

New research looks to reduce animal testing for drug development

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Researchers from Royal Holloway, University of London are looking at ways of testing the side effects of new drugs without using animals.

Currently, rodents, ferrets, dogs, house musk shrews and non-human primates are used to test for emesis (the side effect of nausea and/or vomiting) research. Emesis is reported as a possible side effect in approximately one third of medicines, including those involved in chemotherapy. If animals experience similar sensations, then testing drugs on them for emetic effects is likely to be unpleasant for them as well.

Professor Robin Williams from the School of Biological Sciences at Royal Holloway is leading a team of researchers looking at whether it is

possible to use an amoeba to screen potential drugs for the likelihood to cause emesis. The researchers tested the amoeba with a range of substances that produce varying degrees of emesis and observed the organism's behavioural response. Initial results have indicated that the amoeba shows a strong response to a number of bitter tasting compounds that can cause taste aversion and emesis in humans and/or laboratory animals.

Professor Williams said: "If this all proves successful then using a social amoeba to test new [chemical compounds](#) could result in a large reduction in the number of animals currently used in emetic liability tests.

"This would be good news for the animals but also for pharmaceutical companies in terms of reduced costs and faster initiation of clinical studies. A better understanding of the [molecular mechanisms](#) of [nausea and vomiting](#) could also benefit other areas of human medical treatment such as the [treatment of cancer](#)."

Provided by Royal Holloway, University of London

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