SI Text

Figure Legends

Figure S1. Expression and purification of H2A COOH-terminal deletion and chimeric proteins and hydroxyl radical footprinting of nucleosmes. **(A)** Alignment of human H2A.1 and H2A.Bbd proteins. Domain structure of histone H2A is represented in the form of cartoon drawing below the sequence. H2A docking domain is represented as punctuated line below the sequence. **(B)** 18% SDS PAGE of different histones and H2A COOH-truncated mutant proteins. All the proteins were bacterially expressed in denaturing condition and purified from inclusion bodies using SP-sepharose medium. **(C)** Characterization of conventional, variant and mutant nucleosomes by •OH footprinting**.** The gel shows •OH radical cleavage profile of the indicated nucleosomes reconstituted on 205 bp 3'-labeled 601 DNA fragment. Note the higher background (smaller contrast) observed in the cleavage pattern of H2A.Bbd, ddBbd and d79 nucleosomes.

Figure S2. One pot restriction accessibility assay of conventional and H2A.Bbd nucleosomes. Both types of nucleosomes were digested with *Hae* III and samples were processed and percentage of *Hae* III cleavage was quantified as described for Figure 2. Cleavage efficiency of conventional (triangles) and H2A.Bbd (Squares) nucleosomes are presented.

Figure S3. Scans of hydroxyl radical cleavage profile (See Figure 4B) for H2A, H2A.Bbd and H2A.ddBbd containing dinucleosomes in absence or presence of linker histone H1**.**

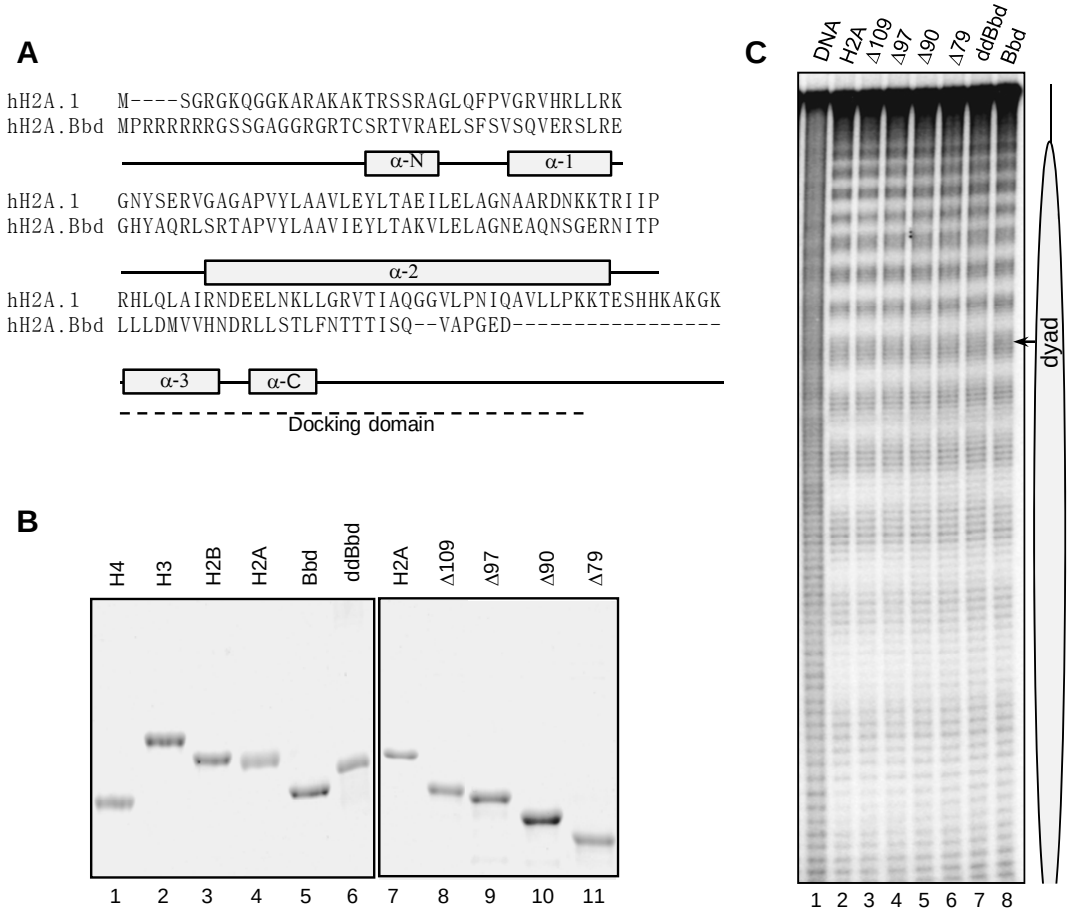
A
hH2A.1 M----SGRGKQGGKARAKAKTRSSRAGLQFPVGRVHRLLRK
hH2A.Bbd MPRRRRRRGSSGAGGRGRTCSRTVRAELSFSVSQVERSLRE
α-N
α-1
hH2A.1 GNYSERVGAGAPVYLAAVLEYLTAEILELAGNAARDNKKTRIIP
hH2A.Bbd GHYAQRLSRTAPVYLAAVIEYLTAKVLELAGNEAQNSGERNITP
α-2
hH2A.1 RHLQLAIRNDEELNKLLGRVTIAQGGVLPNIQAVLLPKKTESHHKAKGK
hH2A.Bbd LLLDMVVHNDRLLSTLFNTTTISQ--VAPGED----------
α-3
α-C
Docking domain
B
H4
H3
H2B
H2A
Bbd
ddBbd
H2A
Δ109
Δ97
Δ90
Δ79
1 2 3 4 5 6 7 8 9 10 11
C
DNA
H2A
Δ109
Δ97
Δ90
Δ79
ddBbd
Bbd
dyad
1 2 3 4 5 6 7 8

Figure S1

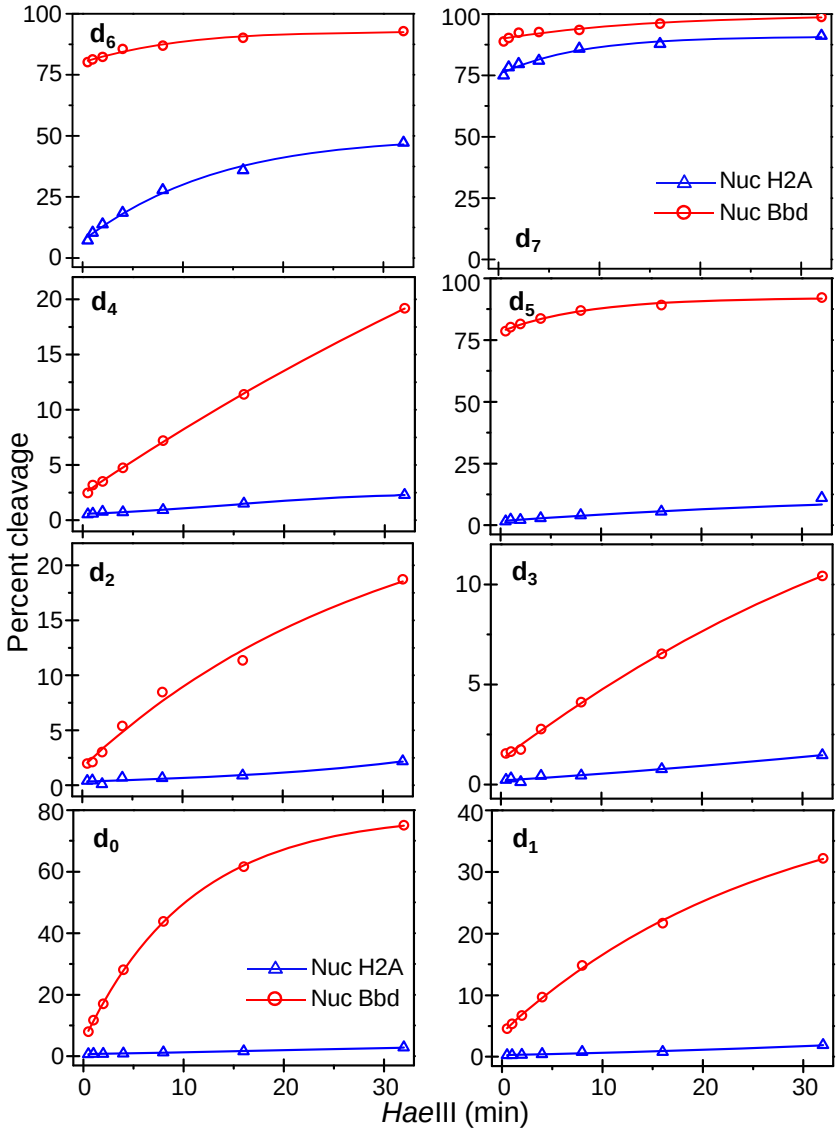
d6
d7
d4
d5
d2
d3
d0
d1
Nuc H2A
Nuc Bbd
Percent cleavage
HaeIII (min)

Figure S2

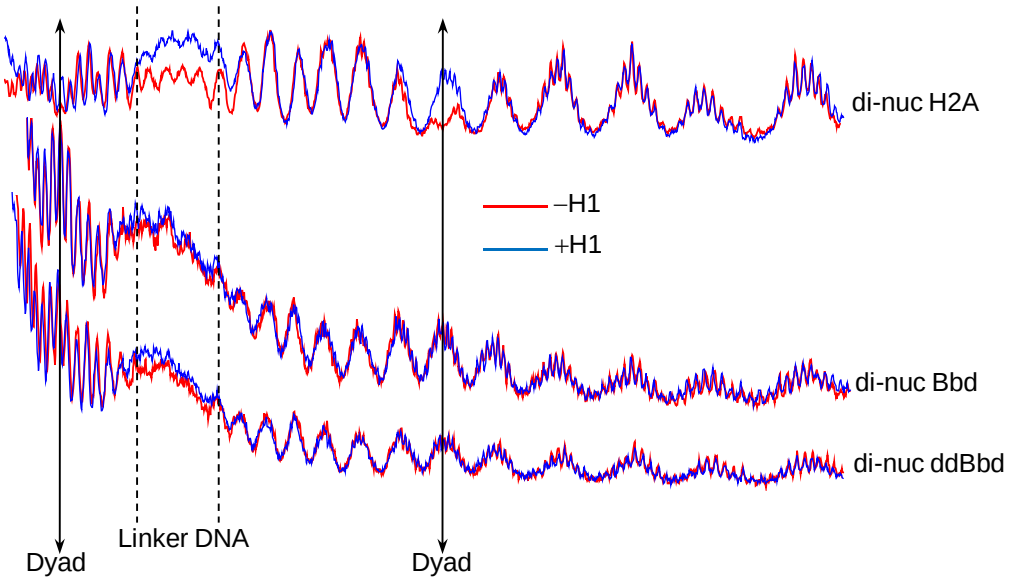

Figure S3