*Cat. No: P2121, 100 rxns/20-μl rxn P2122, 500 rxns/20-μl rxn*
*P2123, 1,000 rxns/20-μl rxn P2124, 10,000 rxns/20-μl rxn*

# SYBR® Green Blue qPCR Mix (Universal ROX+)

*For research use only*

**Components**

| Component | P2121 | P2122 | P2123 | P2124 |
|---|---|---|---|---|
| *2X SYBR® Green Blue qPCR Mix (Universal ROX+)* | *1 ml* | *1 ml × 5* | *1 ml × 10* | *1 ml × 100* |
| *Nuclease-free Water* | *1 ml* | *1 ml × 5* | - | - |

**Storage**

*This reagent can be stored for 2 months at 4°C and protected from light. For longer storage, it should be kept at -20°C and protected from light.*

**Description**

*The SYBR® Green Blue qPCR Mix (Universal ROX+) is a dye-based qPCR Master Mix, mixed with a blue sample indicator and a universal ROX. There is no need to adjust the concentration of ROX for different instruments, making it easy to operate. The innovative hot start mechanism can reduce the interference of primer dimer and other secondary products on the reaction, significantly improve the specificity and amplification efficiency of quantitative PCR, and obtain a wider range of quantitative amplification. Using a new enhancer, the fluctuation of PCR efficiency for various target fragments can be controlled within a minimum range, and repeated freeze-thaw has little effect on the amplification performance. This product is perfectly compatible with common quantitative PCR instruments, such as ABI, Roche, Bio-Rad, etc.*

*The reaction system of this product can be prepared at room temperature without an ice box. The prepared PCR reaction system can be placed at room temperature for 24 hours and the amplification efficiency remains unchanged.*

**Applications**

- *Gene expression analysis*
- *Low-copy gene detection*
- *Microarray validation*
- *Gene knockdown validation*

**Features**

- *Contains sample adding indicator to reduce sample adding errors*
- *Contains universal ROX reference dye*
- *Compatible with many Real-time systems*
- *Hot-start technology brings high specificity and reproducible amplification*

**Protocol**

**Note:** *Please follow the procedures outlined in the manual of each respective instrument.*

**1. Preparation of reaction solution**

*Add the following reagents to the proper thermal cycler reaction tube or plate on ice:*

| Component | 20-μl rxn | Final Conc. |
|---|---|---|
| *DNA template[1]* | *2 μl* | *≤5μl* |
| *Forward primer (10 μM)[2]* | *2 μl* | *≥0.5 μM* |
| *Reverse primer (10 μM)* | *2 μl* | *≥0.5 μM* |
| *2X SYBR® Green Blue qPCR Mix (Universal ROX+)* | *10 μl* | *1X* |
| *dd$H_2O$* | *4 μl* | |

**Note:**

*[1] This product has sufficient performance to amplify DNA at different concentrations.*

*[2] This product has sufficient performance, where high-concentration primers do not affect specificity while also increasing sensitivity.*

**2. Setup the plate**

*Transfer the reaction mixture to PCR tubes/plates. Reaction volumes can be reduced to 10 μl if the instrument supports a low volume system.*

*Cap or seal the reaction tubes/plates then centrifuge briefly to spin down the contents and eliminate any air bubbles.*

**3. Preform qPCR using the following thermal cycling condition**

*Set the thermal cycling conditions using default PCR thermal cysling conditions specified in the following tables according to the instrument cycling parameters and melting temperatures of the specific primers.*

**2-step PCR mode:**

| Stage | Temperature | Time | Cycle |
|---|---|---|---|
| *Initial Denaturation* | *95ºC* | *1 min* | *1* |
| *Denaturation* | *95ºC* | *5 sec* | *40* |
| *Annealing & Extension* | *60ºC* | *15 sec [2]* | |
| *Melting curve analysis (optional)* | | | |

**4. Analyze the results**

*Data analysis varies depending on the instrument used. Please refer to your instrument user guide for information.*

**Quality Control**

*The absence of endodeoxyribonucleases, exodeoxyribonucl- eases and ribonucleases is confirmed by appropriate quality tests. Functionally tested in amplification of a single-copy gene from human genomic DNA.*

**Product Use Limitations**

*SYBR® Green Blue qPCR Mix (Universal ROX+) is sold exclusively for research purposes and in vitro use. Neither the product, nor any individual components, was tested for use in diagnostic applications or for drug development, nor is it suitable for administration to humans or animals. Please refer to the MSDS, available upon request.*