miRNA quantification
using combination of DNA/miRNA hybridization and immunoassay

NEW TECHNOLOGY

- Quantitative method of miRNA detection
- Analytical specificity of 99.4%
- Limit of detection at least 1 pmol/L miRNA
- Great correlation with qRT-PCR method (99.4%)
- No amplification steps needed
- Time to result < 3 hr (including purification and miRNA profiling)

Breakthrough technology enabling easy use of miRNA biomarkers in both clinical and laboratory settings.
**miRia – miRNA immunoassay**

Approach involves hybridization of miRNA isolated from patient sample to complementary biotinylated DNA oligonucleotide probe followed by monoclonal antibody detection of perfectly matched DNA/miRNA hybrids with colorimetric (miREIA – miRNA enzyme immunoassay) or chemiluminescent (miRacle – miRNA antibody/capture luminometry) visualization.

**miREIA – miRNA enzyme immunoassay principle**

The biotin-labeled specific DNA oligonucleotide is hybridized with isolated miRNA from blood sample. The DNA/RNA hybrids are then transferred onto a stationary solid phase coated with monoclonal antibody specific to perfectly matched RNA/DNA-biotin hybrids. Washed solid phase is then incubated with streptavidin-HRP conjugate and visualized by chromogenic substrate ~ 3,3',5,5'-tetramethylbenzidine (TMB). The absorbance is proportional to the concentration of specific miRNA species present in the blood sample.