

Table S5. Specificity determining sequence motifs of *TaTT* and TAs from the families of PLP fold type IV.

	Sequence motif 1	Sequence motif 2	numbering corresponds to:
BCAT	³¹ YxxxxF[ED]Gx[KR] ⁴⁰	⁹⁵ YxR ⁹⁷ ... ¹⁰⁷ [LMVI]G[VL] ¹⁰⁹	BCAT from <i>Escherichia coli</i>
DAAT	²⁶ FxxxxYxV[IVA][KR] ³⁵	⁸⁶ HxY ⁸⁸ ... ⁹⁸ [RK]xH ¹⁰⁰	DAAT from <i>Bacillus sp.</i> YM-1
R-TA	⁵³ HxxxxYD[VT]x[STAHP] ⁶²	¹¹³ [FY]V[EQAWNS] ¹¹⁵ ... ¹²⁶ [RKFGP]x[STANER] ¹²⁸	R-TA from <i>Nectria haematococca</i>
<i>TaTT</i>	³⁴ SxxxxFEGIR ⁴³	¹⁰¹ YIM ¹⁰³ ¹¹⁴ FSV ¹¹⁶	BCAT from <i>Thermobaculum terrenum</i>