Min-Hsien Wang et al., Polym Sci 2017, 3:4
DOI: 10.4172/2471-9935-C1-006

Meetings International

Annual Meeting on
Biopolymers and Drug Delivery Systems
October 12-13, 2017 Osaka, Japan

Drug discovery of FLT-3/c-KIT inhibitors as anticancer drugs

Min-Hsien Wang, Chung-Yu Huang, Ching-Ping Chen, Ling-Hui Chou, Tsu Hsu, Chen-Tai Lu, Wen-Hsing Lin, Weir-Torn Jiaang, Teng-Kuang Yeh, Joe C Shih and Chiung-Tong Chen
National Health Research Institutes, Taiwan

Acute Myeloid Leukemia (AML) is an aggressive disease in which the rapid growth of abnormal leukemic cells in bone marrow inhibits the production of normal blood cells. Genetic mutations, such as FLT3 and c-KIT, play their roles in the stepwise leukemogenesis. The most frequent mutations among AML are FLT3 mutations. However, c-KIT mutations account for predicted higher relapse rate and less overall survival. Because development of point mutations or gene amplification of target proteins results in resistance of tyrosine kinase inhibitors, the use of a multi-targeted therapeutic approach is of potential clinical benefit. Several multi-targeted tyrosine kinase inhibitors have been developed toward clinical uses for treating AML, pancreatic cancer, non-small cell lung cancer, etc. They showed inhibitions of ABL, FLT3, c-KIT, RET, PDGFR, SRC and VEGFRs and an activity spectrum similar to tyrosine kinases-targeted drugs on the market. In the present study, a novel small molecular multi-targeted tyrosine kinase inhibitor DBPR487 was examined in *in vitro* kinase inhibition and cytotoxicity assays and evaluated for *in vivo* tumor growth inhibition efficacies. Furthermore, the plasma samples collected from the rats orally administered with DBPR487 were measured to determine the pharmacokinetic profile of DBPR487. Further preclinical toxicology and safety pharmacology studies are undergoing toward clinical development.

Biography

Min-Hsien Wang is a Research Assistant in Institute of Biotechnology and Pharmaceutical Research, National Health Research Institutes (NHRI). Her research interest is on drug discovery and development. Her work focuses on in vivo efficacy evaluation in rodents, establishment of disease animal models and toxicology study in rats. She has experiences on animal handling, compounds dosing in different routes and blood collection in animals. She has discovered lead compounds for a diabetes drug candidate (DBPR108) and anti-cancer drug candidates (DBPR112, DBPR114, DBPR115). She has publications in reputed journals which include *Bioorganic & Medicinal Chemistry Letters Journal, Journal of Medicinal Chemistry and European Journal of Medicinal Chemistry.*

aruders@nhri.org.tw