

Improving the Dissolution Rate of Folic Acid via the Antisolvent Vapour Precipitation

Authors : J. Y. Tan, L. C. Lum, M. G. Lee, S. Mansouri, K. Hapgood, X. D. Chen, M. W. Woo

Abstract : Folic acid (FA) is known to be an important supplement to prevent neural tube defect (NTD) in pregnant women. Similar to some commercial formulations, sodium bicarbonate solution is used as a solvent for FA. This work uses the antisolvent vapor precipitation (AVP), incorporating ethanol vapor as the convective drying medium in place of air to produce branch-like micro-structure FA particles. Interestingly, the dissolution rate of the resultant particle is 2-3 times better than the particle produce from conventional air drying due to the higher surface area of particles produced. The higher dissolution rate could possibly improve the delivery and absorption of FA in human body. This application could potentially be extended to other commercial products, particularly in less soluble drugs to improve its solubility.

Keywords : absorption, antisolvent vapor precipitation, dissolution rate, folic acid

Conference Title : ICPSE 2014 : International Conference on Pharmaceutical Science and Engineering

Conference Location : Melbourne, Australia

Conference Dates : December 11-12, 2014