

Fermentas Conventional Restriction Enzymes

Buffer Activity Chart



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Enzyme	Specificity 5'→3'	Recommended buffer for 100% activity	Enzyme activity in Fermentas buffers, %					Tango™ buffer for double digestion		Enzyme properties
			B (blue) 1X	G (green) 1X	O (orange) 1X	R (red) 1X	Tango™ (yellow) 1X	Tango™ (yellow) 2X		
AanI (PstI)	TTA↓TAA	Tango™	50-100	50-100	0-20	0-20	100	20-50	1X or 2X	☞☞☞
AarI	CACCTGC(4/8)↓	Unique (+oligo)	NR	NR	0-20 (+oligo)	0-20 (+oligo)	NR	50-100	2X (+oligo)	☞☞☞
AasI (DrdI)	GACNNNN↓NNGTC	B	100	20-50	0-20	0-20	50-100*	0-20	1X*	☞☞☞
AatII	GAGCT↓C	Tango™	50-100	20-50	0-20	0-20	100	20-50	1X or 2X	☞☞☞
Aac65I (KpnII)	G↓GTACC	O	0-20	20-50	100	20-50	50-100	50-100	1X or 2X	☞☞☞
AdelI (DraIII)	CACNNN↓GTG	G	0-20	100	20-50	100	100*	20-50	1X* or 2X	☞☞☞
AjlI (BmgBI)	CAC↓GTG	Unique	NR	NR	NR	NR	20-50*	2X*	☞☞☞	
AjuI	↓(7/12)GA(A/N)↓TTGG(11/6)↓	R (+SAM)	0-20 (+SAM)	50-100 (+SAM)	20-50 (+SAM)	100 (+SAM)	50-100 (+SAM)	50-100 (+SAM)	1X or 2X (+SAM)	☞☞☞
AflI	↓(10/12)GC(A/N)↓TGC(12/10)↓	R (+SAM)	0-20 (+SAM)	0-20 (+SAM)	0-20 (+SAM)	100 (+SAM)	0-20 (+SAM)	20-50 (+SAM)	2X (+SAM)	☞☞☞
AloI (30°C)	↓(7/12)13G(A/C/N)↓TCC(12/13/7)↓	R	0-20	0-20	0-20	0-20	100	20-50	1X or 2X	☞☞☞
AluI	AG↓CT	Tango™	50-100	0-20	0-20	0-20	100	20-50	1X or 2X	☞☞☞
Alw21I (BshIKAI)	GWGG↓C↓C	O	0-20	20-50	100	50-100	20-50	50-100	1X or 2X	☞☞☞
Alw26I (BsmAI)	GTCTC(1/5)↓	Tango™	50-100	100	0-20	0-20	100	100	1X or 2X	☞☞☞
Alw44I (ApaLI)	G↓TGAC	Tango™	50-100	100	0-20	0-20	100	50-100	1X or 2X	☞☞☞
ApalI	GGGCC↓C	B	100	20-50	0-20	0-20	20-50	0-20	1X	☞☞☞
BamHI	G↓GATCC	Unique	20-50*	100	20-50	50-100*	100*	50-100	1X* or 2X	☞☞☞
BauI (BssSI)	CACGAG(↓5/1)↓	Tango™	0-20	50-100	0-20	50-100	100	50-100	1X or 2X	☞☞☞
BclI (55°C)	T↓GATCA	G	20-50	100	20-50	20-50	100*	100	1X* or 2X	☞☞☞
BclI (NciI)	C↓GGG	Tango™	20-50	50-100	50-100	50-100	100	50-100	1X or 2X	☞☞☞
BclI (SpeI)	A↓CTAGT	Tango™	50-100	50-100	0-20	20-50	100	0-20	1X	☞☞☞
BdaI (30°C)	↓(10/12)TGA(N)↓TCA(12/10)↓	G (+SAM)	NR	100 (+SAM)	0-20 (+SAM)	20-50 (+SAM)	50-100*	50-100 (+SAM)	1X* or 2X (+SAM)	☞☞☞
BfiI (BmiI)	ACTGGG(5/4)↓	Tango™	20-50	20-50	0-20	0-20	100	0-20	1X	☞☞☞
BfiI (SfiI)	C↓TFRAG	Tango™	0-20	50-100	0-20	0-20	100	20-50	1X or 2X	☞☞☞
BfuI (BclVI)	GTATCC(6/5)↓	Unique	NR	NR	0-20	0-20	NR	50-100*	2X*	☞☞☞
BglI	GCNNNN↓NGGC	O	0-20	50-100	100	100	0-20	100	2X	☞☞☞
BglII	A↓GATCT	O	0-20	20-50	100	50-100	0-20	100	2X	☞☞☞
BmeI390I (SrfII)	CC↓NGG	O	20-50	50-100	100	50-100	50-100	50-100	1X or 2X	☞☞☞
BpiI (PshAI)	GACNN↓NNGTC	Tango™	0-20	0-20	0-20	20-50	100	20-50	1X or 2X	☞☞☞
BpxI (BbsI)	GAAGAC(2/6)↓	G	20-50	100	50-100	50-100	50-100	50-100	1X or 2X	☞☞☞
BpiI	↓(8/13)GAG(N)↓CTC(13/8)↓	Tango™ (+SAM)	0-20 (+SAM)	20-50 (+SAM)	0-20 (+SAM)	0-20 (+SAM)	100 (+SAM)	20-50 (+SAM)	1X (+SAM)	☞☞☞
Bpu10I	CCTNAGC(↓5/2)↓	Unique	0-20	20-50*	50-100*	100*	50-100*	100*	1X* or 2X*	☞☞☞
Bpu1102I (BpiI)	GC↓TNAGC	Tango™	50-100	50-100	20-50	20-50	100	20-50	1X or 2X	☞☞☞
BseDI (BsaJI) (55°C)	C↓CNNGG	Tango™	50-100	20-50	0-20	0-20	100	50-100	1X or 2X	☞☞☞
BseGI (FokI) (55°C)	GGATG(2/0)↓	Tango™	20-50	50-100	20-50	20-50	100	20-50	1X or 2X	☞☞☞
BseJI (BsaBI) (65°C)	GATNN↓NATC	O	NR	100*	100	NR	NR	100*	2X*	☞☞☞
BseLI (BstI) (55°C)	GCNNNN↓NNGGC	Tango™	20-50	100	50-100	20-50	100	50-100	1X or 2X	☞☞☞
BseMI (BspDI) (55°C)	CAGATG(2/0)↓	R	0-20	20-50	0-20	100	50-100	50-100	1X or 2X	☞☞☞
BseMI (BspDN1) (55°C)	GCAAG(10/8)↓	Tango™ (+SAM)	50-100 (+SAM)	50-100 (+SAM)	50-100 (+SAM)	50-100 (+SAM)	100 (+SAM)	50-100 (+SAM)	1X (+SAM)	☞☞☞
BseNI (BsrI) (65°C)	ACTGG(1/1)↓	B	100	20-50	0-20	0-20	50-100	20-50	1X or 2X	☞☞☞
BseSI (BmeI390I) (55°C)	GGGCM↓C	G	20-50	100	0-20	20-50	50-100	0-20	1X	☞☞☞
BseXI (BbvI) (65°C)	CACG(8/12)↓	Unique	NR	NR	NR	NR	NR	NR	NR	☞☞☞
Bsh1236I (BstUI)	CG↓CG	R	0-20	0-20	50-100	100	20-50	50-100	1X or 2X	☞☞☞
Bsh1285I (BseI)	CGRY↓CG	G	20-50	100	20-50	0-20	0-20	20-50	2X	☞☞☞
BshNI (BamI)	G↓GATCC	O	0-20	20-50	100	50-100	0-20	100	2X	☞☞☞
BshTII (ApuI)	A↓CCGGT	O	0-20	20-50	100	50-100	20-50	20-50	1X or 2X	☞☞☞
Bsp68I (NruI)	TGG↓CGA	O	0-20	20-50	100	50-100	20-50	50-100	1X or 2X	☞☞☞
Bsp119I (BstBI)	TTCGAA	Tango™	20-50	0-20	0-20	0-20	100	100	1X or 2X	☞☞☞
Bsp120I (ApaI) (55°C)	G↓GGCC	B	100	20-50	0-20	0-20	50-100	0-20	1X	☞☞☞
Bsp143I (Sau3AI)	↓GATC	Unique	20-50	20-50	0-20	0-20	50-100	20-50	1X or 2X	☞☞☞
Bsp1407I (BsrGI)	T↓GTACA	Tango™	0-20	20-50	0-20	20-50	100	50-100	1X or 2X	☞☞☞
BspLI (NlaIV)	SGN↓NCC	Tango™	50-100	50-100	0-20	20-50	100	20-50	1X or 2X	☞☞☞
BspOI (BmiI)	CGTAC↓C	O	0-20	0-20	100	100	0-20	20-50	2X	☞☞☞
BspPI (AlwI) (55°C)	GGATC(4/5)↓	Tango™	20-50	20-50	0-20	0-20	100	0-20	1X	☞☞☞
BspTI (AflII)	C↓TTAAG	O	0-20	0-20	100	20-50	0-20	50-100	2X	☞☞☞
Bst1107I (BstZ17I)	GTA↓TAC	O	20-50	50-100	100	100	20-50	100	1X or 2X	☞☞☞
BstXI (55°C)	CCANNNN↓NTGG	O	20-50	100	100	50-100	50-100	100	1X or 2X	☞☞☞
Bsu15I (ClaI)	AT↓CGAT	Tango™	20-50	20-50	20-50	20-50	100	20-50	1X or 2X	☞☞☞
BsuRI (HaeIII)	GG↓CC	R	20-50	20-50	50-100	100	50-100	100	1X or 2X	☞☞☞
BveI (BspMI)	ACCTGC(4/8)↓	O (+oligo)	20-50 (+oligo)	20-50 (+oligo)	100 (+oligo)	20-50 (+oligo)	50-100 (+oligo)	100 (+oligo)	1X (+oligo)	☞☞☞
CaII (AlwNI)	CAGNNN↓CTG	Tango™	20-50	20-50	20-50	50-100	100	50-100	1X or 2X	☞☞☞
CfrI (EaeI)	Y↓GGGCR	Tango™	50-100*	50-100	0-20	0-20	100	0-20	1X	☞☞☞
Cfr9I (XmaI)	C↓CGGGG	Unique	0-20	0-20	0-20	0-20	20-50	0-20	1X	☞☞☞
Cfr10I (BsrFI)	R↓CCGGY	Unique	0-20	20-50	20-50	50-100*	20-50	50-100	1X or 2X	☞☞☞
Cfr13I (Sau96I)	G↓GNCC	Tango™	50-100	50-100	20-50	20-50	100	20-50	1X or 2X	☞☞☞
Cfr42I (SacII)	CCGCG↓GG	B	100	50-100	0-20	0-20	50-100	0-20	1X	☞☞☞
CpoI (RsiII)	CG↓GWCOC	Tango™	20-50	50-100	0-20	20-50	100	50-100	1X or 2X	☞☞☞
CseI (HpaI)	GAGCG(5/10)↓	R	NR	50-100*	50-100	100	100*	50-100	1X* or 2X	☞☞☞
Csp6I (CviGI)	G↓TAC	B	100	50-100	0-20	0-20	50-100	0-20	1X	☞☞☞
DpnI	Gm6A↓TC	Tango™	100	100	50-100	50-100	100	50-100	1X or 2X	☞☞☞
DraI	TTT↓AAA	Tango™	50-100	50-100	20-50	20-50	100	50-100	1X or 2X	☞☞☞
Eam1104I (EarI)	CTCTC(1/4)↓	Tango™	50-100	50-100	0-20	0-20	100	0-20	1X	☞☞☞
Eam1105I (AhdI)	GACNNN↓NNGTC	Unique	20-50	50-100	0-20	0-20	50-100	20-50	1X or 2X	☞☞☞
Eco136II (EcoRI)	GAG↓CTC	Unique	50-100	20-50	0-20	0-20	50-100	0-20	1X	☞☞☞
Eco24I (BamII)	GRGCT↓C	Tango™	50-100	50-100	0-20	20-50	100	0-20	1X	☞☞☞
Eco31I (BsaI)	GGTCT(1/5)↓	G	50-100	100	0-20	0-20	50-100	20-50	1X or 2X	☞☞☞
Eco32I (EcoRV)	GAT↓ATC	R	0-20	50-100	50-100	100	20-50	100	1X or 2X	☞☞☞
Eco47I (AvaI)	G↓GWCC	R	0-20	50-100	50-100	100	50-100	50-100	1X or 2X	☞☞☞
Eco47III (AfeI)	AGC↓GGT	O	20-50	20-50	100	100	50-100	100	1X or 2X	☞☞☞
Eco52I (EagI)	C↓GGCCG	Unique	0-20	0-20	0-20	20-50	20-50	20-50	2X	☞☞☞
Eco57I (AclI)	CTGAAG(16/14)↓	G (+SAM)	100 (+SAM)	100 (+SAM)	20-50 (+SAM)	20-50 (+SAM)	50-100 (+SAM)	50-100 (+SAM)	1X (+SAM)	☞☞☞
Eco57MI	CTGRAG(16/14)↓	B (+SAM)	100 (+SAM)	100 (+SAM)	0-20 (+SAM)	20-50 (+SAM)	50-100 (+SAM)	0-20 (+SAM)	1X (+SAM)	☞☞☞
Eco72I (PmlI)	CAC↓GTG	Tango™	NR	NR	0-20	0-20	100	20-50	1X or 2X	☞☞☞
Eco81I (Bsu36I)	CC↓TNAGC	Tango™	50-100	100	0-20	0-20	100	0-20	1X	☞☞☞
Eco88I (AvaI)	C↓VCGAR	Tango™	100	50-100	0-20	0-20	100	20-50	1X or 2X	☞☞☞
Eco91I (BstEII)	G↓GTNACC	O	20-50	20-50	100	50-100	50-100	100	1X or 2X	☞☞☞
Eco105I (SnaBI)	TAC↓GTA	Tango™	100*	50-100	0-20	0-20	100	0-20	1X	☞☞☞
Eco130I (SfiI)	C↓CWWGG	O	0-20	20-50	100	50-100	50-100	100	1X or 2X	☞☞☞
Eco147I (SfuI)	AGG↓CCT	B	100	50-100	20-50	20-50	50-100	0-20	1X	☞☞☞
Eco1019I (DraII)	RG↓GNCCY	Tango™	50-100	20-50	20-50	20-50	100	100	1X or 2X	☞☞☞
EcoRI	G↓AATTC	Unique	0-20	NR	100	100*	NR	100	2X	☞☞☞
EcoRII	↓CWWGG	O	20-50	50-100	100	50-100	20-50	50-100	1X or 2X	☞☞☞
EheI (NarI) (55°C)	GGC↓GCC	Tango™	20-50	50-100	0-20	0-20	100	20-50	1	