



## Product Datasheet

<b>Product Name</b>	Thermostable dUTPase Recombinant
<b>Cata No</b>	CB500460
<b>Source</b>	<i>Escherichia Coli</i>
<b>Synonyms</b>	Thermostable dUTPase, dUTPase

### Description

Thermostable dUTPase (pyrococcus furiosus) maximizes the efficiency of high-fidelity PCR (using proofreading DNA polymerases). It removes contaminating dUTP present in PCR reactions and dNTP solutions. The presence of dUTPase in a proofreading DNA polymerase reaction can prevent dUTP misincorporation by maintaining dUTP levels below their inhibitory concentrations despite the constant generation of the molecule by the spontaneous deamination of dCTP. The incorporation of dUTP into PCR products causes mutations within the amplified product, proofreading polymerases to stall and slows down non-proofreading polymerases such as Taq. The dUTPase increase in PCR product yield, length and fidelity enables further down-stream applications. These effects make dUTPase useful in PCR fidelity and yield-sensitive applications such as cloning and subsequent recombinant protein technology, and gene expression analysis (semi-quantitative RT-PCR techniques and real-time PCR analysis), where small differences in product accumulation can have a significant impact on gene expression

analysis. dUTPase is specific for dUTP and is critical for the fidelity of DNA replication and repair. dUTPase hydrolyzes dUTP to dUMP and pyrophosphate, simultaneously reducing dUTP levels and providing the dUMP for dTTP biosynthesis.

### Physical Appearance

Sterile filtered liquid formulation.

### Purity

Greater than 97.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

### Formulation

dUTPase is supplied in 20mM Tris-HCl (pH 8.2), 1mM DTT, 0.1mM EDTA, 100mM KCl, 0.1% Nonidet P40, 0.1% Tween 20 and 50% glycerol at concentration of 10 u/ul of the enzyme.

### Stability

Two years when stored at -20°C, 2 weeks at 4°C.