AbSurance™ Histone Antibody Specificity Arrays

A simple and reliable approach to screen for antibody cross-reactivity

Post-translational modifications (PTMs) on histones can alter chromatin structure and influence gene expression. Even subtle differences, such as the presence or absence of an additional methyl group on a specific lysine residue, can change the transcriptional status of chromatin and produce a different biological outcome. Consequently, antibody specificity is critical when performing chromatin immunoprecipitation or other sensitive antibody-dependent analyses. Unlike Merck Millipore, many commercial suppliers do not rigorously or consistently test their histone antibodies for specificity.

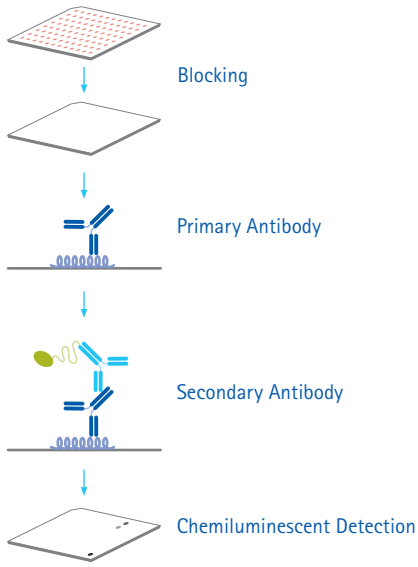
Easily evaluate the specificity of your histone antibodies with the AbSurance™ Arrays

The AbSurance™ Histone Antibody Specifity Arrays employ the same technology used to screen Merck Millipore's highly characterized and extensively published histone antibodies. Built on easy-to-use PVDF membranes, these arrays permit a detailed characterization of antibodies against key histone modification sites[1]. The AbSurance™ screening process is performed using a simple Western-blot–like procedure, followed by detection using either x-ray film or a CCD imager. Because AbSurance™ arrays are designed in a macroarray format, you can evaluate histone antibody specificity without using specialized array scanners or analysis software.

Reference:

1. Egelhofer, T.A., et al. An assessment of histone-modification antibody quality. Nat Struct Mol Biol. 2011 Jan;18(1):91-93.

Intuitive, convenient, Western-blot–like protocol

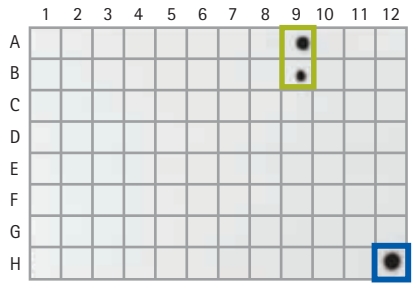


Benefits

- High quality purified peptides (>95% purity)
- A total of 89 peptides representing all key histone modification sites (acetyl, phospho, and mono-, di-, and trimethyl PTMs)
- Consistent and uniform spotting of peptides using a proprietary process
- Sensitive chemiluminescent detection using either film or CCD imagers
- Easy data analysis - No additional software required
- Built-in positive control primary antibodies from rat, mouse, sheep, and rabbit
- Available formats: Histone H3 peptide array; Histone H2A, H2B, H4 peptide array; Complete set (both arrays)

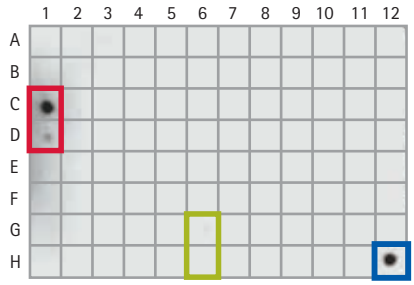
AbSurance™ arrays detect specific and nonspecific interactions

A.



A. Detection of specific interactions using Merck Millipore's antibody to trimethyl histone H3 lysine 4 (Catalogue No. 05-745R). AbSurance™ array shows expected specificity for H3K4me3 peptide (9A and 9B, green box) without cross-reaction to other peptides including unmodified H3, H3K4 (6A and 6B), H3K4me (7A and 7B), and H3K4me2 (8A and 8B). Primary antibody used at 1:2,000 dilution. Positive control rabbit IgG shown at position 12H (blue box).

B.



B. Detection of nonspecific interactions using an antibody to acetyl histone H3 lysine 56 obtained from Supplier E. AbSurance™ array data demonstrate weak recognition of the target H3K56ac peptide (6G and 6H, green box), but strong cross-reactivity with H3K9ac (1C and 1D, red box). Primary antibody used at 1:2,000 dilution. Positive control rabbit IgG shown at position 12H (blue box).

Ordering Information

Description	Catalogue No.
AbSurance™ Histone H3 Antibody Specificity Array	16-667
AbSurance™ Histone H2A, H2B, H4 Antibody Specificity Array	16-665
AbSurance™ Histone Antibody Specificity Array, Complete Core Histone Set	16-668

Related Products

Description	Catalogue No.
Immobilon® Western Chemiluminescent HRP Substrate	WBKLS0100
RapidStep™ ECL Reagent	345818-100ML
Luminata™ Chemiluminescent HRP Substrates	WBLUC0100, WBLUR0100, WBLUF0100
BlØk™ Noise-cancelling Blocking Reagent for Chemiluminescent Detection	WBAVDCH01
TBST Tablets	524753
Goat anti-mouse IgG	AP124P
Donkey anti-rabbit IgG	AP182P

For a complete list of histone antibodies and assays, visit: **www.millipore.com/epigenetics**

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H2A, H2B, H4 Array		H3 Array	
Peptide	Modification	Peptide	Modification
H2A 1-19	unmod	H3 1-19	unmod
H2A 1-19	S1P	H3 1-19	R2me1
H2A 1-19	K5ac	H3 1-19	R2me2a
H2A 1-19	K9ac	H3 1-19	R2me2s
H2A 1-19	K13ac	H3 1-19	T3P
H2A 110-129	unmod	H3 1-19	K4ac
H2A 110-129	T120P	H3 1-19	K4me1
H2A.X 124-142	unmod	H3 1-19	K4me2
H2A.X 124-142	S139P	H3 1-19	K4me3
H2A.X 124-142	Y142P	H3 1-19	R8me1
H2B 1-19	unmod	H3 1-19	R8me2a
H2B 1-19	K5ac	H3 1-19	R8me2s
H2B 1-19	K5me1	H3 1-19	K9ac
H2B 1-19	K12ac	H3 1-19	K9me1
H2B 1-19	S14P	H3 1-19	K9me2
H2B 1-19	K15ac	H3 1-19	K9me3
H2B 107-125	unmod	H3 1-19	S10P
H2B 107-125	K120ac	H3 1-19	T11P
H4 1-19	unmod	H3 7-26	unmod
H4 1-19	S1P	H3 7-26	K14ac
H4 1-19	R3me1	H3 7-26	R17me1
H4 1-19	R3me2a	H3 7-26	R17me2a
H4 1-19	R3me2s	H3 7-26	R17me2s
H4 1-19	K5ac	H3 7-26	K18ac
H4 1-19	K8ac	H3 16-34	unmod
H4 1-19	K12ac	H3 16-34	K23ac
H4 11-30	unmod	H3 16-34	K27ac
H4 11-30	K16ac	H3 16-34	K27me1
H4 11-30	R17me1	H3 16-34	K27me2
H4 11-30	R17me2a	H3 16-34	K27me3
H4 11-30	R17me2s	H3 16-34	R26me1
H4 11-30	R19me1	H3 16-34	R26me2a
H4 11-30	R19me2a	H3 16-34	R26me2s
H4 11-30	R19me2s	H3 16-34	S28P
H4 11-30	K20ac	H3 26-44	unmod
H4 11-30	K20me1	H3 26-44	K36ac
H4 11-30	K20me2	H3-26-44	K36me1
H4 11-30	K20me3	H3-26-44	K36me2
H4 11-30	R23me1	H3-26-44	K36me3
H4 11-30	R23me2a	H3 26-44	Y41P
H4 11-30	R23me2s	H3 47-65	unmod
H4 82-100	unmod	H3 47-65	K56ac
H4 82-100	K91ac	H3 71-89	unmod
		H3 71-89	K79me1
		H3 71-89	K79me2
		H3 71-89	K79me3

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