TFA Transcription Factor Assay Colorimetric/chemiluminescent	96 assays
70-546/646	Jun/Fos EZ-TFA Transcription Factor Assay Colorimetric/chemiluminescent	96 assays

Telomerase detection

Millipore 之 EZ-TFA transcription factor assays 以 96 well ELISA 形式結合 EMSA 原理提供您快速、高靈敏度以及不需使用 isotope，即可偵測 whole cell or nuclear extracts 內 transcription factor 的 DNA binding activity。

- 特點**
- 快速定量 telomerase activity
 - non-isotopic assays
 - 可偵測 cell or tissue extracts 之 telomerase 活性
 - 偵測型式有多種選擇—
 - PCR and gel based detection (S7700)
 - Chromogenic ELISAs (S7750)
 - Fluorescent detection (S7707、S7710)



Cat. No.	Description	Qty/Pk
S7700	TRAPeZe Telomerase Detection Kit	112 assays
S7707	TRAPeZe XL Telomerase Detection Kit	112 assays
S7750	TRAPeZe ELISA Telomerase Detection Kit, strip well plates	96 assays
S7710	TRAPeZe RT Telomerase Detection Kit	224 assays
S7701	TRAPeZe Telomerase Positive Control Cell Pellet	1 vial

Cell cycle

High Content Analysis (HCA)

偵測 cell cycle 的變化以及細胞增生的情形能幫助您了解細胞的健康狀態。

High Content Analysis (HCA) 讓您透過特定時期的 cell cycle 其細胞的 nuclear morphology, multinucleation or nuclear fragmentation 、 cell shape 以及 mitotic spindle structures 輕鬆分析細胞的活性及狀態。

特點 ▶

- 高效率、高靈敏度
- 快速、Easy-to-use
- 含有實驗所需的 reagents 及 buffer
- 以 96 well 型式偵測
- Kit 內包含 primary antibody 、 secondary conjugated antibody 以及 control toxins
- 附有 12-point dose response curve protocol
- 可廣泛地應用多種不同細胞種類

需搭配特定儀器，幫助實驗結果數據之判讀與分析。

Cat. No.	Description	Application
HCS202	Cyclin B1 Kit Mouse primary antibody	Cell Cycle
HCS203	Phospho-histone H3 ^{Ser10} Kit Mouse primary antibody	Cell Proliferation, Aurora Kinase Profiling
HCS205	Ki-67 Kit Rabbit primary antibody	Cell Cycle Stage Segregation
HCS206	Ki-67 Kit Mouse primary antibody	Cell Cycle Stage Segregation
HCS209	Phospho-Histone H3(Ser 10) and Ki-67 Kit	Cell Proliferation, Aurora Kinase Profiling, Cell Cycle Evaluation
HCS210	Cyclin B1 and Ki-67 Kit	Cell Proliferation, Cell Cycle Evaluation
HCS211	Phospho-Histone H3(Ser 10) and Cyclin B1 Kit	Cell Proliferation, Cell Cycle Evaluation
HCS212	BrdU and Phospho-Histone H3(Ser 10) Kit	Apoptosis, Aurora Kinase Profiling, Cell Cycle Evaluation
HCS213	BrdU and Ki-67 Kit	Apoptosis, Cell Cycle

DNA damage and repair

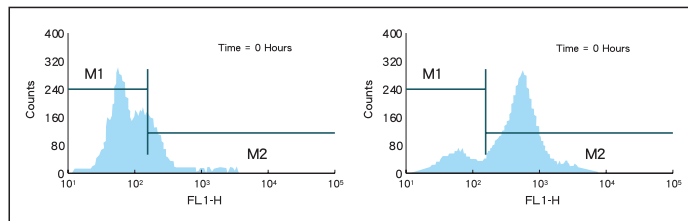
H2A.X Phosphorylation Assay Kit

(Flow Cytometry) (17-344)

當雙股 DNA 發生斷裂時 Histone H2A.X 磷酸化現象是相當靈敏且快速的反應。此 kit 便是以 flow cytometry 方式偵測 histone H2A.X 磷酸化程度。

特點 ▶

- cell based assay format
- 操作簡單
- 包含實驗所需之 ready-to use 的 antibodies 和 buffer



Log phase Jurkat cells were treated with 2 mg/mL staurosporine for 4 hours. Histone H2A.X (Ser139) phosphorylation was detected as described in the assay manual for the H2A.X Phosphorylation Assay Kit , Flow Cytometry (17-344) and the cells were analyzed by flow cytometry.

p53 STAR

(signal transduction assay reaction) ELISA Kits (17-476)

特點 ▶

- solid phase sandwich enzyme linked immunosorbent assay
- 操作時間 5小時內即可完成
- 操作簡單、高靈敏度
- 包含實驗所需之 ready-to use 的 reagents
- phospho-specific antibodies 可偵測 total 以及 activated p53
- Kits 內含有 standard 可作為 positive control 以及 p53 standard curve

Cat. No.	Description	Qty/Pk
17-344	H2A.X Phosphorylation Assay Kit (Flow Cytometry)	100 assays
17-476	p53 STAR ELISA Kit	96 assays
04-200	Anti-ATM, clone Y170, Rabbit Monoclonal	100 µL
MAB3610	Anti-Bub1, clone 14H5	100 µg
05-965	Anti-CHK1, clone 2G11D5	100 µg
05-844	Anti-PLK1, clone 35-206	200 µg
06-972	Anti-Wee1	200 µL

RNA-protein interaction

近來對於 RNA- RNA binding proteins (RBPs) 的研究日與俱增，RBPs 在轉錄後調控過程中扮演著重要的角色，在細胞核或是細胞質內 RBPs 透過 RNA recognition motif (RRM) 或是 RNA-binding domain (RBD) 與 RNA 結合。例如 mRNA metabolism 過程中，RBPs 會與轉錄後 pre-mRNA 的 intron 和 exon 結合後進而發生 splicing、polyadenylation、mRNA stabilization、nuclear transport、subcellular localization 以及 translation，研究發現 RBPs 會影響其中的過程或是蛋白質合成的速率。

因此了解 RNA-RBP networks 與 RBPs 和 RNA 結合的區域將可幫助了探討基因轉錄和蛋白質合成之間的重要性。

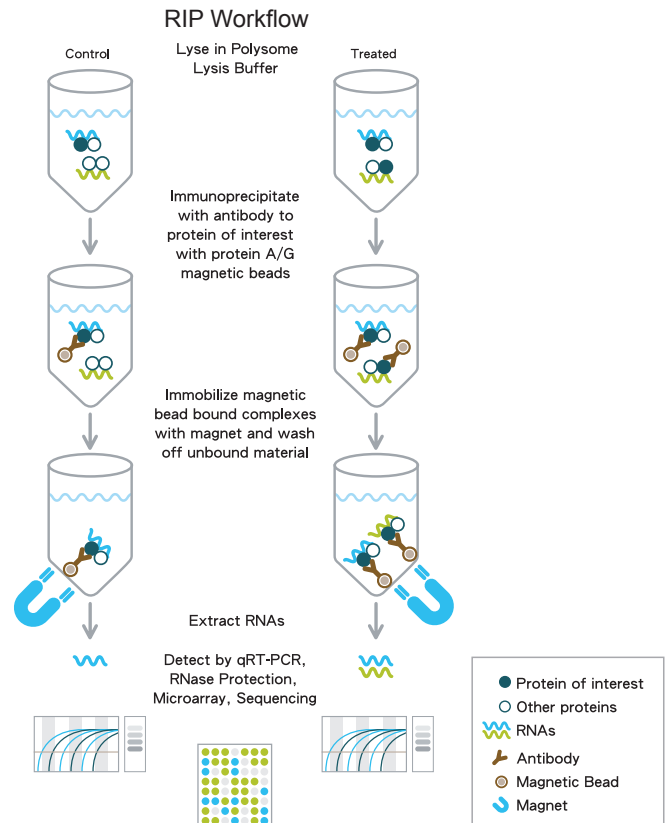
RNA-binding Protein Immunoprecipitation (RIP)

此為 Millipore 最新推出的 RIP assay kit 能幫助您研究 RNA-binding protein 之間的 dynamics 以及 biological roles。

RIP 利用特定的抗體透過免疫沉澱方式可成功分離出 RNA-binding protein complexes，純化 RNA 後再利用特定鑑定方式分析此 RNA 片段是否為 mRNA 或是 non-coding RNA。

特點 ▶

- 利用 **protein A/G magnetic beads** 以達到 **high throughput**
- 操作簡單、快速
- **Magna RIP kit** 內包含 **negative control**
- **EZ-Magna RIP kit** 另外包含有
 - **Positive control antibody**
 - **Negative control antibody**
 - **Control primers**
- 包含實驗所需的 **buffer**、**RNase inhibitors** 以及 **RNase-free reagents** 不需再額外配置或購買



Cat. No.	Description	Qty/Pk
17-700	Magna RIP Kit, with negative control antibody	12 reaction
17-701	EZ-Magna RIP Kit, with positive control antibody and primers	12 reaction
17-704	Magna RIP Quad Kit	48 reaction
03-101	RIPAb+ PABPC1, clone 10E10 antibody/primer set	10 reaction
03-102	RIPAb+ Anti-HuR, amino acids 3-19	10 reaction
03-103	RIPAb+ SNRNP70	10 reaction

RNA-Binding Protein (RBP) Antibodies

Cat. No.	Description
04-321	Anti-4E-BP1, Rabbit Monoclonal
07-599	Anti-Ago 1
09-456	Anti-AIRE
07-260	Anti-AUF1
AB10004	anti-BARD1
AB16507	Anti-Bnip3L, internal
05-621	Anti-CUG-BP1, clone 3B1
04-721	Anti-Dicer1, clone 5D12.2
05-235	Anti-EF1 α , clone CBP-KK1
07-1568	Anti-ESET/SetDB1
07-504	Anti-hnRNP A0
AB5969	Anti-HuB
AB5831	Anti-HuR

Cat. No.	Description
07-1385	Anti-Lin28
AB5977	Anti-Musashi-1
07-637	Anti-Nova-1
MAB1287	Anti-Nuclear Ribonucleoprotein, clone 58-15
05-950	Anti-p54nrb/NonO, clone 78-1-C6
05-850	Anti-p68, clone PAB204
07-823	anti-phospho eIF4E (Ser209)
07-822	anti-phospho-eIF2B ϵ (Ser539)
07-760	Anti-phospho-eIF-2 α (Ser51)
07-824	anti-phospho-eIF4G (Ser1108)
07-566	Anti-phospho-hnRNP A0 (Ser84)
05-839	Anti-RNase L, clone 2G5
AB5781	Anti-Staufen

For a complete listing of RNA-Binding Protein Antibodies, please visit www.millipore.com/RIP

DNA Methylation

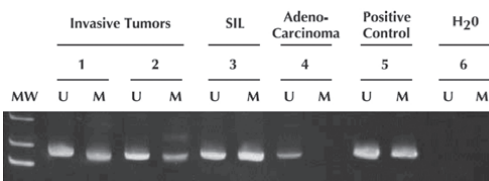
DNA methylation 參與許多細胞相關的調控，包括 chromosome stability, chromatin structure, X chromosome inactivation, embryonic development, 以及 transcription 等。目前研究發現 1% Genome 中大約包含 500-2000 bp CpG island, 而約50% 的 CpG islands 在活化的基因中與 transcription start sites 與 promoters 相關，因此一般認為 CpG islands 之 methylation 與基因表現，人類癌症發展具有相關性。

CpG islands

Millipore 之 CpGenome™ 和 CpG WIZ kit 利用 methylation-specific PCR (MSP) 的高靈敏度偵測方式讓您方便且準確地偵測 genomic DNA 中 CpG islands 甲基化情形。當您要偵測許多常見且重要的不同甲基化狀態的基因時，Millipore 有多種抗體和試劑組合讓您輕鬆選擇。

特點 ▶

- 利用 **MSP** 可高靈敏度偵測 **CpG islands** 甲基化的情形
- 簡單、快速
- 不需再多做 **restriction digests** 或是 **Southern blots**
- 少量的 **DNA (1ng)** 也可輕鬆偵測在 **CpG methylation** 的變化。



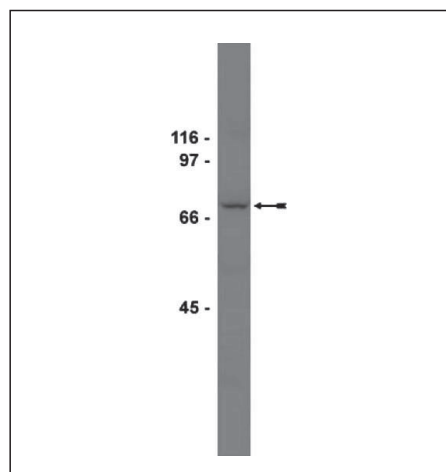
Description	Catalog No.	Size
CpGenome™ Universal DNA Modification Kit	S7820	100 units
CpGenome Fast DNA Modification Kit	S7824	25 units
CpGenome Universal Methylated DNA	S7821	10 µg
CpGenome Universal Unmethylated DNA	S7822	10 µg
CpG WIZ® Prader-Willi/Angelman Amplification Kit	S7806	25 assays
CpG WIZ® p16 Amplification Kit	S7800	25 assays
CpG WIZ® p15 Amplification Kit	S7802	25 assays
CpG WIZ® MGMT Amplification Kit	S7803	25 assays

DNA methyltransferases

Millipore 提供多種 Antibodies 讓您方便偵測 DNA methylation。

在 DNA methylation 機制中，DNA methyltransferase enzymes (DNMT1, DNMT3a 以及 DNMT3b) 可以幫助穩定 DNA methylation。MECP2, MBD1, MBD2, MBD3, MBD4 以及 Kaiso 會形成 methyl-CpG binding domain (MBD), 進而扮演著 methylation-sensitive transcriptional repressors。

Description	Catalog No.	Size
Anti-DNA Methyltransferase 1	AB3429	100 µg
Anti-DNA Methyltransferase 1	07-688	100 µL
Anti-DNA Methyltransferase 3a	AB3431	100 µg
Anti-DNA Methyltransferase 3b	AB3433	100 µg
Anti-MBD1 (methyl-CpG binding domain protein 1)	09-833	100 µg
Anti-MBD2	07-198	200 µg
Anti-Methyl-CpG Binding Domain Protein 2, Isoform 1	AB3467	100 µg
Anti-MBD2/3	07-199	200 µg
Anti-Kaiso, clone 6F	06-659	200 µg
Anti-MeCP2	07-013	200 µg



Mouse heart nuclear extract was resolved by electrophoresis, transferred to nitrocellulose and probed with anti-MeCP2 (Cat. No. 07-013). Protein were visualized using a goat-anti-rabbit HRP conjugated and chemiluminescent detection.

促銷大優惠

Ab / Kit 單件85折