

Research shows that the innate immune system differs between species

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In a series of articles, the Molecular Immunology group at the RVC has shown that the innate immune system differs between species.

In their most recent publication, the group was able to show by using protein-model and chimeric protein approaches, that the response to substances stimulating the same receptor in cattle and humans vary dramatically between species, and this variation is based on the extracellular part of the receptor, which interacts with the [ligand](#).

These observations, together with recent articles from other groups comparing the human and murine system, can only result in the conclusion [rodent](#)/mouse models can provide misleading and overly optimistic estimates of the benefit of specific vaccines/drugs when compared to clinical efficacy in the actual target species. This also means that over the last decades, good treatment candidates may have been abandoned due to the fact that they didn't work in the murine model. In contrast, other candidates may have been taken forward, that worked in the mouse but not in the actual target species. Consequently, vaccine/treatment trials may have to be considered to be done from the beginning in the appropriate species after being tested for their safety using newly developed assay systems under the 3R scheme.

More information: *Leukoc Biol* 2013 Jun 20
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