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Recognizing Mom's scent

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Proteins of the major histocompatibility complex (MHC) are involved in cell-cell recognition: they **bind and present antigens** in the immune system. But, at least in mice, they are also involved in odor-based recognition between individuals. Mice tend to **mate** with MHC-dissimilar mice (to maintain MHC diversity) and **nest** with MHC-similar mice. In the September 12 **Proceedings of the National Academy of Sciences** Yamazaki *et al.* report that mothers recognize and preferentially retrieve MHC-similar pups, and that pups placed in a maze head for bedding soaked in the urine from an MHC-similar adult mouse (*Proc Natl Acad Sci USA* 2000, **97**:10500-10502). The latter effect is partially, but not completely reversed by foster parenting, suggesting that some part of the response may be learned prenatally or by self-referral.

References

1. Population biology of antigen presentation by MHC class I molecules.
2. Mating patterns in seminatural populations of mice influenced by MHC genotype.
3. Communal nesting patterns in mice implicate MHC genes in kin recognition.
4. Proceedings of the National Academy of Sciences, [<http://www.pnas.org/>]