

Leading Edge

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ANNOUNCEMENTS

POSITIONS AVAILABLE

On the cover: Each olfactory neuron expresses 1 of the 2800 olfactory receptor (OR) alleles through a poorly understood mechanism. Magklara et al. (pp. 555–570) report that histones at OR genes in olfactory neurons are marked by the methylations H3K9me3 and H4K20me3. These modifications are the hallmarks of constitutive heterochromatin and are found mostly on telomeric and pericentromeric repeats. Biochemical analysis of OR heterochromatin reveals an extremely compacted and inaccessible chromatin structure that likely “locks” OR genes in a transcriptionally silent state. In contrast, the transcriptionally active OR allele is free of these repressive modifications and instead is marked by H3K4me3, an epigenetic mark compatible with transcription. The cover image depicts locked safety deposit boxes, representing the inactive OR alleles in olfactory neurons. One deposit box is open, symbolizing the “open” chromatin state of the transcriptionally active OR allele. Original picture purchased from Photosearch.

