

# **EmeraldAmp® GT PCR Master Mix**

**Code No. RR310Q**  
**Size : 1 ml**  
**(for 40 PCR reactions)**

**Shipping at – 80 °C**  
**Store at – 20 °C**

**Components (for 40 reactions, 50 µl each) :**

**EmeraldAmp® GT PCR Master Mix** 1 ml  
**(2× Premix)**  
**dH<sub>2</sub>O** 1 ml

**Lot No.**

**Conc. :**

**Volume :**

**Description :**

EmeraldAmp® GT PCR Master Mix is a 2X premix composed of polymerase chain reaction (PCR) enzyme, optimized reaction buffer, dNTPs and a density reagent. The premix also contains a vivid green dye that will separate into blue and yellow dyes when run on an agarose gel. The premix simplifies PCR assembly, so that only primers, template and water need to be added and the resulting product can be run directly on a gel.

**Shipping :** dry ice (-80 °C)

**Storage :** -20 °C (or at 4 °C for 3 months)

If the premix will be used frequently, store at 4 °C, because repeated freeze-thaws of the product will decrease its activity. Mix the premix gently and briefly centrifuge before use.

**Applications :**

DNA amplification by PCR.  
Colony PCR

**PCR Test :**

Premix performance was confirmed by robust amplification of a 3.9 kb fragment from the human IGF2R gene.

**General PCR Mixture (Total 50 µl) :**

EmeraldAmp® GT PCR Master Mix (2 × Premix)	25 µl
Template	<500 ng
Forward Primer	0.2 µM (final conc.)
Reverse Primer	0.2 µM (final conc.)
dH <sub>2</sub> O (Sterilized distilled water)	up to 50 µl

**Suggested PCR Conditions :**

**3 Step (up to 6 kb)**

98 °C	10 sec	} 30 cycles
60 °C*	30 sec	
72 °C	1 min/kb	

**2 Step (over 6 kb)**

98 °C	10 sec	} 30 cycles
68 °C	1 min/kb	

\* Primers should have a T<sub>m</sub> >60 °C to achieve optimal results. The following formula is commonly used for estimating the T<sub>m</sub> of the primers.

$$T_m(^{\circ}C) = 2(NA+NT) + 4(NG+NC) - 5$$

N : the number of adenine (A), thymidine (T), guanidine (G), or cytosine (C) bases in primer

**PCR product :**

PCR products generated with EmeraldAmp® GT PCR Master Mix possess a single A at 3'-termini, and the obtained PCR product can be directly used for cloning into a T-vector. It is also possible to clone the product into blunt-end vectors after blunting and phosphorylation of the ends.

**Dye marker migration :**

If 5 µl of the reaction mixture is used for electrophoresis with 1% Agarose L03 (Cat. #5003), the blue dye marker migrates near 3 - 5 kb and the yellow is below 50 bp.

**Note**

This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals. Also, do not use this product as food, cosmetic, or household item, etc. Takara products may not be resold or transferred, modified for resale or transfer, or used to manufacture commercial products without written approval from TAKARA BIO INC. If you require licenses for other use, please contact us by phone at +81 77 543 7247 or from our website at [www.takara-bio.com](http://www.takara-bio.com).