

## MEDIA RELEASE

### HypoPet scientists publish data showing proof-of-principle achieved for a vaccine targeting osteoarthritic pain.

Zürich Switzerland 19<sup>th</sup> of March 2019 – HypoPet AG today announced the publication of proof of principle data for a vaccine with the potential to translate into a novel therapy for osteoarthritic pain in companion animals. The data were published online 12<sup>th</sup> of March 2019 in an article entitled “Active immunisation targeting nerve growth factor attenuates chronic pain behaviour in murine osteoarthritis” in the *Annals of the Rheumatic Diseases*

A research collaboration between Martin Bachmann’s research groups at the Jenner Institute University of Oxford and University of Bern and academic researchers from the Kennedy Institute of Rheumatology University of Oxford and Latvian Biomedical Research and Study Center demonstrated the successful development and testing of a VLP-based vaccine with the potential to treat chronic pain caused by osteoarthritis. The virus-like particle vaccine triggers the immune system to produce antibodies that block the activity of nerve growth factor – a key mediator of inflammatory and chronic pain.

Professor Martin Bachmann CSO of HypoPet AG commented, “I am happy to see the vaccine platform perform so well, and look forward to seeing the vaccine enter clinical testing in companion animals in the near future”.

*The Annals of the Rheumatic Diseases (ARD) is an international peer review journal committed to promoting the highest standards of scientific exchange and education. It covers all aspects of rheumatology, which includes the spectrum of musculoskeletal conditions, arthritic disease, and connective tissue disorders. ARD publishes basic, clinical, and translational scientific research.*  
[https://ard.bmj.com/pages/about/?qclid=CjwKCAjw96fkBRA2EiwAKZjFTYm1MdJz6vmNZAGtS5Vjn2J54nbErLtp\\_tXKsfjkQz5ud6h36ZpCnwxcn\\_qQAvD\\_BwE](https://ard.bmj.com/pages/about/?qclid=CjwKCAjw96fkBRA2EiwAKZjFTYm1MdJz6vmNZAGtS5Vjn2J54nbErLtp_tXKsfjkQz5ud6h36ZpCnwxcn_qQAvD_BwE)

#### About pain and osteoarthritis

Effective and safe treatment of chronic pain associated with degenerative joint disease and cancer in companion animals is a major unmet need in veterinary medicine. The incidence of such diseases is increasing as companion animals age and live longer. As an example, mostly dogs but also cats and horses are affected by degenerative joint diseases. About 20% of dogs will develop osteoarthritis. The mainstays of current treatment are non-steroidal anti-inflammatory drugs, however, they are not sufficiently effective, have side effects and suffer convenience and compliance issues. Therefore, the need for new treatment options is significant. Experimental and clinical studies have identified a number of key molecules that mediate inflammatory and neuropathic pain and cancer pain. One of these molecules, nerve growth factor (NGF), is an ideal target for controlling pain using antibody based therapies. Indeed, in humans, dogs and cats, efficacy and safety have been demonstrated in with monoclonal antibodies that target NGF or its receptor.

#### References

Isabell S von Loga, Aadil El-Turabi, Luke Jostins, Jadwiga Miotla-Zarebska, Jennifer Mackay-Alderson, Andris Zeltins, Ida Parisi, Martin F Bachmann, Tonia L Vincent 2019 Active immunisation targeting nerve growth factor attenuates chronic pain behaviour in murine osteoarthritis. *Ann Rheum Dis* 2019 Mar 12. pii: [annrheumdis-2018-214489](https://doi.org/10.1136/annrheumdis-2018-214489). doi: [10.1136/annrheumdis-2018-214489](https://doi.org/10.1136/annrheumdis-2018-214489). [Epub ahead of print]

Zeltins, A., J. West, F. Zabel, A. El Turabi, I. Balke, S. Haas, M. Maudrich, F. Storni, P. Engeroff, G.T. Jennings, A. Kotecha, D.I. Stuart, J. Foerster, and M.F. Bachmann. 2017. Incorporation of tetanus-epitope into virus-like particles achieves vaccine responses even in older recipients in models of psoriasis, Alzheimer's and cat allergy. *NPJ Vaccines* 2:30.5

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**About HypoPet AG**

HypoPet AG is a privately held Swiss biotechnology company based in Zürich, Switzerland that was formed as a spin-off company from the University of Zürich in 2013. HypoPet is developing therapeutic virus-like particle (VLP) vaccines (VLP) designed to instruct the patient's immune system to produce antibodies which specifically neutralize disease-associated molecules within animal and thereby modulate chronic disease processes. Taking advantage of the flexibility of the platform VLP vaccine technology, HypoPet is establishing a high-quality pipeline filled with promising new animal drug candidates that address major unmet needs in veterinary medicine. The remarkable advances achieved in the treatment of chronic human diseases by the use of monoclonal antibodies can now be made available to our pets by the use of pet-specific vaccines. HypoPet is leveraging the experience of monoclonal antibodies, which have already achieved proof of principle (efficacy, safety & commercial) in humans and in some cases in companion animals.

**Forward looking statement**

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