Details of Technology

Name of Technology	Solubility-increasing technology for poorly-soluble medicines	Chemistry
Name/Post/Faculty	Norihito Doki / Associate professor / Applied Chemistry Department, Faculty of Engineering	
Key words	pharmaceutical products, crystal polymorph, poor solubility, easily soluble medicine, polymer	

What kind of technology is this?

Outline

One of the methods to produce unstable solid-phase medicines

Many solid medicines are poorly soluble. They are mostly crystal polymorphic substances. To improve their medicinal effects, attempts to manufacture easily soluble medicines have been actively carried out recently by various companies and research institutions. In any such case, however, a manufacturing method is often specific, requiring expensive equipment and manufacturing process, which leads to the increase in the cost of new pharmaceutical products today. Utilizing the control method of crystal polymorph, the author aimed to provide a new solubility-increasing technology for poorly soluble medicines, so that it contributes to the related industries and consumers.

Interaction of solute and polymer surface

Polymer surface

What are its applications?

Characteristics of easily-soluble medicine manufacturing technology

Reduction of worker's work load, improvement of shelf life, improvement of process efficiency, reduction in the market price of medicines, simpler molecular design method (molecular dynamics simulation based on the interaction between easily-soluble medicine and polymer)

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CERECO 4-3-5 Ueda, Morioka, Iwate 020-8551 Japan
Phone : +81-19-621-6494 FAX : +81-19-604-5036
e-mail : ipt@iwate-u.ac.jp