

International Conference on

Pharmaceutical Chemistry

September 05-07, 2016 Frankfurt, Germany

Preparation of nanocrystal formulation to improve oral absorption of mebendazole

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Nano-sizing by wet beads milling is a method to improve the solubility of poorly water soluble compounds. Mebendazole (MBZ) is a well-known anthelmintic drug in wide clinical use. Recently, there were some reports that MBZ had the anticancer effect in preclinical study. However, the bioavailability of MBZ is low (<10%) due to poor solubility in water (ca. 0.5 µg/mL). The present investigation aimed to develop the nanocrystal formulations (about $D_{50}=120$ nm) of MBZ with improved dissolution behavior and thereby enhanced oral absorption.

Biography

Naofumi Hashimoto received his PhD in Pharmaceutical Sciences from Kanazawa University. He began his research career at Shionogi Pharmaceutical Company in Japan in 1977. In 1999, he moved to Pfizer as a Manager of Pharmaceutical Sciences and was promoted to Research Advisor in 2004. He became Professor of Pharmaceutical Sciences of Setsunan University after Pfizer closed several research laboratories in the world. He has studied the application of nano-technologies to poor water soluble drug. He has published more than 30 papers and chapters in the areas of Pharmaceutical Sciences.

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