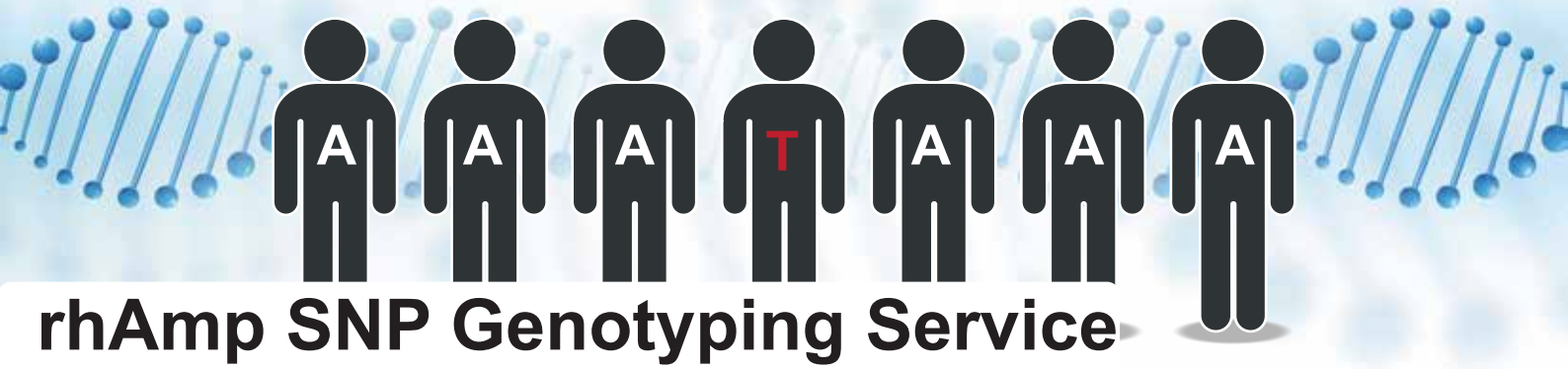
Genetika Science



rhAmp SNP Genotyping Service

WHAT ARE SINGLE NUCLEOTIDE POLYMORPHISMS (SNPS)?

Single nucleotide polymorphisms, frequently called SNPs (pronounced "snips"), are the most common type of genetic variation among people. Each SNP represents a difference in a single DNA building block, called a nucleotide. For example, a SNP may replace the nucleotide cytosine (C) with the nucleotide thymine (T) in a certain stretch of DNA.

Most SNPs have no effect on health or development. Some of these genetic differences, however, have proven to be very important in the study of human health. SNPs help predict an individual's response to certain drugs, susceptibility to environmental factors such as toxins, and risk of developing diseases. SNPs can also be used to track the inheritance of disease-associated genetic variants within families.

What is rhAmp?

rhAmp PCR is **RNase H-dependent PCR (rhPCR), a nucleic acid amplification method that provides increased target specificity over traditional PCR.** Compared to traditional PCR, rhAmp PCR requires an additional enzyme, RNase H2, and uses blocked primers (rhPrimers or rhAmp Primers) in place of conventional PCR primers.

rhAmp SNP Assays provide a highly accurate, PCR-based genotyping solution. Improved specificity overexisting methods is achieved by using a novel, dual enzyme mismatch recognition system in conjunction with modified DNA-RNA hybrid primers. RNase H2 enzyme enables target-specific primer activation, which is followed by extension using a novel, mutant Taq DNA polymerase that provides improved mismatch recognition.

How is SNP profiling done?

The method **relies on the analysis of carefully selected SNPs by means of realtime polymerase chain reaction (PCR).**

Single nucleotide polymorphisms (SNPs) are the most frequent sequence variations in the human genome, occurring approximately once every 100 to 300 bp.

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FAST AND SIMPLE REACTION SETUP

A single-tube assay setup allows for routine automation, and delivers genotypes with only 90 minutes of cycling time (Figure 1). Hot-start enzymes enable benchtop reaction setup, and stability of reactions for up to 3 days before and after cycling at room temperature.

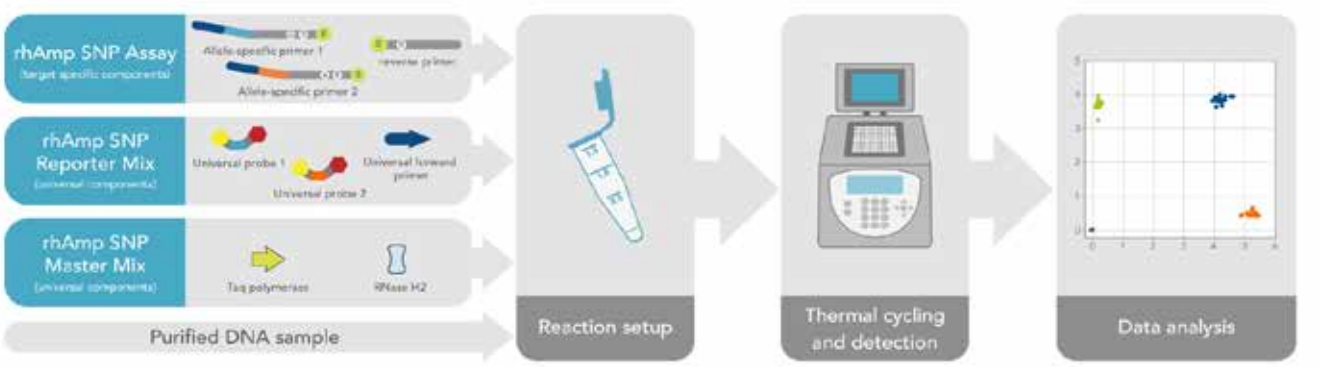

Figure 1. Simple, one-tube reaction chemistry supports streamlined lab processes. All reagents are combined in the initial reaction setup that is stable for up to 48 hours at room temperature. Reaction setup, instrument run-time, and data acquisition may be completed in under 3 hours.

Genetika Science offers rhAmp SNP Genotyping Service.

- Customers just send DNA and Genetika Science will process the samples.
- rhAmp SNP Genotyping offers a simple, high performance genotyping solution at an affordable price.
- Generate the highest level of performance with greater than 99.5% call accuracy for over 90% of assays tested.
- Interrogate SNPs in difficult sequence regions with amplicon lengths as short as 40 bp.
- Validate markers affordably using the smallest pack size commercially available.
- Ensure confidence in your data with gBlocks Gene Fragments as control templates.

Genetika Science

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