



**Product Insert**  
**Diamond Mix**

Research Use Only

**Product:**  
Diamond Mix

**Catalogue numbers**  
BIO-25031      100 Reactions  
BIO-25032      500 Reactions

**Description:**

- **Extremely high-specificity; suited to GC-rich templates and mutation detection**

Diamond Mix is a complete ready-to-go 2x reaction-mix for Polymerase assays, which requires the consumer to add only water, template and primers, to successfully carry out polymerase assays of many common genomic and cDNA templates. Diamond Mix has been optimised for a wide variety of templates however a 50mM magnesium solution is included in case any fine adjustments are required.

Diamond Mix dramatically reduces the time required to set up reactions, thereby reducing the risk of contamination. Greater reproducibility is ensured, by reducing the number of pipetting steps that can lead to errors.

All mixes have been tested for scalability, and the mix can be used in reaction volumes from 5µl upwards. (When used at 2x concentration).

Diamond Mix has all of the features of our Diamond DNA Polymerase and is ideally suited to reactions up to 5kb with high GC content.

**Extended Stability:** The product was stored at +20 °C over a 5 week period and tested daily. No detectable loss of activity was evidenced.

Due to potential of microbiological contamination, +4°C storage should not exceed 4 weeks

**Composition of Supplied 2x Mix:**

32mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>  
125mM Tris-HCL (pH 8.8 at 25°C)  
0.02% Tween 20  
2mM dNTP's  
Diamond DNA Polymerase  
MgCl<sub>2</sub> – 6mM  
Stabilizer

**Batch details:**

Batch No: See vial  
Cat No: See vial

**Storage Conditions:**

2x Diamond Mix can be stored for:  
6 months at -20°C  
2 weeks at 4°C

**Shipping:** At 4°C or -20°C

*Repeated freeze/thaw should be avoided.*

**Directions for Use:**

Diamond Mix is designed with ease of use in mind. Each reaction requires 25µl of 2x Diamond Mix in addition of Primers and Template, and finally to make the reaction mix up to 50µl with 18.2mΩ water.

2x Diamond Mix is supplied with 6mM MgCl<sub>2</sub>, giving a final reaction concentration of 3mM, which in the presence of the reaction additives and stabilisers gives excellent performance and specificity.

Reaction Conditions	
<b>For a 50µl reaction</b>	
Diamond Mix	25µl
Template and Primers	as required
Water (ddH <sub>2</sub> O)	up to 50µl
Denature: 94-96°C	
Elongate: 70-72°C (allowing 2 mins/kb)	
This data is intended for use as a guide only; conditions will vary from reaction to reaction and may need optimisation.	

An additional tube of 50mM MgCl<sub>2</sub> is provided should any fine adjustments be necessary. The table below shows the volume of MgCl<sub>2</sub> to add to achieve different final concentrations.

Final MgCl <sub>2</sub> Required	Volume of 50mM MgCl <sub>2</sub> to add to a 50µl final reaction volume
3mM	0µl
3.5mM	0.5µl
4mM	1µl

Note: This product is supplied for use in primer extension reactions. Purchase of this product does not convey a licence to perform any patented process.

**This product contains a declaration of analysis at the time of manufacture**