

Ultra Sensitive DNA & RNA Detection



Universal Nucleic Acid Binding Reagent

www.creatvmicrotech.com

Creatv markets reagents for detection of DNA and RNA without the use of PCR. Using the company's ultra-sensitive Signalyte™ instrument, nucleic acid detection assays can obtain sensitivity comparable to or better than conventional PCR.

An example used plasmid extract from *Y. pestis* strain K25, which contains both pCP1 and pMT-1 plasmids. The plasmids were denatured at 95°C for 10 minutes before hybridization to a biotinylated probe, shown as the step 1 in Fig. 1. The double strand DNAs are captured by proprietary Universal Nucleic Acid Binding Reagent (UNABR), the green sphere shown as step 2. Avidin-coated signal particles are incubated with the captured double strand DNA shown as step 3. After washing, the results are read using Signalyte™.

The data showed that as little as **0.5 femtogram (fg) of DNA could be detected without using PCR (Fig. 2)**. Conventional PCR could only detect DNA above 10 picogram (pg) (Fig. 3). Negative control consisted of 0.5, 5 and 50 fg of nucleic acids and 50 pg of salmon sperm DNA for normalization.

Signalyte™ is an ultra sensitive fluorescence detection platform for DNA and RNA, as well as cells, proteins, and other biomarkers.

Cellex, Inc. has granted permission for Creatv to reproduce its assay description and results.

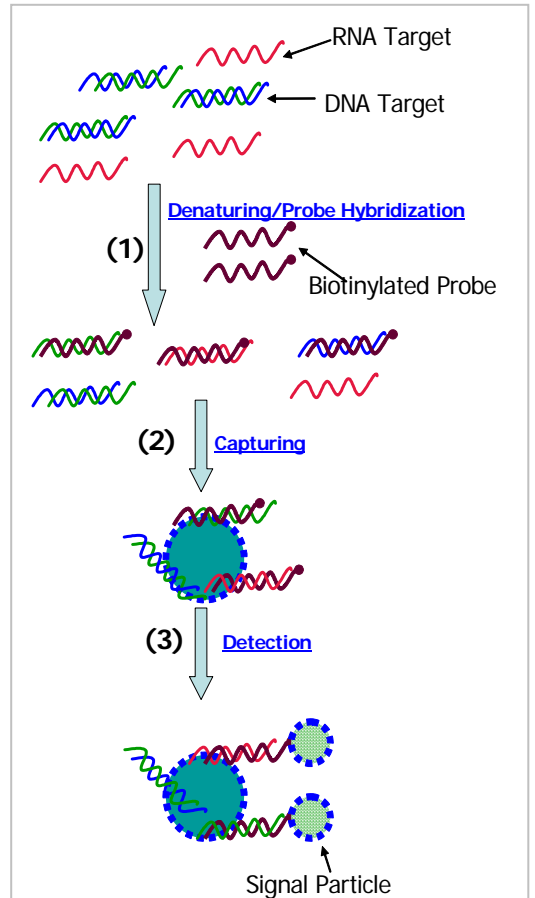


Figure 1. Schematic of assay.

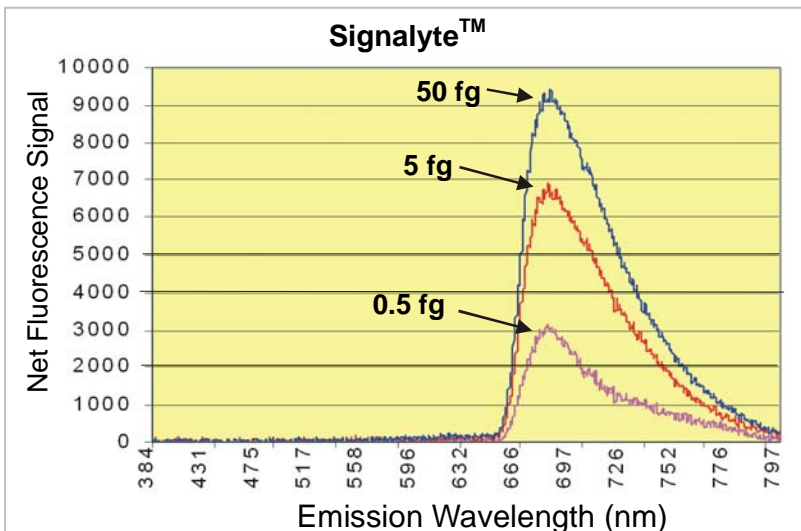


Figure 2. Net fluorescence is the signal after subtracting the background. Using Signalyte™, the limit of detection is 0.5 fg without PCR.

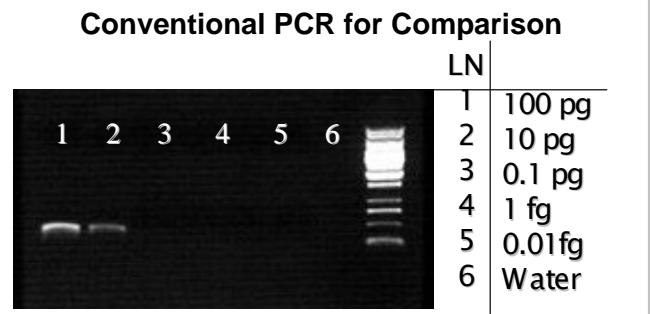


Figure 3. Using conventional PCR, the limit of detection for DNA is 10 pg.

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