Chromogranin A ELISA kit (chromoa) evaluation on Stratec GEMINI®

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Introduction

More and more clinical biology laboratories are equipped with automated systems which provide many advantages. Many companies have developed and now manufacture such instruments. One is Stratec Biomedical Systems GmbH, which sells the Cisbio® (ELISA platform), among other OEM projects with great companies such as Bio-Rad or bioMérieux. Cisbio which develops and manufactures immunoassays to be run manually, wanted to give their customers the chance to run Cisbio ELISA kits on a fully automated platform. DIAsource was asked by their customers the chance to run Cisbio ELISA kits on Gemini®.

Results

Some adaptations had to be made to ensure the proper use of CgA kit material. The main change, and the most tricky one, was to give the operator the possibility of creating small aliquots from calibrators. This feature is important as the CgA molecule is not stable. It is now possible on Gemini®.

The standard curve is harmonious and recalculated standard values range from 0 to 870 ng/ml. Standard ODs on Gemini® are slightly lower than those obtained manually. Slight OD differences compared to manual are inherent in this system.

The correlation curve gives an r² and a slope close to 1. These results also met our expectations.

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Once a protocol met our requirements, a correlation was established by comparing manual and Gemini® methods on the same day and in the same environmental conditions. 39 Patient samples were assayed.

We then carried out intra-assay comparisons by assaying 3 samples 30 times during the same run. Inter-assay results were obtained by assaying the same samples in duplicate for 4 runs and finally, linearity was checked by assaying 1/2 serial dilutions of 2 high samples.

Conclusion

All adaptations and modifications necessary to run Cisbio’s CgA ELISA kit on the Stratec GEMINI® were successfully carried out. Despite a significant Gemini-inherent OD difference compared to manual tests, analytical results from the two methods match well. They all met our requirements concerning accuracy, reliability, and reproducibility. The Stratec GEMINI® can be used with confidence to run the test.

Cisbio has now an automated solution available for its CgA ELISA kit customers.