

MOLECULAR GENETICS  
CBMG 688I April 22 2008  
Quiz Paper 3 – "Answers"

---

**April 22, 2008 Paper 3** Lolle *et al.* 2006 (and communications arising).  
*SCNMI*, a putative RNA splicing factor that modifies disease severity in mice

Quiz – 15 minutes. Open paper (and other materials). You can get full credit whether you say yes or no. Your grade will be based on your argument and your ability to cite specific experiments in support of your view.

Do you think that Arabidopsis plants homozygous for recessive mutant alleles of the organ fusion gene *HOTHEAD* (*HTH*) can inherit allele-specific DNA sequence information that was not present in the chromosomal genome of their parents but was present in previous generations? Defend your opinion by citing specific experiments. To the extent that you have any remaining doubts, please specify what experiments could be done to clarify this issue.

**Most of you summarized the experiments that support either non-Mendelian inheritance or that argue against it. Prominent evidence in favor is the transmission of HTH alleles through pollen (the two cases of HTH/HTH embryos from hth/hth parents). Prominent evidence in favor is the Peng et al. (no reversion in the case of isolated populations). These summaries were generally good, and you got 16-18 points. No one proposed a novel experimental test, which is what I would have wanted to award 20 points.**