

# 5M Betaine Solution

| Cat No. | Description         | Quantity |
|---------|---------------------|----------|
| PE02-01 | 5 M Betain Solution | 1.4ml    |
| PE02-01 | 5 M Betain Solution | 5x1.4ml  |

## General description

Betaine also called trimethylglycine or *N,N,N* triethylammonium acetate, is an analog of glycine with three methyl groups. It is highly compatible with polymerase chain reaction (PCR) buffer mixture. Betaine is a PCR enhancing reagent that is widely used for improving the yield and specificity of PCR products, especially during the PCR amplification of targets rich in GC content or those that form secondary structures resulting in poor yield. Betaine facilitates DNA strand separation and manages the DNA melting temperature ( $T_m$ ) difference between the GC and AT pairs in DNA. It stabilizes the ds DNA by equalizing the contribution of GC- and AT-base pairs. It stabilizes the dsDNA by equalizing the contribution of GC- and AT-base pairs. Betaine has been broadly used to optimize multiplex and 'long and accurate' polymerase chain reaction (LA-PCR). The addition of 1-2 M aqueous betaine to a PCR mixture has been reported to reduce the base pair composition dependence on DNA strand melting.

## Application

Betaine solution has been used as a component of

- loop-mediated isothermal amplification (LAMP) reactions
- polymerase chain reaction for genomic DNA amplification
- quantitative polymerase chain reaction (qPCR) for telomere length analysis
- in the PCR amplification of CGG repeats in the genomic DNA.

## Properties

|                  |                             |
|------------------|-----------------------------|
| Grade            | PCR Reagent                 |
| Form             | liquid                      |
| Packaging        | vial of 1.4 mL              |
| Concentration    | 5 M                         |
| Color            | colorless                   |
| foreign activity | DNase, RNase, none detected |

