

Thermo Scientific PCR Reagents Selection Table

Standard PCR

General PCR applications requiring consistent and reliable polymerase performance. Yes/No sequence detection.

Hot Start PCR

Challenging PCR applications requiring maximum specificity and sensitivity, to detect rare or complex targets.

High-Fidelity PCR

PCR applications requiring highly accurate amplification, to produce PCR product with minimal sequence errors.

Fast PCR

PCR applications for maximum time savings.

APPLICATIONS	Routine performance	Enhanced performance	Long targets	Non-high fidelity			High-fidelity	Fast			Non-high fidelity		High-fidelity
	Taq DNA polymerase	DreamTaq™ DNA Polymerase	Long PCR Enzyme Mix*	Maxima™ Hot Start Taq DNA Polymerase	Phire® Hot Start II DNA Polymerase	Phusion® Hot Start II DNA Polymerase	Phusion® High-Fidelity DNA Polymerase	Phusion® Hot Start II High-Fidelity DNA Polymerase	Phusion® Flash High-Fidelity PCR Master Mix	Phire® Hot Start II DNA Polymerase	Phusion® Flash High-Fidelity PCR Master Mix		
Routine PCR	•	•		•	•						•		
High throughput	•	•		•	•	•	•	•	•	•	•	•	
Difficult (GC rich) templates			•			•	•	•	•	•		•	
Sequencing (template generation)						•	•	•	•	•		•	
Multiplex PCR				•	•	•		•	•	•	•	•	
Genotyping	•	•		•	•	•	•	•	•	•	•	•	
Long-range PCR			•			•	•	•	•	•		•	
Cloning						•	•	•	•	•		•	
Mutagenesis						•	•	•	•	•		•	
Microarray					•	•	•	•	•	•	•	•	
CHARACTERISTICS													
5'-3' exonuclease activity	Yes	Yes	Moderate	Yes	No	No	No	No	No	No	No	No	No
Proofreading activity	No	No	Moderate	No	Moderate	Yes	Yes	Yes	Yes	Yes	Yes	Moderate	Yes
dUTP incorporation	Yes	No	No	Yes	No	No	No	No	No	No	No	No	No
Blunt or 3'A ends	3'A	3'A	3'A/Blunt	3'A	Blunt	Blunt	Blunt	Blunt	Blunt	Blunt	Blunt	Blunt	Blunt
Fidelity vs. Taq	1x	1x	3x	1x	2x	52x	52x	52x	52x	52x	25x	2x	25x
Target length	≤5 kb	≤6 kb	≤47 kb	≤5 kb	≤7.5 kb	≤20 kb	≤20 kb	≤20 kb	≤20 kb	≤20 kb	≤20 kb	≤7.5 kb	≤20 kb
Color for pipetting aid	No	Yes	No	Yes	No	No	No	No	No	No	No	No	No
PERFORMANCE													
Accuracy/Fidelity	*	*	**	*	**	***	***	***	***	***	***	**	***
Specificity	*	*	*	***	***	***	*	***	**	***	**	***	**
Sensitivity	*	**	**	***	***	***	**	***	***	***	***	***	***
Yield	*	**	**	*	***	***	***	***	***	***	***	***	***
AVAILABLE AS													
Enzyme kit	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No
Master Mix	Yes	Yes	No	Yes	No	No	Yes	No	Yes	No	Yes	No	Yes
Complete kit	No	No	No	No	No	No	Yes	No	No	No	No	No	No

¹ Phusion Site-Directed Mutagenesis Kit also available
* Not in US

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