

Certificate of Analysis

MULTI-CORE™ Buffer Pack:

Part No.	Size
R999A	0.25ml
R999B	1ml

Description: The MULTI-CORE™ Buffer Pack contains Promega's universal restriction enzyme 10X buffer.

Composition: The MULTI-CORE™ 10X Buffer has a composition of 250mM Tris acetate (pH 7.8 at 25°C), 1M potassium acetate, 100mM magnesium acetate and 10mM DTT.

Storage Temperature: Store at -20°C. Avoid multiple freeze-thaw cycles and exposure to frequent temperature changes. See the expiration date on the Product Information Label.

Usage Note: Concentration gradients may form in frozen products and should be dispersed upon thawing. Mix well prior to

MULTI-CORE™ Buffer Pack

REF R9991 LOT 0000246960
-30°C -10°C 2021-12-17
Dispensed Lot#: 0000233875
3 x 1ml

For Research Use

Country of Origin: USA

Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711-5399 USA



ADR9991 00002469609

PEEL
HERE

Quality Control Assays

Contaminant Activity

Endonuclease Assay: To test for endonuclease activity, 1µg of Type I supercoiled plasmid DNA is incubated with 1X buffer for two hours at 37°C. Following incubation, the supercoiled DNA is visualized on an ethidium bromide-stained agarose gel to verify the absence of visible nicking or cutting. The minimum passing specification is $\pm 10\%$ change in Type I DNA.

Exonuclease Assay: To test for DNase activity, 50ng of ³H-labeled DNA is incubated with 1X buffer for two hours at 37°C, and the release of radiolabeled nucleotides is monitored by scintillation counting of TCA-precipitable and TCA-soluble material. Minimum passing specification is <1% release for DNase.

Magnesium Assay: The assay specification is $\pm 10\%$ of a 1mM standard for buffer diluted to 1mM magnesium.

pH Assay: The pH assay specification is ± 0.15 pH units at 25°C.

Conductivity: The conductivity specification is $\pm 10\%$ of 119µmho.

Functional Assay: All buffers are tested for use in restriction enzyme activity assays. For each lot, the restriction enzyme activity assay must be within 10% of that of the previous lot.



Promega

Promega Corporation

2800 Woods Hollow Road	
Madison, WI 53711-5399	USA
Telephone	608-274-4330
Toll Free	800-356-9526
Fax	608-277-2516
Internet	www.promega.com

PRODUCT USE LIMITATIONS, WARRANTY, DISCLAIMER

Promega manufactures products for a number of intended uses. Please refer to the product label for the intended use statements for specific products. Promega products contain chemicals which may be harmful if misused. Due care should be exercised with all Promega products to prevent direct human contact.

Each Promega product is shipped with documentation stating specifications and other technical information. Promega products are warranted to meet or exceed the stated specifications. Promega's sole obligation and the customer's sole remedy is limited to replacement of products free of charge in the event products fail to perform as warranted. Promega makes no other warranty of any kind whatsoever, and SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES OF ANY KIND OR NATURE WHATSOEVER, DIRECTLY OR INDIRECTLY, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, AS TO THE SUITABILITY, PRODUCTIVITY, DURABILITY, FITNESS FOR A PARTICULAR PURPOSE OR USE, MERCHANTABILITY, CONDITION, OR ANY OTHER MATTER WITH RESPECT TO PROMEGA PRODUCTS. In no event shall Promega be liable for claims for any other damages, whether direct, incidental, foreseeable, consequential, or special (including but not limited to loss of use, revenue or profit), whether based upon warranty, contract, tort (including negligence) or strict liability arising in connection with the sale or the failure of Promega products to perform in accordance with the stated specifications.

© 1997, 1998, 2005, 2008, 2013, 2016 Promega Corporation. All Rights Reserved.

MULTI-CORE is a trademark of Promega Corporation.

All specifications are subject to change without prior notice.

Product claims are subject to change. Please contact Promega Technical Services or access the Promega online catalog for the most up-to-date information on Promega products.

Part# 9PIR999
Printed in USA. Revised 8/16.

Signed by:

R. Wheeler, Quality Assurance

This table may be used to select the best buffer for digestions with multiple restriction enzymes. Enzyme activity is expressed as a percent of the activity obtained with the optimized buffer for each enzyme.



Promega

Relative Activity of Restriction Enzymes in Promega's 10X Buffers.

Promega Enzyme	Buffer Supplied with Enzyme	Enzyme Activity in the Promega 4-CORE® Buffers					MULTI-CORE™ Buffer	Enzyme Assay Temperature	Promega Enzyme	Buffer Supplied with Enzyme	Enzyme Activity in the Promega 4-CORE® Buffers					MULTI-CORE™ Buffer	Enzyme Assay Temperature
		A	B	C	D						A	B	C	D			
AatII	J	50-75%	10-25%	<10%	<10%	<10%	<10%	37 C	Hinfl	B	50-75%	100%	75-100%	75-100%	50-75%	37 C	
AccI	G	50-75%	25-50%	25-50%	10-25%	25-50%	25-50%	37 C	HpaI	J	25-50%	50-75%	25-50%	10-25%	100%	37 C	
AccIII	F	<10%	10-25%	25-50%	25-50%	<10%	<10%	65 C	HpaII	A	100%	50-75%	50-75%	10-25%	100%	37 C	
Acc65I	D	10-25%	50-75%	75-100%	100%	100%	100%	37 C	Hsp92I	F	10-25%	75-100%	50-75%	25-50%	10-25%	37°C	
AccB7I	E	10-25%	50-75%	100%	<10%	100%	100%	37 C	Hsp92II	K	10-25%	25-50%	25-50%	<10%	<10%	37°C	
AgeI	K	25-50%	25-50%	25-50%	50-75%	100%	100%	37 C	I-PpoI	I-PpoI	10-25%	25-50%	25-50%	25-50%	-	37 C	
AluI	B	75-100%	100%	75-100%	10-25%	10-25%	10-25%	37 C	KpnI	J	100%	25-50%	25-50%	<10%	75-100%	37 C	
Alw26I	C	10-25%	25-50%	100%	10-25%	75-100%	75-100%	37 C	MboI	C	10-25%	75-100%	100%	50-75%	<10%	37 C	
Alw44I	C	<10%	25-50%	100%	25-50%	100%	100%	37 C	MbolI	B	10-25%	100%	50-75%	75-100%	100%	37 C	
ApaI	A	100%	50-75%	50-75%	<10%	75-100%	75-100%	37 C	MluI	D	10-25%	25-50%	50-75%	100%	10-25%	37 C	
AvaI	B	10-25%	100%	50-75%	25-50%	<10%	<10%	37 C	MspI	B	75-100%	100%	75-100%	25-50%	25-50%	37 C	
AvaII	C	50-75%	50-75%	100%	25-50%	25-50%	25-50%	37 C	MspA1I	C	25-50%	100%	100%	10-25%	100%	37 C	
BalI	G	10-25%	<10%	<10%	<10%	<10%	<10%	37 C	NaeI	A	100%	50-75%	25-50%	<10%	50-75%	37°C	
BamHI	E	75-100%	75-100%	75-100%	50-75%	75-100%	75-100%	37 C	NarI	G	75-100%	50-75%	75-100%	25-50%	50-75%	37 C	
BanI	G	25-50%	25-50%	10-25%	<10%	100%	100%	50 C	NciI	B	100%	100%	25-50%	25-50%	50-75%	37 C	
BanII	E	75-100%	75-100%	75-100%	25-50%	100%	100%	37 C	NcoI	D	50-75%	75-100%	75-100%	100%	75-100%	37 C	
BbuI	A	100%	75-100%	75-100%	<10%	100%	100%	37 C	NdeI	D	<10%	<10%	25-50%	100%	25-50%	37 C	
BclI	C	10-25%	75-100%	100%	50-75%	10-25%	10-25%	50 C	NgoMI	MULTI-CORE™	100%	100%	100%	<10%	100%	37°C	
BglI	D	10-25%	25-50%	75-100%	100%	100%	100%	37 C	NheI	B	75-100%	100%	75-100%	10-25%	100%	37 C	
BglII	D	25-50%	75-100%	75-100%	100%	<10%	<10%	37 C	NotI	D	<10%	10-25%	25-50%	100%	25-50%	37 C	
BsaMI	D	10-25%	25-50%	50-75%	100%	25-50%	25-50%	65 C	NruI	K	<10%	<10%	<10%	50-75%	10-25%	37 C	
BsaOI	C	10-25%	50-75%	100%	25-50%	100%	100%	50 C	NsiI	D	10-25%	50-75%	50-75%	100%	10-25%	37 C	
Bsp1286I	A	100%	50-75%	25-50%	10-25%	75-100%	75-100%	37 C	PstI	H	10-25%	50-75%	50-75%	50-75%	25-50%	37 C	
BsrBRI	H	10-25%	50-75%	100%	50-75%	100%	100%	65°C	PvuI	D	10-25%	25-50%	50-75%	100%	<10%	37 C	
BsrSI	D	10-25%	25-50%	10-25%	100%	100%	100%	65°C	PvuII	B	25-50%	100%	50-75%	25-50%	50-75%	37 C	
BssHII	H	75-100%	50-75%	75-100%	50-75%	75-100%	75-100%	50 C	RsaI	C	75-100%	75-100%	100%	<10%	<10%	37 C	
Bst7I	D	10-25%	25-50%	25-50%	100%	10-25%	10-25%	50 C	SacI	J	75-100%	25-50%	25-50%	<10%	100%	37 C	
Bst98I	D	<10%	10-25%	10-25%	100%	25-50%	25-50%	37°C	SacII	C	100%	50-75%	100%	50-75%	<10%	37 C	
BstEII	D	25-50%	50-75%	50-75%	100%	100%	100%	60 C	Sall	D	<10%	10-25%	25-50%	100%	<10%	37 C	
BstOI	C	10-25%	25-50%	100%	25-50%	<10%	<10%	60 C	Sau3AI	B	25-50%	100%	75-100%	<10%	100%	37 C	
BstXI	D	<10%	10-25%	25-50%	100%	10-25%	10-25%	50 C	Sau96I	C	25-50%	25-50%	100%	50-75%	50-75%	37 C	
BstZI	D	<10%	<10%	10-25%	100%	10-25%	10-25%	50 C	Scal	K	<10%	100%	50-75%	75-100%	10-25%	37 C	
Bsu36I	E	<10%	25-50%	50-75%	25-50%	50-75%	50-75%	37 C	SfiI	B	75-100%	100%	75-100%	25-50%	75-100%	50 C	
CfoI	B	75-100%	100%	75-100%	25-50%	100%	100%	37 C	SgfI	C	25-50%	25-50%	100%	<10%	<10%	37 C	
ClaI	C	75-100%	75-100%	100%	75-100%	100%	100%	37 C	SinI	A	100%	75-100%	50-75%	10-25%	100%	37 C	
CspI	K	<10%	10-25%	25-50%	50-75%	10-25%	10-25%	30 C	SmaI	J	<10%	<10%	<10%	<10%	100%	25 C	
Csp45I	B	25-50%	100%	50-75%	25-50%	50-75%	50-75%	37 C	SnaBI	B	50-75%	100%	50-75%	<10%	100%	37 C	
DdeI	D	25-50%	25-50%	50-75%	100%	25-50%	25-50%	37 C	SpeI	B	75-100%	100%	75-100%	75-100%	100%	37 C	
DpnI	B	50-75%	100%	75-100%	50-75%	100%	100%	37 C	SphI	K	75-100%	75-100%	100%	75-100%	10-25%	37 C	
DraI	B	75-100%	100%	75-100%	50-75%	25-50%	25-50%	37 C	SspI	E	10-25%	50-75%	50-75%	75-100%	50-75%	37 C	
EclIHKI	E	<10%	<10%	75-100%	10-25%	50-75%	50-75%	37 C	StuI	B	75-100%	100%	75-100%	50-75%	50-75%	37 C	
Eco47III	D	<10%	25-50%	50-75%	100%	25-50%	25-50%	37 C	StyI	F	25-50%	75-100%	75-100%	75-100%	<10%	37 C	
Eco52I	L	<10%	<10%	10-25%	25-50%	<10%	<10%	37 C	TaqI	E	10-25%	25-50%	50-75%	50-75%	100%	65 C	
EcoLCRI	B	10-25%	100%	75-100%	<10%	100%	100%	37 C	Tru9I	F	75-100%	50-75%	75-100%	25-50%	25-50%	65 C	
EcoRI	H	25-50%	50-75%	50-75%	50-75%	100%	100%	37 C	Tth111I	B	50-75%	100%	75-100%	25-50%	100%	65 C	
EcoRV	D	10-25%	25-50%	50-75%	100%	100%	100%	37 C	VspI	D	<10%	25-50%	75-100%	100%	<10%	37 C	
FokI	B	75-100%	100%	75-100%	25-50%	50-75%	50-75%	37 C	XbaI	D	50-75%	75-100%	75-100%	100%	100%	37 C	
HaeII	B	50-75%	100%	50-75%	10-25%	100%	100%	37 C	XhoI	D	25-50%	75-100%	75-100%	100%	10-25%	37 C	
HaeIII	C	75-100%	75-100%	100%	50-75%	100%	100%	37 C	XhoII	C	25-50%	25-50%	100%	10-25%	<10%	37 C	
HhaI	C	50-75%	75-100%	100%	50-75%	75-100%	75-100%	37 C	XmaI	B	50-75%	100%	25-50%	<10%	50-75%	37 C	
HincII	B	25-50%	100%	25-50%	50-75%	100%	100%	37 C	XmnI	B	75-100%	100%	75-100%	10-25%	75-100%	37 C	
HindIII	E	25-50%	100%	75-100%	10-25%	50-75%	50-75%	37 C									