

MEDIA RELEASE

Key preclinical data for HypoPet's cat allergy vaccine (HypoCat™ / VC001) published in leading allergy journal.

Zürich Switzerland 17th of April 2019 – HypoPet AG today announced the publication of important preclinical data for their cat allergy vaccine, HypoCat™. The data¹ were published online 17th of April 2019 in an article entitled "Immunization of cats to induce neutralizing antibodies against Fel d 1, the major feline allergen in human subjects." in the Journal of Allergy and Clinical Immunology.

The published work, led by HypoPet's Zurich-based research team (in collaboration with researchers from the Latvian Biomedical Research and Study Centre Riga, Vetsuisse Faculty University of Zurich and the Functional Genomics Centre Zürich, University of Zürich), showed that HypoPet's virus-like particle vaccine targeting the major feline allergen (i.e. Fel d 1) to which humans are allergic, successfully induced Fel d 1 binding antibodies in cats and that these antibodies neutralized the allergen. Furthermore, the HypoCat™ vaccine was reported to be well tolerated without any overt toxicity. The data described in the paper were generated from 4 separate studies involving a total of 54 cats.

Dr Gary Jennings, CEO of HypoPet AG, commented, "We are very pleased to publish this data which shows our HypoCat™ vaccine is able to produce high levels of antibodies in cats and that these antibodies can bind and neutralize the Fel d 1 allergen produced by the animals. This work was a key step in the milestone driven development of HypoCat™, the lead project in our product pipeline. Moreover, our development partner Benchmark Holdings recently announced successful completion of other key safety and efficacy trials and transfer of the HypoCat™ manufacture process to GMP. Consequently, we are pressing ahead with registration studies and discussions with European and U.S regulators with the hope of bringing this much-needed product to the market"

The Journal of Allergy and Clinical Immunology publishes high-impact, cutting-edge clinical and translational research papers for allergists, immunologists, dermatologists, gastroenterologists, and other physicians and researchers interested in allergic diseases and clinical aspects. The JACI is the most-cited journal in the field of allergy and clinical immunology. (<http://www.jacionline.org/>)

About cat allergy and HypoCat

Allergy suffered by humans to companion animals such as cats and dogs and the lack of effective therapies for those who suffer these allergies is an area of significant unmet medical and veterinary need. Ten percent of the general human population suffers from cat allergy and ~ 25% of households have cats. Moreover, sensitization to cats is a strong risk factor for children to develop asthma. There is no effective treatment for cat allergy in humans; treatment of symptoms or avoidance of animals are the usually prescribed recourses. Separation of owners and families from their beloved pets is traumatic for both animal and human and in many cases can not even be contemplated. Nevertheless, allergy suffered by owners, friends & relatives is a leading cause of cat abandonment. Sadly, of the 3.4 million cats abandoned annually to U.S cat shelters, approximately 1.4 million of these animals are euthanized. Allergy is also a leading reason for abandonment of cats into urban and native environments. In addition to the suffering experienced by the abandoned animals, problems are created for native fauna through predation.

HypoPet's novel approach to this shared problem of pets and their owners is to intervene at the source by lowering the allergenicity of the pet itself. A "low" allergenic cat could enable the trauma of separation to be avoided and the negative health consequences of human allergy to be lessened. To achieve this goal HypoPet is leveraging its innovative virus-like particle vaccine technology² as a means for safely reducing the allergenicity of pets. After vaccination the pet will produce allergen-specific antibodies which bind the target allergen and lower or neutralize its allergenic effect in humans. The veterinary and commercial potential of our concept was recognized when HypoPet became a winner of the Swiss Innovation Forum, Technology Award in November



2013 for its HypoCat™ vaccine and a recipient of a research grant from the Swiss Commission for Technology and Innovation in 2014.

HypoPet's lead project HypoCat™, is a vaccine to lower the allergenicity experienced by humans towards cats. Fel d 1, a cat protein secreted into saliva and tears and found on the pelt, is the principle allergen to which cat allergy sufferers react. Indeed, more than 85% of cat allergic patients have potent allergy-inducing IgE antibodies against this protein. It is known that decreasing exposure of allergic humans to Fel d 1 has a significant benefit on symptoms and health. HypoPet's innovative approach is to intervene "at the source" i.e. lower allergenic Fel d 1 on the cat itself. To achieve this HypoPet is developing a vaccine, based upon its patented VLP platform technology, to induce anti-Fel d 1 antibodies in the cat. HypoCat™, is a Fel d 1 virus-like particle conjugate vaccine that has been demonstrated to overcome the inherent immune-tolerance to self-molecules such as Fel d 1 and induce strong and lasting anti-Fel d 1 antibody responses in cats^{1,2}. These antibodies bind Fel d 1 and thus have the ability to lower or neutralize its allergenic effect in humans. The veterinary/medical and commercial potential of the HypoCat™ vaccine was recognized when HypoPet won the Swiss Technology Award in 2013. Subsequently, in 2014, HypoPet received a Grant from the Swiss Commission for Technology and Innovation to advance the HypoCat project. Development of HypoCat™ has been further advanced through a commercialization, manufacture, and distribution agreement entered into with Benchmark Holdings PLC in September 2014.

References

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- 2) 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 the animal and thereby modulate chronic disease processes². 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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