IN THE NEWS

Mutant gene means early mornings

Geneticists have discovered why some people are wide awake before most of us would even consider surfacing from beneath the bedclothes. A mutation in a single gene is responsible, a finding that could help us to understand and treat several sleep-related problems.

Ying-Hui Fu and colleagues studied three generations of a family affected by familial advanced-sleep-phase syndrome (FASPS). On average, people with FASPS are ready to get up at 4 am, and they struggle to stay awake in the evening.

Although some of these early birds find their condition an advantage, others suffer as a result of "being out of phase with the rest of the world," as neuroscientist Louis Ptacek puts it (*Fox News*, 30 March 2005).

Reporting in *Nature*, Fu and colleagues found that FASPS individuals carry a mutation in casein kinase Iδ (*CKIδ*), revealing this gene as a key component of the body clock. They also showed that although the mutant form of the gene has a similar effect in mice, expressing it in flies had the opposite effect, turning them into night owls. So, Fu says that although insect and mammalian circadian systems are known to have several components in common, "there are some fundamental differences in the mechanisms that regulate the clock" (*National Geographic News*, 30 March 2005).

The study is good news for FASPS sufferers, as it could be the first step towards designing therapeutic agents to readjust their body clocks. The results could also be important in understanding other conditions that involve body-clock defects, ranging from jetlag to cancer. As Fu points out, "…circadian rhythms may have a fundamental role in numerous behaviors" (*Medical News Today*, 31 March 2005).

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