

<b>Product:</b>	Sure-Pol™ DNA Polymerase
<b>Catalogue No:</b>	CB-4095-5          250u CB-4095-7          500u
<b>Description:</b>	A DNA polymerase with 5' – 3' DNA polymerase activity, and 3' – 5' proof-reading activity. It is designed to avoid misincorporations occurring during extension of primers. The product is supplied at sub-zero temperature, but owing to its stability, can be handled at room temperature.
<b>Storage buffer:</b>	20mM Tris-HCl, pH 7.5, 100mM NaCl, 0.1mM EDTA, 2mM DTT, 50% Glycerol, and 0.1% Tween-20.
<b>Reaction buffer:</b>	10x Concentration: 200mM Tris-HCl (pH 8.75 at 25°C), 100mM KCl, 100mM (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> , 20mM MgSO <sub>4</sub> , 1% Triton X-100, 1 mg/ml BSA.
<b>Mg<sup>++</sup> Stock solution:</b>	50mM MgCl <sub>2</sub> (suggested final concentration 2-4mM Mg <sup>2+</sup> - please note that the reaction buffer provides 2mM Mg <sup>2+</sup> ).
<b>Unit definition:</b>	One unit is defined as the amount that incorporates 10nmoles of dNTPs into acid- insoluble form in 30 minutes at 72°C under the assay conditions, using reaction conditions: 25mM TAPS (tris-hydroxymethyl)-methyl-amino-propanesulfonic acid, sodium salt) pH 9.3 (at 25°C); 5mM KCl; 2mM MgCl <sub>2</sub> ; 1mM β-mercaptoethanol, 200μM of each dATP, dGTP, dTTP; 100μM dCTP (a mix of unlabelled and α-[ <sup>32</sup> P]-labelled); 12.5 μg activated salmon sperm DNA in a final volume of 50μl.
<b>Characteristics:</b>	<p><b>High fidelity:</b> The fidelity of Sure-Pol exceeds that of Taq-Pro by up to 47 times. This means that fidelity is higher than for all other polymerases available on the normal market.</p> <p><b>Blunt ends:</b> Sure-Pol allows cloning to be carried out directly into blunt-ended vectors, and dispenses with the need to introduce T4 DNA Polymerase or Klenow in the reaction.</p> <p><b>Optimised buffer system:</b> A buffer is supplied containing optimal Mg for various uses. Thus, fewer probes are necessary in order to obtain the best possible conditions for reactions</p>
<b>Storage temperature:</b>	Sure-Pol DNA Polymerase should be stored at -20°C, in a constant-temperature freezer. This will ensure the continued stability of the product.
<b>Batch details:</b>	Batch No:          See vial Units per vial:    See vial Concentration:    2.5u/μl
<b>Practical Matters:</b>	Researchers are recommended to operate with, in the first instance, 50μl as a total reaction volume, containing 2.5 units of the enzyme. The final concentration of Mg <sup>++</sup> should be 2mM. In the interests of protecting the primer from inherent 3' – 5' exonuclease activity by Sure-Pol, the latter should be the last item to be added to the reaction.

Elongation should be carried out at 72°C, at the rate of 0.12 sec./base if 5 units are used in a 50μl reaction volume.

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**This certificate is a declaration of analysis at the time of manufacture**