

QUANTIFICATION OF ENDOTOXIN ACTIVITY - QUALITY CONTROL OF TWO DIFFERENT METHODS (LAL- AND RFC TEST)

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Endotoxin is nearly ubiquitous and its determination is especially important for medical hygiene control and as useful marker for bioaerosol exposure- assessment. The chromogen-kinetic *Limulus amoebocyte* lysate (LAL) assay is the most widely used assay, but alternative assays are on the market.

The study aim was to test the quality of rFC-test and to compare results with the LAL-test. Dust extracts collected in households were measured with LAL and rFc test in seven replicates on three consecutive days.

Median coefficient of variation (CV) of 12 standard curves was 9 % for rFC and 12 % for LAL test. CV for multiple sample measurement ranged from 9 to 25 % (Median 13 %) for LAL and 5 to 30% (Median 10%) for rFC test. 32% of samples gave higher results in rFC than in LAL test. Anyway, categorisation of the results (below 1/10/100/1000 EU/ml) shows 95% agreement between the tests.

In summary, both tests are suitable for a precise determination of endotoxin activity in dust samples. The rFc test has the advantage that it does not require animal testing and is thus recommendable from this point of view. Within a study, however, changes in the endotoxin quantification should be avoided.