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P9-8 Development and evaluation of valsrtan gastroretensive tablet containing solid dispersion

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P9-9 Quantification of drometrizole by LC-MS/MS and application to an in vitro dermal absorption study

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P9-10 Intramuscular administration of novel SLNs-loaded dual-reverse thermosensitive nanomicelle with sustained release and reduced toxicity

UD DIN Fakhar, MEHMOOD YOUSAF Abid, RASHID Rehmana, MUSTAPHA Omer, KIM Dong Wuk, KIM Dong Shik, KIM Jeong Hyeon, YANG Eun Su, TAK Jin Wook[1], KIM Jong Oh[1], YONG Chul Soon[1], CHOI Han-Gon*

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P9-11 Pathogenesis-related proteins (PRP) from a dropwort play a role in regulating toll-like receptor-dependent downstream signal pathway

PARK Jun sub, KIM Seung Tae, JO BO Ram, JANG Su Kil, YU Jung Min, AHN Jeong Won, KIM Jeong Hoon, KIM Hyun Soo, JOO Seong Soo*

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P9-12 Graphene oxide functionalized with poly(2-dimethylaminoethyl methacrylate) for efficient siRNA cellular delivery

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*** Oral Presentation (YSS1)**

P9-13 Novel free-flowing fenofibrate-gelatin microcapsules with improved aqueous solubility: Preparation, physicochemical characterization and pharmacokinetics in rats

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P9-14 Glycosylation of recombinant CTLA4Ig expressed in transgenic rice cells

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Novel free-flowing fenofibrate-gelatin microcapsules with improved aqueous solubility: Preparation, physicochemical characterization and pharmacokinetics in rats

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A novel fenofibrate-gelatin microcapsule formulation was developed using ethanol via the solvent-evaporation method by the spray-drying technique. The determination of aqueous solubility, dissolution, bioavailability and physicochemical properties was carried out compared to the drug powder. For choosing the best fitted formulation, clear ethanolic solutions of various compositions of fenofibrate and gelatin were spray-dried. Then, their influence on the aqueous solubility and dissolution behavior of the encapsulated fenofibrate was investigated. All preparations furnished improved solubility and dissolution rate of fenofibrate as compared to the drug powder. The preparations containing fenofibrate/gelatin (< 1/8, w/w) ameliorated the drug solubility more than those of the preparations containing fenofibrate/gelatin (≥ 1/10, w/w). Furthermore, the microcapsules with fenofibrate/gelatin at the weight ratio of ≥ 1/8 ratio exhibited good flowability. In particular, the round microparticles consisting of fenofibrate/gelatin at a ratio of 1/8 (w/w) showed the most enhanced fenofibrate solubility (~ 15.84 ± 0.36 μg/ml) and dissolution rate (~ 90% at 40

minutes). The encapsulated fenofibrate was in the crystalline form, the drug molecule did not change after microencapsulation, and the drug had no reaction with gelatin. Moreover, the bioavailability was ~ 5-fold as compared to that of the drug powder. Accordingly, this fenofibrate/gelatin microcapsule formulation could be a possible oral drug delivery system with enhanced drug solubility, bioavailability and excellent flowability.

Key words: microencapsulation, gelatin, solubility, flowability, spray-drying, bioavailability.