



Distribution of polyadenylated transcripts on spreads of the contents of the nucleus isolated from growing pigeon oocyte. Poly(A)⁺ RNA (green) concentrates in giant formless structures at the terminal positions of lampbrush bivalent. Poly(A)⁺ RNA is also detectable in the nucleoplasm, but not in the RNP-matrix of normal lateral loops, which consist of nascent transcripts. Phase contrast image is presented on the left panel. Scale bar – 10 μm.

The conventional 3'-processing of RNA-polymerase II transcripts, synthesized on the majority of normal lampbrush lateral loops, includes 3'-cleavage followed by polyadenylation. Although most of the polyadenylated transcripts leave the nucleus, there are structures, which form at the specific loci of lampbrush chromosomes of many avian and amphibian species, where poly(A)⁺RNA accumulates and thus retains in the oocyte nucleus.

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Reference: Kulikova T., Deryusheva S., Zlotina A., Krasikova A., Gaginskaya E. Telomere-associated structures on avian lampbrush chromosomes are enriched with poly(A)⁺RNA. Book of Abstracts of the EMBO Conference on Nuclear Structure and Dynamics, 2007, P078.