

## **Probiodrug Announces Top-Line Results of the First Clinical Study of PQ912 for Treatment of Alzheimer's Disease**

*Phase 1 Study of the First Glutaminyl Cyclase (QC) Inhibitor, Which Blocks Formation of Highly Neurotoxic pyroGlu A $\beta$  Variants, Shows that PQ912 is Well Tolerated With Therapeutically-Relevant Levels in Blood and Cerebrospinal Fluid*

HALLE/SAALE, Germany, November 14, 2011 – Probiodrug AG (Probiodrug), a biotech company developing products for the treatment of neurodegenerative and inflammatory diseases, with a particular focus on Alzheimer's disease (AD), today announced top-line results of its Phase 1 single (SAD) and multiple ascending dose (MAD) study of PQ912 in healthy volunteers. PQ912 is a glutaminyl cyclase (QC) inhibitor for the treatment of AD and it is the first QC inhibitor to enter clinical development.

The Phase 1 trial, conducted in Switzerland, demonstrated that PQ912 is safe and well tolerated after oral dosing. Dose-proportional pharmacokinetics and a strong pharmacokinetic and pharmacodynamic relationship based on QC inhibition were observed in plasma and cerebrospinal fluid. The combined SAD/MAD study involved 100 volunteers in a blinded, placebo controlled randomized trial.

PQ912 is a small molecule that targets QC, an enzyme that catalyzes the formation pyroGlu *amyloid-beta* (A $\beta$ ) a highly toxic A $\beta$  variant that is involved in the development and progression of AD. AD is a neurodegenerative disease characterized by deposits of extracellular A $\beta$  plaques in the brain, intraneuronal tangles and cerebral neuronal loss. QC inhibitors address a major pathology associated with AD by inhibiting the formation of A $\beta$  variants which lead to the assembly of highly neurotoxic A $\beta$ -oligomers.

“This first in human study of PQ912 is a significant milestone for Probiodrug, creating a compelling data package that will enable further clinical development in AD,” commented [Dr. Konrad Glund](#), chief executive officer of Probiodrug. “We look forward to presenting the full data set from this study at an upcoming conference.”

[Prof. Dr. Hans-Ulrich Demuth](#), CSO of Probiodrug added, “The study provides us the platform that will lead to the generation of first clinical evidence from future Phase 2 studies in patients to support QC inhibition as a promising and innovative approach to treat Alzheimer's disease.” Data from preclinical studies published in [Nature Medicine](#) have shown that QC inhibitors *in vivo* effectively block the production of pyroglutamate-modified A $\beta$ , a highly neurotoxic A $\beta$  variant, and to prevent the aggregation of all types of A $\beta$  in the brain. The data also demonstrate that QC inhibitors are able to reduce neurotoxicity, neuroinflammation and restore cognitive function in preclinical models of AD.

**About Probiodrug AG**

Probiodrug is a biopharmaceutical company dedicated to the discovery and development of small molecule drugs against novel molecular targets for the treatment of neuronal- and inflammatory diseases. The Company has a dominant position in the area of glutaminyl cyclase inhibition. Glutaminyl cyclase, a novel enzyme target discovered and patented by Probiodrug, has a crucial role in the pathogenesis of Alzheimer's disease (AD) as well as various peripheral inflammatory diseases.

Probiodrug is backed by institutions such as BB Biotech, Edmond de Rothschild Investment Partners, Goodvent/IBG, HBM, TVM, Life Sciences Partners, Biogen Idec Ventures, CFH Group and private investors.

Probiodrug's core capabilities are based on its long-standing expertise in the elucidation of the structure and function of enzymes which play a central role in the maturation of hormones. The Company has pioneered the field of dipeptidyl peptidase 4 (DP4)-inhibition for the treatment of type 2 diabetes. Compounds and technology patents of its DP4 program in diabetes were licensed to various pharmaceutical companies. In 2004, all metabolic assets were sold to (OSI) Pharmaceuticals Ltd. The first drug based on Probiodrug's technologies reached the market in late 2006. Proceeds of the various transactions have been reinvested to fund the novel approach for the treatment of AD and inflammatory diseases.

The Company was founded in 1997 by Prof Dr Hans-Ulrich Demuth and Dr Konrad Glund. Probiodrug has raised EUR 56 mio for its QC program. For more information, please visit [www.probiodrug.de](http://www.probiodrug.de).

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**Company Contact:**

Kumar Srinivasan, Ph.D.

CBO

Probiodrug

+49 345 55599-00

+1 610 628 0238 (USA)

[kumar.srinivasan@probiodrug.de](mailto:kumar.srinivasan@probiodrug.de)

**Media Contact:**

Robert Flamm, Ph.D. or David Schull

Russo Partners

+1 212-845-4226

+1 212-845-4271

[robert.flamm@russopartnersllc.com](mailto:robert.flamm@russopartnersllc.com)

[david.schull@russopartnersllc.com](mailto:david.schull@russopartnersllc.com)