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Tianmin Zhu

Zhejiang Hisun Pharmaceutical Co., Ltd., P R China

A prodrug approach for drug delivery of everolimus

A novel water-soluble everolimus prodrug, glutathione-everolimus, was designed and synthesized by introducing an endogenous tripeptide with an acetyl as a linker. The improvement in water solubility allows the conjugate to be developed into an injectable drug. The results of biological evaluation *in vitro* and *in vivo* suggest that the prodrug is more effective and long acting than everolimus. Meanwhile, the pharmacokinetics study *in vivo* (both in mice and machine) confirmed that the delivery of everolimus through the injection of the prodrug overcome the low bioavailability of oral everolimus.

Biography

Tianmin Zhu, PhD, is currently working as CSO of Zhejiang Hisun Pharmaceutical Co., Ltd. In this role, he is responsible for the entire R&D with a portfolio of synthetic small molecules and fermentation natural products in oncology, cardiovascular, neuroscience and anti-infective therapeutic areas. Prior to joining Hisun, he has served as Senior Director of Pfizer's R&D at Pearl River, New York (formerly Wyeth Research), where he held a variety of increasingly responsible research positions. He graduated from Fudan University with BS in Chemistry and MS in Organic Synthesis. Then, he joined the Shanghai Institute of Biochemistry to explore the Field of Biotechnology. After, he obtained his PhD in Analytical Chemistry from Rutgers, The State University of New Jersey, New Brunswick, he served as a Post-doctoral fellow focusing on the drug design and delivery platforms at the Center for Advanced Biotechnology and Medicine (CABM), UMDNJ-Robert Wood Johnson Medical School, and Rutgers University before joining Wyeth in 1994. He has shown leadership through his scientific accomplishments. His contributions to the marketing of several innovative medicines globally have been awarded with numerous internal and external awards. He was the winner of the Emerald Honors Award and named Senior Technology Fellow by *Science Spectrum* in 2005. He is the author of more 20 plus peer-viewed papers, as well as the inventor of 20 US granted patents and numerous patents worldwide. His professional interests include integrating pharmaceutical R&D into the global drug development process, especially in the emerging markets, working on the technology transfer process to manufacturing internally and externally, creating diversified intellectual property platforms for innovative medicines worldwide.

zhut@hisunpharm.com