hydroxybutyric acid was in R configuration.

[PD4-19] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Studies on the Quality Evaluation of Pharmaceuticals(II) - Method Validation of Endotoxin Test in Pharmaceutical Injections.

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Division of Drug Chemistry, Department of Drug Evaluation, KFDA

Limulus Amebocyte Lysate(LAL) test (endotoxin test) is supposed to be a alternative to the rabbit pyrogen test in that the former is more convenient, specific and inexpensive. We applied the LAL test to the detection of bacterial endotoxins in 5 pharmaceutical injections (dextrose injection, saline injection, mannitol injection, NaCl injection and KCl injection) using gel-clot method and kinetic turbidimetric method and validated the methods by investigating LAL reagent sensitivity, interferences, calibration curve, reproducibility and recovery.
The determined LAL reagent sensitivity was 0.0605 EU/mL and the calibration curve of endotoxin standard solutions was linear over the entire range from 0.0078125 to 50 EU/mL. The linear regression coefficient of determination was 0.9997 and the limit of detection was 0.005 EU/mL. In all 5 injections, the amount of endotoxin estimated by the LAL test (gel-clot method and kinetic turbidimetric method) was well recovered and there are no significant inteference (both enhancement and inhivition) factors. These results suggest that the LAL test was useful method for quantitative estimation of endotoxin, the probable major cause of pyrogenicity and expected for the substitutive method for pyrogen test in examined 5 injections.

[PD4-20] [04/21/2000 (Fri) 14:50 - 15:50 / [1st Fl, Bldg 3]]

Studies on the Quality Evaluation of Pharmaceuticals (II) - Comparative Analysis of Pyrogen and Endotoxin Test in Pharmaceutical Injections.

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Limulus Amebocyte Lysate(LAL) test (endotoxin test) is supposed to be a alternative to the rabbit pyrogen test in that the former is more convenient, specific and inexpensive. To compare the LAL test with the rabbit pyrogen test, we prepared spiked samples of 5 injections(dextrose injection, saline injection, mannitol injection, NaCl injection and KCl injection) with concentration of 0.25, 0.5, 1.0 EU/mL and tested those by pyrogen and endotoxin test simultaneously. The LAL test was accomplished by using 2 different methods, gel-clot method and kinetic turbidimetric method and the pyrogen test was accomplished by using KP official pyrogen test method.
In our results, the LAL test was about 14 times more sensitive than the rabbit pyrogen test in the case of gel-clot method and about 95 times more sensitive than the rabbit pyrogen test in the case of kinetic turbidimetric method. The amounts of endotoxin in 5 injections estimated by the LAL test was well recovered and correlated with the rise of body temperature in rabbit pyrogen test. These results suggest that the LAL test could be used as an alternative method for the rabbit pyrogen test to examined 5 injections.

[PE1-1] [04/21/2000 (Fri) 10:30 - 11:30 / [1st Fl, Bldg 3]]

Standardization of uniformity of dosage unit for oral dosage forms