Electronic Supplementary Material

Mapping epigenetic modifications on chicken lampbrush chromosomes

Tatiana Kulikova¹, Anna Surkova¹, Anna Zlotina¹, Alla Krasikova¹*

¹Saint Petersburg State University, Saint-Petersburg, Russia
Supplementary Figure 1. Positioning of chromomere 4 on GGAW after immunodetection of H4Ac.

FISH with oligonucleotide probe to CNM repeat after immunostaining of GGAW with antibodies against H4Ac. a – H4Ac, a’ – DAPI, a’’ – FISH with oligonucleotide probe to CNM repeat (green) merged with H4Ac (red) and DAPI (blue). Numbers (1-7) indicate individual chromomeres of GGAW from free terminus to chiasma with the chromosome Z.

Scale bar – 10 μm.
Supplementary Figure 2. FISH with the DNA-probes to the chromomere bearing LL32 on GGA3 q-arm after immunodetection of H4Ac and H3K9me3.

a – immunodetection of H4Ac on GGA3, f –immunodetection of H3K9me3 on the fragment of GGA3. b, g – DAPI staining. c, h – FISH with the DNA probes #16-6 and #16-4 to the chromomere bearing LL32 correspondingly. d, i – merged a-c and f-h images correspondingly (immunostaining – red, DAPI – blue, FISH signals – green). a’-d’, f’-i’ – enlarged areas of panels a-d and f-i, framed on d and i. Arrows indicate FISH signals. Scale bars on panels a-d, f-i – 20 μm, on panels a’-d’, f’-i’ – 10 μm. e, j – maps of H4Ac and H3K9me3 distribution on GGA3 correspondingly. DAPI-positive chromomeress – white circles, DAPI-negative chromomeress – black circles, DAPI-positive chromomeress enriched with H4Ac or H3K9me3 – green circles, DAPI-negative chromomeress enriched with H4Ac or H3K9me3 – orange circles. Arrows indicate chromomeress hybridized with the corresponding DNA probes. Dashed line (j) indicates border of the GGA3 fragment (f-i). CEN – centromere position, TBL – telomere bow-like loops. LL32 – lumpy loop 32.
Supplementary Figure 3. FISH with the DNA-probes to individual chromomeres of GGA4 after immunodetection of H4Ac or H3K9me3. a – immunodetection of H4Ac on GGA4. f – immunodetection of H3K9me3 on GGA4. b, g – DAPI staining. c, h – FISH with the DNA probes #3+#18 and #6+#17 to individual chromomeres of GGA4 q-arm correspondingly. d, i – merged a-e and f-h images correspondingly (immunostaining – red, DAPI – blue, FISH signals – green). Enlarged areas of panels a-d and f-i, framed on d and i correspondingly: a′-d′ – DNA probe #18; a′′-d′′ – DNA probe #3, f′-i′, f′′′-i′′′ – DNA probe #6; f′′′-i′′′ – DNA probe #17. Arrows indicate FISH signals, arrowhead (h) – position of chromosome termini. Scale bars on panels a-d, f-i – 20 μm, on panels a′-d′′, f′-i′′′ – 10 μm. e, j – maps of H4Ac and H3K9me3 distribution on GGA4 correspondingly. DAPI-positive chromomeres – white circles, DAPI-negative chromomeres – black circles, DAPI-positive chromomeres enriched with H4Ac or H3K9me3 – green circles, DAPI-negative chromomeres enriched with H4Ac or H3K9me3 – orange circles. Arrows indicate chromomeres hybridized with the corresponding DNA probes. CEN – centromere position, GITERA – giant terminal RNP aggregates.