

'Achilles heel' of HIV claimed

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By Alan Cane

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Scientists at the University of Texas believe they have uncovered what they are describing as the "Achilles heel in the armour" of the human immunodeficiency virus. If they are right - and clinical trials have yet to confirm their contention - they will have provided doctors with the means to attack one of today's greatest scourges.

What Sudhir Paul and his colleagues have done is identify the area of the protein envelope which surrounds the virus's core, which it uses to effect an entrance to the victim's cells. The body's immune system normally develops antibodies which inactivate viruses by binding to the protein envelope. HIV is remarkable for its ability to evolve rapidly, changing the protein structure of the envelope and so defeating the antibiotic attack.

The area Prof Paul has isolated, however, has to remain constant if it is to be able to attach to host cells. If the region changes, then infection becomes impossible.

Prof Paul's group has created antibodies with enzymatic properties which home in on this chink in the virus's armour. These "abzymes" do not simply bind to viruses like conventional antibodies but fragment and destroy them. Their research is reported in the June issue of *Autoimmunity Reviews*.

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