Restriction Enzymes Buffer Guide

According to assay conditions MINOTECH has divided the restriction endonucleases into six groups. Each group is more active in one of the six following reaction buffers:

Low salt buffer	**10x L**	100 mM Tris-HCl (pH 7.9 at 25°C) 100 mM $MgCl_2$ 10 mM Dithiothreitol
Medium salt buffer	**10x M**	100 mM Tris-HCl (pH 7.9 at 25°C) 100 mM $MgCl_2$ 500 mM NaCl 10 mM Dithiothreitol
High salt buffer	**10x H**	500 mM Tris-HCl (pH 7.9 at 25°C) 100 mM $MgCl_2$ 1000 mM NaCl 10 mM Dithiothreitol
Super High salt buffer	**10x SH**	100 mM Tris-HCl (pH 7.9 at 25°C) 100 mM $MgCl_2$ 1500 mM NaCl 10 mM Dithiothreitol.
Tris acetate buffer	**10x A**	200 mM Tris-acetate (pH 7.9 at 25°C) 100 mM Mg-acetate 500 mM K-acetate 10 mM Dithiothreitol
K buffer	**10x K**	200 mM Tris-acetate (pH 7.9 at 25°C) 100 mM Mg-acetate 500 mM K-acetate 1mg/ml BSA

The activity of each restriction endonuclease was evaluated in each of the above five buffers containing 100µg/ml bovine serum albumin (BSA) except for K buffer that includes BSA.

Some MINOTECH restriction endonucleases require Triton X-100 (TX-100). This means that 100% of the activity documented is obtained using this additive. Fifteen Minotech enzymes– *Bam*H I, *Bgl* I, *Bsi*S I, *Bss*A I, *Bst*E II, *Csp*A I, *Eco*R I, *Kpn* I, *Mbo* I, *Not* I, *Nru* I, *Pst* I, *Sca* I, *Sna*B I and *Taq* I require unique (U) buffers for optimal reaction conditions. The composition of each unique buffer is presented in specific restriction endonuclease descriptions, also in the Technical Data Sheet provided with each enzyme.

Note: Minotech buffers should be thawed completely and mixed thoroughly before using.

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