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Figurine of Priapus discovered at Pompeii  
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## **Breakthrough: The Molecule Causing Priapism Has Been Detected**

### *It's the adenosine*

Many men cannot maintain an erection even for a few seconds. Others cannot get rid of it. Priapism is prolonged penile erection in the absence of sexual arousal; the penis does not return to its flaccid state, even if there is no excitation, within about four hours. Even kings have been affected by this, like Carol II of Romania. A new research has connected priapism to adenosine, a molecule involved in energy transfers inside the cell. You could say "What a lucky guy!", but the condition is often painful. Moreover, it is considered a medical emergency, which must be treated immediately by a qualified medical practitioner. Priapism can be connected to hematological disorders, like sickle-cell disease, leukemia, thalassemia, and Fabry's disease, and neurologic ones like spinal cord lesions and spinal cord trauma (hanging causes erection victims). Drugs too can cause priapism: intra-cavernous injections for treating impotence of (papaverine, alprostadil), antihypertensives, antipsychotics (e.g chlorpromazine, clozapine), antidepressants (trazodone), anticoagulants, cantharides. Alcohol and cocaine too can be blamed for this. Priapism can cause damage to blood vessels of the erectile tissue, resulting in erectile dysfunction (impotence), but also ischemia, penile thrombosis (blood clotting in the penis). In severe cases, the ischemia can provoke gangrene, and penis removal is required. This new research, carried out by a team led by Yang Xia at the University of Texas Medical School in Houston and published in "Journal of Clinic Investigation," is a breakthrough in understanding the molecular base of priapism. Male mice devoid of the protein ADA, which decomposes the adenosine molecule, were found to develop priapism, which was treated via ADA therapy. Further investigation showed that high concentrations of adenosine provoked priapism by activating the A2B adenosine receptor in mice lacking ADA. Higher adenosine signaling via A2B adenosine receptor was also found to cause priapism in SCD transgenic mice, used as model of the disease. "Approaches to either reduce adenosine levels or block A2B adenosine receptor activation might provide new ways to treat priapism," wrote the authors. The name of the disease comes from the Greek god Priapus, who was punished by the other gods, for an attempted rape of a goddess, to wear a huge and useless erect penis.