

How AdnaTest works

The AdnaTest system uses a two-stage process for the detection and molecular characterization of tumor cells from peripheral blood samples.

1. AdnaTest Select

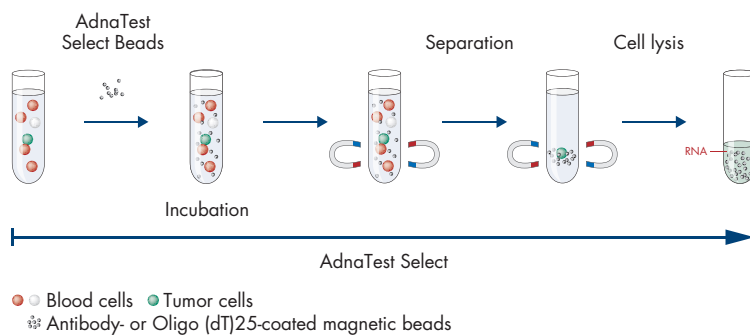


Figure 1. Highly specific tumor cell enrichment via immunomagnetic cell selection.

First, the CTCs in the blood sample are enriched in a process that uses antibody-coated magnetic beads. Each AdnaTest Select has a combination of antibodies that bind with high specificity and affinity to epitopes or antigens on the relevant cancer cells. After magnetic separation, the enriched cells are lysed and purified several times to make the relevant tumor cell information available in the form of mRNA.

2. AdnaTest Detect

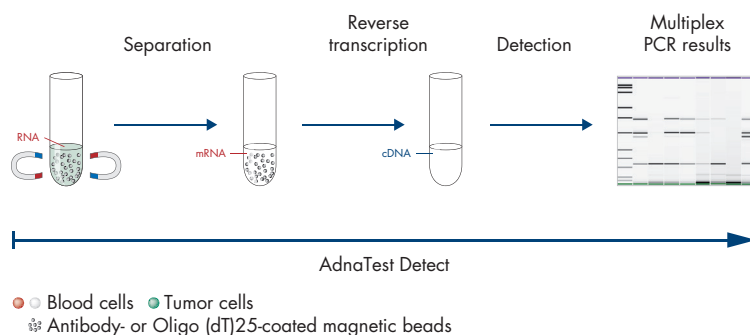


Figure 2. Multiplex RT-PCR of various cancer-associated tumor markers.

Highly sensitive RT-PCR is used to find tumor-associated expression patterns. The mRNA strands are reverse transcribed into cDNA. Subsequently, several associated tumor markers are amplified via multiplex PCR so that their expression patterns can be analyzed.

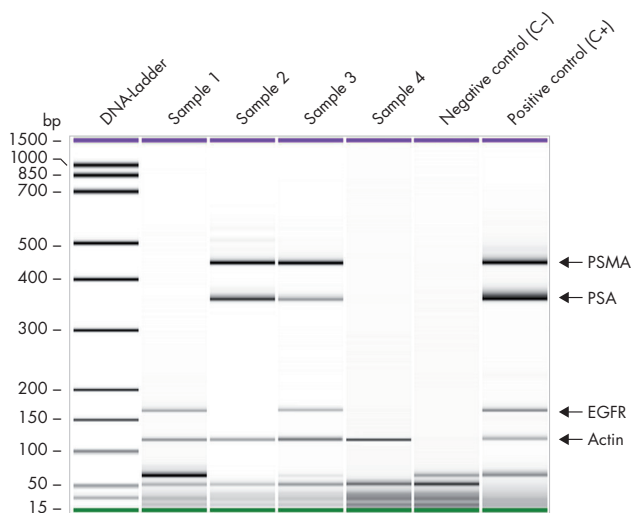


Figure 3. Samples were prepared with AdnaTest ProstateCancer then analyzed with an Agilent® 2100 Bioanalyzer. The first lane shows the DNA size standard. Sample 1 is positive for EGFR, sample 2 is positive for PSMA and PSA, and sample 3 is positive for PSMA, PSA and EGFR. Sample 4 is negative. Actin is detected in samples 1 to 4. The PCR negative and positive controls are shown in the last two lanes.

Results

Figure 3 show the results for samples prepared with AdnaTest ProstateCancer and then analyzed with an Agilent® 2100 Bioanalyzer. The samples tested positive for epidermal growth factor receptor (EGFR), prostate-specific membrane antigen (PSMA) and prostate-specific antigen (PSA), as expected, and the results for the controls showed that PCR ran successfully.

AdnaTest have a specificity of at least 90% and a detection limit of two CTCs in 5 ml of blood. The system offers highly specific immunomagnetic cell selection and highly sensitive RT-PCR technology to support in-depth investigations of CTC characteristics and molecular signal transduction pathways in all major tumor entities.

See the full range of AdnaTest solutions at the QIAGEN web shop.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Trademarks: QIAGEN®, Sample to Insight® (QIAGEN Group); Agilent® (Agilent Technologies, Inc.). Registered names, trademarks, etc. used in this document, even when not specifically marked as such, are not to be considered unprotected by law.

© 2016 QIAGEN, all rights reserved. PROM-9858-001

Ordering www.qiagen.com/shop | Technical Support support.qiagen.com | Website www.qiagen.com