

Product:	Ramp-Taq™ DNA Polymerase
Catalogue No:	CB-4080-5 250u CB-4080-7 500u CB-4080-9 5000u
Description:	DNA Polymerase
Storage buffer:	20mM Tris-HCl, pH 7.5, 100mM NaCl, 0.1mM EDTA, 2mM DTT, 50% Glycerol, and 0.1% Tween-20.
10x Reaction buffer:	10x Ramp-Taq Buffer (160mM (NH ₄) ₂ SO ₄ , 670mM Tris-HCl pH 8.3, 0.1% Tween-20)
Mg⁺⁺ Stock solution:	50mM MgCl ₂
Unit definition:	One unit is defined as the amount that incorporates 10nmoles of dNTP's into acid-precipitable form in 30 minutes at 72°C under the standard assay conditions: 25mM TAPS (tris-hydroxymethyl-methyl-amino-propanesulfonic acid, sodium salt) pH 9.3 (at 25°C), 50mM KCl, 2mM MgCl ₂ , 1mM β-mercaptoethanol, 200μM each dATP, dGTP, dTTP, 100μM dCTP (a mix of unlabelled and α - [³² P]- labelled) and 12.5μg of activated salmon sperm DNA, in a final volume of 50μl.
Associated activities:	Endonuclease and exonuclease activities were not detectable after 4 hours of incubation of 1μg of pBR322 plasmid DNA and 0.5μg Hind III-digested lambda phage DNA at 72°C in the presence of 20u of Ramp-Taq.
Features & Applications:	<ul style="list-style-type: none">• Application of heat in order to start the reaction.• Specificity reaches elevated levels.• Avoids interference by unwanted (non-specific) by-products.• Has an ability to polymerize "peripheral" DNA regions, e.g. microsatellites and secondary structures. With other polymerases, these cannot be extended readily.
Suggestions for use:	<p>The purpose of Ramp-Taq is to optimize yield and specificity, which are both at a higher level than can be obtained with the standard DNA polymerases. This product is intended to be used at a raised temperature, as there is no risk of decomposition.</p> <p>Ramp-Taq also combats the formation of non-specific products (e.g. primer-dimers and mis-primed products) during reactions. It is also appropriate with problematic and/or GC-rich templates.</p> <p>To achieve primer extension, Ramp-Taq has to operate at an elevated temperature; thus, when the enzyme and other ingredients have been brought together, they should be pre-incubated at 95°C for 7 minutes. The procedure is then continued out in the manner normally in use by the lab for thermostable DNA polymerases.</p> <p>While the hot start improves specificity, this can be enhanced still further by the reduction of the period of incubation, (although, N.B., this could be at the expense of some of the yield).</p> <p>We recommend that the final concentration of MgCl₂ be between 1.5 and 2.5mM, but to enhance results, optimization could be necessary. Initially, the tests should be carried out in a volume of 50μl, with 1 and 2 units being used.</p>
Storage temperature:	Should be stored at -20°C to ensure that it remains stable for its designated period of 4 months.
Batch details:	Batch No: See vial Units per vial: See vial Concentration: See vial

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