

## In the news

### ANTIBIOTICS FROM ALLIGATORS!

The late Steve Irwin ('The Crocodile Hunter') would no doubt have been delighted to learn about recent research, presented at the American Chemical Society meeting (6–10 April) in New Orleans, USA, showing that proteins from alligator blood could pave the way for new antibiotics.

Lancia Darville, at Louisiana State University and co-author of the study, had noticed that "...alligators tend to get into tussles and fights. They have torn limbs and scratches that are exposed to all of this bacteria in the water, yet they are never infected." (*USA Today*, 8 April 2008.) To understand what might constitute this strong resistance to infection, the team collected blood samples from alligators after injecting them with a substance to stimulate their immune systems (*BBC News*, 6 April 2008). When researchers exposed 23 species of bacteria to alligator serum, all of them were destroyed, including MRSA (methicillin-resistant *Staphylococcus aureus*). By contrast, human serum destroyed only 8 of the bacterial strains (*National Geographic News*, 7 April 2008). Alligator blood proteins also showed antibiotic activity against the fungus *Candida albicans* and the virus HIV. Darville says, "That was a good indication that alligators must have some other additional proteins or some proteins that are overly expressed in their system that are either not present in ours or not overexpressed in ours" (*USA Today*).

The scientists are now working to identify the specific peptides responsible for this antibacterial and antifungal activity. They estimate that alligator serum may contain at least four promising substances (*ScienceDaily*, 7 April 2008). "Once we sequence these peptides, we can obtain their chemical structure to potentially [create new] drugs." (*National Geographic News*.)

Co-author Mark Merchant thinks that "There's a real possibility that you could be treated with an alligator blood product one day" (*BBC News*).

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