

New pill increases dreaming sleep

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A new sleeping pill that increases dreaming sleep improves memory capacity, according to the results of new research.

With only 10% of the 20-30% of the population who suffer with insomnia taking medication, pharmaceutical companies have been searching for the perfect sleeping pill. And one company at least has developed a completely new type of drug that not only induces sleep, but also increases the dream phase, consolidating memory and improving one's sense of wellbeing.

The drug targets the orexin system, which is also associated with feeding and addiction. Because of this, experts think a drug that effectively targets the system could also find application in treatments for obesity and addiction.

Orexin is a neuropeptide hormone that was discovered in 1998. It is known to control feeding and is associated with narcolepsy, a sleeping disorder that causes people to fall asleep several times a day and to have paralyzing attacks.

Swiss company Actelion's candidate drug orexin-RA-1 blocks the orexin system. Rats given the drug slept soundly and performed better in maze tests the following day than rats given conventional sleeping medications, suggesting that the drug improves memory capacity. Measurements of muscle tone and brain activity revealed an increase in the dream phase of sleep. 'The dream phase is when memory is hardwired in the brain,' Actelion CEO Jean Paul Clozel told Chemistry & Industry.

According to Clozel, older medications reduce REM sleep so that people do not dream enough and wake feeling tired and unwell.

Shahrad Taheri, a lecturer in medicine at the University of Bristol and one of the first people to experiment on orexin, says that a drug acting on this system could have beneficial effects other than inducing sleep.

‘Overweight is associated with obesity, and orexin is thought to be involved in feeding regulation,’ he says. ‘A beneficial effect of blocking the orexin system could be that the person would eat less.’ The fact that narcoleptics are resistant to amphetamine addiction also suggests an application in preventing addiction, according to Taheri.

The drug is going into Phase II trials. Clozel says it could be on the market by 2012 and admits that there are plans to extend its application beyond insomnia.

Unlike older medicines, orexin-RA-1 shows no sign of being addictive or of losing its effect over time. Attempts by other companies to develop a drug targeting this system failed to reach the clinical trials phase.

Source: Society of Chemical Industry

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