# Entrans SNP qPCR Probe Kit

Cat. No. : RK29966

## Product components

| Components | Component number | Size-1<br>100 RXN | Size-2<br>500 RXN |
|---|---|---|---|
| HS Taq DNA Polymerase | RM29908 | 100 μL | 500 μL |
| 4X qPCR Reaction Buffer | RM21210 | 500 μL | 2 × 1.25 mL |

## Product Description

This product utilizes HS *Taq* DNA Polymerase as the core enzyme and adopts a dual modification method with chemical and antibody modification, aiming to ensure amplification efficiency while significantly enhancing the specificity of the product, suitable for single nucleotide polymorphism (SNP) genotyping detection. HS *Taq* DNA Polymerase possesses both 5'-3' polymerase activity and 5'-3' exonuclease activity. The polymerase activity is completely inhibited at room temperature, thus avoiding non-specific amplification and primer-dimer formation during system preparation and other operations. During the 95 ° C denaturation process, the antibody denatures and becomes inactive, simultaneously the chemically modified molecules dissociate from *Taq* polymerase, releasing the activity of *Taq* DNA polymerase. This step not only does not affect the subsequent PCR reaction but also enhances the specificity of the PCR reaction.

## Product Source

The *Taq* DNA polymerase gene from *Thermus aquaticus* YT-1 was induced and expressed in *E. coli* and obtained by separation and purification.

## Unit Definition

1 unit (U) is defined as the amount of enzyme required to incorporate 10 nmol of deoxyribonucleotides into acid-insoluble material in 30 minutes at 75℃.

## Storage

-20℃

## Storage Solutions

10 mM Tris-HCl, 100 mM KCl, 1 mM DTT, 0.1 mM EDTA, 0.5% Tween 20, 0.5% NP-40, 50% Glycerol, pH 7.4 @ 25℃

## Operation Description

### Standard Protocol

It is recommended to prepare all reaction components on ice and gently mix the reaction system. If necessary, collect the reagents at the bottom of the tube by brief centrifugation, and then quickly transfer the reaction system to the qPCR instrument. If using a PCR instrument without a heated lid, cover the surface of the reaction system with a layer of mineral oil to prevent solution evaporation.

### Recommended Reaction

| Components | Volume |
|---|---|
| $ddH_2O$ | to 20 μL |
| 4X qPCR Buffer | 5 μL |
| Forward Primer (10 μM ) | 0.4 μL |
| Reverse Primer (10 μM ) | 0.4 μL |
| Probe (10 μM ) | 0.4 μL |
| DNA Template | Variable |
| HS Taq DNA Polymerase * | 0.2-1 μL |

*Note: The amount of HS *Taq* DNA Polymerase added in the 20 μL reaction system could be adjusted according to the actual situation.

### Recommended qPCR Program

| Step | Temp | Time | Cycles |
|---|---|---|---|
| Pre-denaturation | 95℃ | 10 min | 1 |
| Denaturation | 95℃ | 20 s | 10 |
| Annealing/Extension | 61-55℃ (-0.6℃/Cycle) | 40 s | |
| Denaturation | 95℃ | 20 s | 35 |
| Annealing/Extension | 55℃ | 40 s | |
| Plate Read | 30℃ | 1 min | 1 |

Note: This program is a KASP program and may not be suitable for ARMS-qPCR, please adjust it according to the experimental requirements.



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