

Efficient Utilization Method of NaCl Aimed at Microparticulation of Minimal Amount of Poorly-Soluble Drug

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Summary

We studied the microparticulation of minimal amount of poorly-soluble drugs with NaCl. The development of drug is necessary for time and cost at initial development stage for drug. We considered efficient utilization of NaCl as a grinding aid. Mefenamic acid and ibuprofen were used for a model substance.

Mefenamic acid was ground with NaCl by planetary ball mill. By adding NaCl as a grinding aid, we could succeed in microparticulating drug at a little amount of mefenamic acid. Additionally, the addition of NaCl did not affect the crystal form of mefenamic acid, indicating NaCl acted as efficient grinding aid for inert property.

Ibuprofen was ground with NaCl as above. Dissolution of ibuprofen was evaluated. Ground ibuprofen with NaCl was rapidly dissolved compared to sole ground ibuprofen, indicating NaCl acted as inhibiting aggregation of drug.

Up to these findings, NaCl would be acted as a grinding aid and inhibiting aggregation of drug during grinding.