

R restriction enzyme activity displaying system using universal and basal buffers

Takara applies a system in which enzyme activities measured in the optimal universal buffers (one of 5 buffers:) are displayed. The relative activity in other universal buffers is expressed as 100% of the optimal universal buffers. () indicates buffers which are likely to be affected by star activity, etc. In order to avoid these effects, use of or buffers is recommended. For 16 enzymes (*Acc III*, *Bal I*, *Bbe I*, *Bcn I*,

Bgl I, *Bpu1102 I*, *Cfr10 I*, *Eam1105 I*, *Eco52 I*, *Nru I*, *PshB I*, *SnaB I*, *Ssp I*, *Taq I* or *VpaK11B I*, basal buffer specialized for each enzyme is supplied). The compositions of basal buffers vary depending on enzymes. For reference to double digestion, recommended enzymes for each buffer (relative activity for each reaction mixture and enzyme) are listed.

Relative activity for each reaction buffer

 supplied, activity measured buffer recommended buffer

Restriction enzyme	Relative activities(%)					
	L	M	H	K	T+BSA	Basal***
<i>Aat II</i>	<20	<20	<20	<20	100	120
<i>Acc I</i>	20	100	<20	<20	160	80
<i>Acc II</i>	(260)	100	<20	20	200	160
<i>Acc III</i>	<20	<20	20	(80)	<20	100
<i>Afa I</i>	60	60	40	60	100	100
<i>Afl II</i>	20	80*	<20	<20	140	120
<i>Alu I</i>	100	100	<20	40	200	120
<i>Aor 13H I</i>	<20	20	<20	80*	80	100
<i>Aor 51H I</i>	80	100	<20	20	120	120
<i>Apa I</i>	100	<20	<20	<20	<20	120
<i>Apa L I</i>	100	20	<20	<20	120	120
<i>Ava II</i>	80	100	<20	20	100	100
<i>Bal I</i>	20	20	<20	<20	40	100
<i>BamHI</i>	<20	<20	40	100	<20	80
<i>Ban II</i>	(120)	(120)	100	80	(100)	100
<i>Bcn I</i>	<20	20	40	60	60	100
<i>Bgl I</i>	<20	<20	20	40	<20	100
<i>Bgl II</i>	<20	20	100	(100)	(60)	100
<i>Bln I</i>	<20	20	40	100	20	120
<i>BmeT110 I</i>	<20	<20	20	100	<20	140
<i>BmgT120 I</i>	<20	<20	100	40	<20	240
<i>Bpu1102 I</i>	<20	<20	<20	40	60	100
<i>BspT104 I</i>	100	60	<20	<20	100	120
<i>BspT107 I</i>	<20	20	80	100	20	100
<i>Bsp1286 I</i>	100	20	<20	<20	60	100
<i>Bsp1407 I</i>	20	60	20	20	100	100
<i>BssH II</i>	100	100	60	20	140	100
<i>Bst P I</i>	<20	(60)	100	(100)	(100)	100
<i>Bst X I</i>	<20	40	100	<20	<20	120
<i>Bst 1107 I</i>	<20	60	100	100	40	100
<i>Cfr 10 I</i>	<20	<20	<20	40	(20)	100
<i>Clal</i>	40	100	120	100	60	100
<i>Cpo I</i>	<20	<20	80	100	<20	100
<i>Dra I</i>	100	100	60	100	80	80
<i>Eae I</i>	60	100	<20	<20	120	160
<i>Eam1105 I</i>	<20	(40)	20	40	(40)	100
<i>EcoO65 I</i>	(20)	(60)	60*	40	40	100
<i>EcoO109 I</i>	100	60	<20	<20	100	160
<i>EcoR I</i>	(20)	(100)	100	(120)	(80)	120
<i>EcoR V</i>	<20	(40)	100	(120)	(40)	100
<i>EcoT14 I</i>	<20	(40)	100	120	(60)	100
<i>EcoT22 I</i>	<20	20	100	(140)	(20)	120
<i>Eco52 I</i>	<20	<20	<20	<20	<20	100
<i>Eco81 I</i>	<20	100	<20	<20	100	160
<i>Fba I</i>	<20	<20	(80)	100	(20)	100
<i>Fok I</i>	(20)	(60)*	<20	<20	(200)	100
<i>Hae II</i>	80	100	<20	80	140	100
<i>Hae III</i>	60	100	100	60	100	100

Restriction enzyme	Relativeactivities(%)					
	L	M	H	K	T+BSA	Basal***
<i>Hap II</i>	100	60	<20	<20	100	80
<i>Hha I</i>	80	100	100	120	120	100
<i>Hinc II</i>	20	100	20	40	100	80
<i>Hind III</i>	(60)	100	<20	200	(100)	80
<i>Hinf I</i>	80	100	100	160	60	100
<i>Hin1 I</i>	40	80*	<20	20	60	160
<i>Hpa I</i>	<20	(40)	20	100	(80)	100
<i>Kpn I</i>	100	60	<20	<20	(100)	80
<i>Mbo I</i>	20	40	60	100	40	100
<i>Mbo II</i>	100	60	<20	<20	60	100
<i>Mfl I</i>	100	80	<20	<20	80	100
<i>Mlu I</i>	60	60	100	(100)	60	100
<i>Msp I</i>	80	80	<20	100	100	80
<i>Mun I</i>	(200)	100*	<20	<20	160	100
<i>Mva I</i>	<20	(40)	80	100	(20)	120
<i>Nae I</i>	100	<20	<20	<20	100	120
<i>Nco I</i>	(40)	(60)	20	60*	(60)	160
<i>Nde I</i>	<20	40	100	100	80	100
<i>Nhe I</i>	(120)	100	<20	<20	(160)	100
<i>Not I</i>	<20	<20	20*	<20	<20	100
<i>Nru I</i>	0	<20	20	20	<20	100
<i>Nsb I</i>	40	20	<20	60	100	100
<i>PmaC I</i>	100	80	<20	<20	100	100
<i>PshA I</i>	20	40	<20	100	60	160
<i>PshB I</i>	(20)	(40)	20	40	40	100
<i>Psp1406 I</i>	20	60	<20	<20	100	100
<i>Pst I</i>	<20	(60)	100	80	(20)	80
<i>Pvu I</i>	<20	(20)	(40)	80*	(40)	120
<i>Pvu II</i>	(80)	100	40	<20	(40)	100
<i>Sac I</i>	100	60	<20	<20	80	80
<i>Sac II</i>	40	20	<20	<20	100	40
<i>Sal I</i>	<20	<20	100	(20)	<20	120
<i>Sau 3A I</i>	(60)	80	100	<20	(80)	100
<i>Sca I</i>	<20	<20	100	(60)	<20	100
<i>Sfi I</i>	(40)	100	<20	<20	100	100
<i>Sma I</i>	<20	<20	<20	<20	100	100
<i>Smi I</i>	<10	<20	100	40	<10	100
<i>SnaB I</i>	(20)	(40)	<20	<20	(40)	100
<i>Spe I</i>	(80)	100	80	100	(80)	100
<i>Sph I</i>	(20)	(40)	100	120	(20)	100
<i>Sse8387 I</i>	(120)	60*	<20	<20	(60)	100
<i>Ssp I</i>	<20	(60)	40	(100)	(80)	100
<i>Stu I</i>	60	100	60	80	140	100
<i>Taq I</i>	40	80	60	60	80	100
<i>Tth111 I</i>	(20)	80	40	100	(80)	120
<i>Van91 I</i>	<20	(20)	60	100	(60)	100
<i>VpaK11B I</i>	<20	<20	60	(40)	<20	100
<i>Xba I</i>	<20	80*	20	<20	120	120
<i>Xho I</i>	<20	60	100	160	60	100
<i>Xsp I</i>	<20	60	<20	100	160	100

* +0.01% BSA 100% *Afl II*, *Aor13H I*, *EcoO65 I*, *Fok I*, *Hin1 I*, *Mun I*, *Nco I*, *Pvu I*, *Sse8387 I*, *Xba I*

** +0.01% BSA+0.01% Triton X-100 100% *Not I*

*** The composition of basal buffers varies depending on enzymes.