



## **YEDA and XL-protein sign business collaboration agreement to commercialize PASylated interferon superagonist**

FREISING, GERMANY & REHOVOT, ISRAEL, October 21, 2014:

Yeda Research and Development Company Ltd., the technology transfer arm of the Weizmann Institute of Science, Israel, and XL-protein GmbH, Germany, a privately owned biopharmaceutical company, have signed a business collaboration agreement to commercialize a PASylated interferon superagonist – PAS-YNSa8 – which has been jointly developed by scientists at the Weizmann Institute and XL-protein. Under this agreement, YEDA acquires the worldwide exclusive rights for marketing and out-licensing of this compound.

One of the potential uses of PAS-YNSa8 is for treating inflammatory diseases, in particular of the central nervous system. An example is multiple sclerosis (MS), a devastating chronic, progressive immune disease of the central nervous system that can eventually lead to paralysis. Among the drugs today used to treat MS are those based on interferon-beta (IFN-beta).

Weizmann Institute scientists developed a novel, highly active interferon variant, YNSa8. This modified IFN was engineered to bind much more tightly to the interferon receptors. The result is a very potent molecule, which shows a gene activation profile and biological activities that surpass any naturally existing interferon.

Together with scientists at XL-protein, the activity of PAS-YNSa8 was boosted by extending its half-life in the body using PASylation<sup>®</sup> technology. PASylation<sup>®</sup> involves the genetic fusion of the therapeutic protein or peptide with a non-structured, expanded polypeptide made of the small amino acids Pro, Ala and Ser (PAS).

In a study that appeared in the Journal of Biological Chemistry (2014, Vol. 289, No. 42, pp. 29014-29029) and was led by Dr. Daniel Harari and Prof. Gideon Schreiber at the Weizmann Institute, it was found that the *in vivo* half-life of PAS-YNSa8 was increased 10-fold in comparison to standard interferon. Most importantly, the PASylation<sup>®</sup> did not interfere with the biological activity of this potent IFN; this has been a common technical problem for other methods of extending drug circulation. In a head-to-head comparison with conventional IFN-beta, this long-living superagonist conferred highly improved protection from disease progression in a mouse model of human multiple sclerosis, despite being injected four times less often than IFN-beta and at one-sixteenth of the dosage.

"We are excited by the pronounced therapeutic effect of our PASylated IFN superagonist, which was not accompanied by any observable immunogenic side effects in mice," said Prof. Schreiber. "Our studies suggest that this potential drug could be safe and might provide clinical benefit surpassing that of IFN-beta, all this with a significantly reduced number of injections and lower dosage. We hope it will soon be possible to check the effectiveness of our molecule in clinical trials in humans."



"The biological potency and bioavailability of this novel IFN-based molecule is remarkable. Improved receptor binding, achieved by advanced protein engineering, in synergy with the half-life extension provided by our PASylation® technology, will result in more effective and less frequent dosing for the benefit of patients," said Prof. Arne Skerra, CSO of XL-protein and co-author of the study. "We are pleased to forge this business alliance with a renowned partner such as YEDA to commercialize this potent biological drug candidate," added Claus Schalper, CEO of XL-protein.

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#### **About YEDA:**

Yeda Research and Development Company Ltd. is the commercial arm of the Weizmann Institute of Science. Yeda initiates and promotes the transfer to the global marketplace of research findings and innovative technologies developed by Weizmann Institute of Science researchers. Yeda holds an exclusive agreement with the Weizmann Institute of Science to market and commercialize its intellectual property and generate income to support further research and education.

For more information, please visit: [www.YedaRnD.com](http://www.YedaRnD.com)

#### **About XL-protein:**

XL-protein GmbH is a privately owned biopharmaceutical company based in Freising, Germany, which exploits its proprietary PASylation® technology to develop second generation biopharmaceuticals with extended half-life and superior *in vivo* activity. PASylation® is a fully biological technology that can be applied both to approved biologics to yield follow-on drug products ('biobetters') or to innovative therapeutic proteins or peptides, allowing less frequent and more effective dosing combined with better patient tolerability. For more information, please visit: [www.xl-protein.com](http://www.xl-protein.com)

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