E : In vitro, RIA

THE MINIMAL DETECTABLE CONCENTRATION (MDC) OR SENSITIVITY OF RADIOIMMUNOASSAY
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Review of 4 japanese literature on the methods of RIA revealed only 36.4 % of the papers describing about MDC. About 40 % of those described only value of MDC without any statistical consideration. Most prevailing methods are dilution method, 2sd method and 95 % method. Therefore some statistical consideration about these methods were reported in the present paper. In the dilution method a special assay has to be run for measuring MDC. But no problem exists to obtain statistical significance. In other methods MDC can be obtained from data of routine assays. But 2 assumptions are necessary. One is the assumption about normal distribution of zero assay. The other is the assumption about the same standard deviation of zero and minimal detectable conc. In order to obtain MDC with 95 % significance level more than 5 of zero assay must be performed. In 95 % method, number of zero assay is varied depending on the sd of zero assay. Ehen sd of each assay was used, significance level changed from 95 % to 80 %. But with use of pooled sd, more reliable MDC can be obtained. In a case of alpha fetoprotein MDC with 95 % significance level was 2.2 with 2sd method,3.2 with 95% meth- using each sd and 9.9 with method using pooled sd. Stress was placed on describing "method and significance level" so that one can compare data from different papers.

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