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TaKaRa
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You need it? We have it!

Introducing *Takara Bio's* best in class PCR enzymes for any application

We offer..

- **Enzymes to cover any specific needs**
  (High Fidelity, Real-Time PCR, Hot Start, Premixes, Long PCR and Direct PCR).

- **Competitive prices-** ask us for a quote today!

We invite you

To consult our team of experts and find the best solution for your research needs.

Customize your enzymes..

We offer the option for bulk, custom and GMP graded polymerases.

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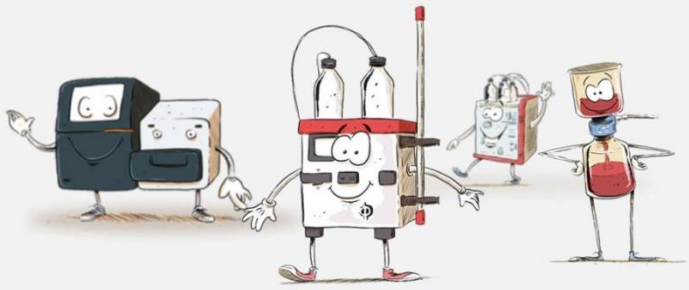

Application	Polymerase*	Amplification Efficiency	Product Size w/ λDNA (Average/Max)	Product Size w/ Human Genomic DNA (Average/ Max)	Hot Start PCR	Fidelity	Proof-reading Activity	Robustness	GC-Rich Templates	Real Time PCR (qPCR)	Processing Speed	Terminal Transferase Activity (3'-A over-hang)
Routine PCR	*TaKaRa Taq*™* (R001A)	++	6 kb/12 kb	2 kb/4 kb	No	+**	No	++	+	–	1 kb/min	Yes
	Premix *Taq*™ (R004A)	++	6 kb/12 kb	2 kb/4 kb	No	+**	No	+++	+	–	1 kb/min	Yes
	TaKaRa Taq HS* (R007A)	++	6 kb/12 kb	2 kb/4 kb	Yes	+**	No	++	+	+++	1 kb/min	Yes
	Premix Taq™ HS (R028A)	++	6 kb/12 kb	2 kb/4 kb	Yes	+**	No	+++	+	+++	1 kb/min	Yes
	EmeraldAmp® GT PCR Master Mix* (RR310A)	++	6 kb/12 kb	2 kb/4 kb	No	+**	No	++	+++	–	1 kb/min	Yes
High Efficiency PCR	*TaKaRa Ex Taq*™* (RR001A)	++++	20 kb/30 kb	10 kb/20 kb	No	++**	Yes	++	+	–	1-2 kb/min	Yes
	Premix *Ex Taq*™ (RR003A)	++++	20 kb/30 kb	10 kb/20 kb	No	++**	Yes	+++	+	–	1-2 kb/min	Yes
	TaKaRa Ex Taq™ HS* (RR006A)	++++	20 kb/30 kb	10 kb/20 kb	Yes	++**	Yes	++	+	++	1-2 kb/min	Yes
	Premix *Ex Taq*™ HS (RR030A)	++++	20 kb/30 kb	10 kb/20 kb	Yes	++**	Yes	+++	+	++	1-2 kb/min	Yes
	PerfectShot™ *Ex Taq* (RR005A) ¥	++++	20 kb/30 kb	10 kb/20 kb	No	++**	Yes	++	+	–	1-2 kb/min	Yes
	EmeraldAmp® Max PCR Master Mix* (RR320A) ¥	++++	20 kb/30 kb	10 kb/20 kb	No	++**	Yes	++	++	–	1-2 kb/min	Yes
	EmeraldAmp® Max HS PCR Master Mix* (RR330A) ¥	++++	20 kb/30 kb	10 kb/20 kb	Yes	++**	Yes	+++	++	–	1-2 kb/min	Yes
High Fidelity PCR	PrimeSTAR® MAX* (R045A)	++++	up to 15 kb	up to 6 kb	Yes	+++#	Yes	+++	+++	–	1 kb/5-10 sec	No (blunt end)
	PrimeSTAR® GXL* (R050A)	++++	up to 30 kb	up to 30 kb	Yes	+++#	Yes	+++	+++	–	1 kb/10 sec	No (blunt end)
	PrimeSTAR® HS* (R010A)	+++	up to 20 kb	up to 8.5 kb	Yes	+++#	Yes	++	+++	–	1-2 kb/min	No (blunt end)
	PrimeSTAR® HS with GC Buffers (R044A)	+++	up to 10 kb	up to 5 kb	Yes	+++#	Yes	++	+++	–	1-2 kb/min	No (blunt end)
	PrimeSTAR® HS, Premix (R040A)	+++	up to 10 kb	up to 5 kb	Yes	+++#	Yes	+++	+++	–	1-2 kb/min	No (blunt end)
Long PCR	*TaKaRa LA Taq*™* (RR002A)	+++	35 kb/48 kb	20 kb/30 kb	No	+++ **	Yes	++	+	–	1-2 kb/min	Yes+
	TaKaRa LA Taq™ w/GC Buffers (RR02AG)	+++	35 kb/48 kb§	(20 kb/30 kb) §	No	+++ ‡**	Yes	++	+++	–	1-2 kb/min	Yes+
	LA PCR Kit, V.2.1 (RR013A)	+++	35 kb/48 kb	20 kb/30 kb	No	+++**	Yes	++	+++	–	1-2 kb/min	Yes+
	One-Shot LA PCR Mix V.2.0 (RR004)	+++	35 kb/48 kb	20 kb/30 kb	No	+++**	Yes	+++	+	–	1-2 kb/min	Yes+
	TaKaRa LA Taq™ HS* (RR042A)	+++	35 kb/48 kb	20 kb/30 kb	Yes	+++**	Yes	++	+	–	1-2 kb/min	Yes+
Fast PCR	SpeedSTAR™ HS* (RR070A)	+++	20 kb/30 kb	10 kb/ 20 kb	Yes	++**	Yes	+++	+	–	6 kb/min	Yes
	SapphireAmp® Fast PCR Master Mix* (RR350A) ¥	+++	20 kb/30 kb	10 kb/ 20 kb	Yes	++**	Yes	+++	++	–	6kb/min	Yes
Real Time PCR	SYBR® Premix DimerEraser™* (RR091A)	+++	–	–	Yes	++**	Yes	+++	+	+++	–	Yes
	SYBR® *Premix Ex Taq*™* (Tli RNaseH Plus) (RR420A)	++++	–	–	Yes	++**	Yes	+++	+	+++	–	Yes
	SYBR® *Premix Ex Taq*™* II (Tli RNaseH Plus) (RR820A)	++++	–	–	Yes	++**	Yes	+++	+	+++	–	Yes
	Premix Ex Taq™* (Probe qPCR) (RR390A)	++++	–	–	Yes	++**	Yes	+++	+	+++	–	Yes

*Sample Available

Unit Definition
One unit is the amount of enzyme that will incorporate 10 nmol of dNTP into acid-insoluble products in 30 min. at 74°C with activated salmon sperm DNA as the template-primer.

Purity
Nicking activity, endonuclease, and exonuclease activity were not detected after the incubation of 0.6 µg of double-stranded supercoiled pBR322 DNA, 0.6 µg of ? DNA, or 0.6 µg of ?-*Hind* III digest with 10 units of enzyme for 1 hour at 74°C.

*All of Takara's PCR polymerases are provided with dNTPs and buffer. They guarantee low DNA enzyme contamination (≤ 10 fg).

+ Tvector cloning efficiency diminishes as the length of the PCR product to be cloned increases above 5 kb.

¥ Dye added "Load N Go" Premixes.

§ When used with GC Buffer I.

‡ When amplifying GC-rich templates, the fidelity is reduced.

** All fidelity determined by using the Kunkel method.

Fidelity determined by direct sequencing.

++++ Best
+++ Good
++ Average
+ Poor