

Electronic Supplementary Information

Table 1: All observed peptides with HDX levels, pre-mixing and two time-points post-mixing with clavulanate.

Sequence	position	Free enzyme 128 ms (%labeled)	Acyl-Enzyme 128 ms (% labeled)	Acyl-enzyme 9.0 s (% labeled)
HPETL	001-005	15	15	15
HPETLVKVKDAEDQLGARVG Y	001-021	3	6	22
VKVKDAEDQLGARVGY	006-021	5	19	19
VKVKDAEDQLGARVGY	006-021	4.5	19	19
AEDQLGARVGYI	011-022	2	6	27
IELDLNSGKILESF	022-035	14	12	6
LDLN	024-027	10	14	31
NSGKILESRPEE	027-039	6	4	4
SRVDAGQEQLGRRIHYSQND L	057-077	15	11	11
GRRIHYSQNDL	067-077	14	20	20
SDNTAANL	105-112	4	7	7
SDNTAANLLTTI	105-117	9	8	5.5
TTIGGPKELTAF	115-126	7	3	3
FLHNMGDHSVTRL	126-137	16	10	10
FLHNMGDHSVTR	126-136	12	8	8
HNMG	128-131	10	7	7
DRWEPEL	138-144	6	6	6
RKLLTGEL	166-173	11	11	20
IDWMEA	183-188	2	7	7
DKVAGPLL	189-196	0	1	7
PAGWFIA	201-207	2	4	4
GWFIADKSG	203-211	18	18	18
GWFIADKSGAGERGSRGIIA ALGPDGKPSRIVV	203-235	6	12	12
FIADKSGAGERGSRGIIAA	205-223	5	10	10
YTTG	237-240	6	6	6
DERNRQIAE	246-254	8	5	5