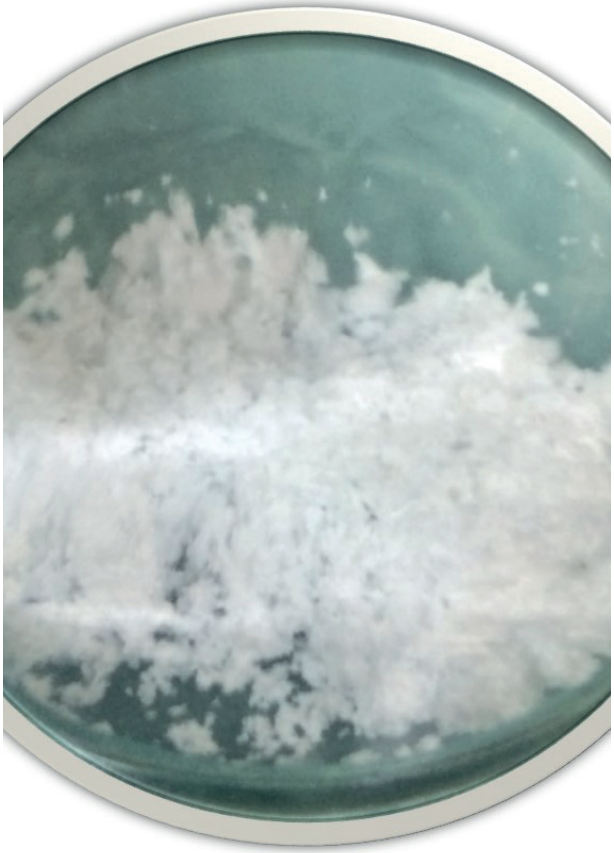
Biodegradable Polymer Drug Encapsulation Using Supercritical Anti Solvent (SAS)

TECHNOLOGY DESCRIPTION

This technology is a process using Supercritical Anti Solvent (SAS) to tailor drug's properties as application in controlled drug delivery.

TECHNOLOGY FEATURES

This technology requires short duration of four hours compared to the current method which takes two days. It utilizes low temperature which prevents drug degradation. The process parameters can be adjusted to obtain nanoparticle to increase drug's bioavailability. It also eliminates the usage of toxic solvent and solvent-free final product. This process operates a relatively low supercritical pressure and temperature thus making it economically attractive and safe.



ADVANTAGES

- Cheap, straightforward and safe
- Improve quality of drugs
- Economically viable

INDUSTRY OVERVIEW

Prospect: Pharmaceutical Industries/Manufacturers

The pharmaceutical market in Malaysia is set to grow from $2.3 billion in 2015 to $3.6 billion by 2020 with a compound annual growth rate (CAGR) of 9.5%. Factors such as medical tourism, rising of affluent and middle classes, ageing population and government initiatives and support are drivers for this substantial growth. Malaysia's export of pharmaceutical in 2015 valued at RM1.31 billion, increased by 15.8 per cent from 2014. Over the last decade, Malaysian pharmaceuticals market grew at between 8 to 10% annually. The market is based on a strong domestic generic sector and imports of branded and patented medicines. The potential customers of this product would be pharmaceutical manufacturers and buyers. Potential local consumers for this product would be the leading pharmaceutical companies such as Pharmaniaga Berhad, Chemical Company of Malaysia Berhad (CCM), Yung Shin Pharmaceutical, Hovid, and Kotra Pharma. The government is the largest pharmaceutical buyer in Malaysia, accounting for half of pharmaceutical purchasing by value. The rest of the market is split between private clinics, private hospitals and pharmacies. The government purchases approximately 60% generic medicines and 40% patented drugs. There are no price control instead, pricing is managed through tenders for generic drugs and negotiations for patented pharmaceuticals. International players in this market are YSP Industries, Xepa-Soul Pattinson, Novartis and GSK among others.

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