

	$\beta 1$	$\beta 2$	L1	$\beta 3$	$\beta 4$	
K12	AEVYNKDGNKLDLYGKVDGLHYF	SDNKD	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
EC536	AEVYNKDGNKLDLYGKVDGLHYF	SDDKS	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
CFT073	AEVYNKDGNKLDLYGKVDGLHYF	SDDKS	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
A35H	AEVYNKDGNKLDLYGKVDGLHYF	SDDKS	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
6104H	AEIYNKDGNKLDLYGKVDGLHYF	SDNDS	SKD	GDKTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
A54H	AEVYNKDGNKLDLYGKVDGLHYF	SDNKSE	D	GDQTYVRLGFKGETQ	VTDQLTGYGQWEYQI	60
A42H	AEVYNKDGNKLDLYGKVDGLHYF	SDDKS	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
F11	AEVYNKDGNKLDLYGKVDGLHYF	SDDKS	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
EC93	AEVYNKDGNKLDLYGKVDGLHYF	SDNKD	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
EC869	AEVYNKDGNKLDLYGKVDGLHYF	SDDKS	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
UTI89	AEVYNKDGNKLDLYGKVDGLHYF	SDDKS	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60
A33H	AEVYNKDGNKLDLYGKVDGLHYF	SDDKS	V	GDQTYMRLGFKGETQ	VTDQLTGYGQWEYQI	60

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	L2	$\beta 5$	$\beta 6$	L3			
K12	QGNSAE-NENN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119	
EC536	QGNAP	E-SENN	SWTRVAFAGLKFQ	DIGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119
CFT073	QGNAP	E-SENN	SWTRVAFAGLKFQ	DIGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119
A35H	QGNAP	E-SENN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119
6104H	QGNPE	E-SDNS	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119
A54H	QGN	TSEDNKEN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 120
A42H	QGNSAE-NENN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119	
F11	QGNSAE-NENN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119	
EC93	QGNSAE-NENN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119	
EC869	QGNSAE-NENN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119	
UTI89	QGNSAE-NENN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119	
A33H	QGNSAE-NENN	SWTRVAFAGLKFQ	DVGSFDYGRN	YGVVYDVT	SWTDVLPFEGGD	TYGSDN 119	

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	$\beta 7$	$\beta 8$	L4	
K12	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	KNGNPSGEGFT	----SGVTNNGR-DALR 174
EC536	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	QNGSVSGEND	PDFTGHGITNNGR-KALR 178
CFT073	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	QNGSVSGEND	PDFTGHGITNNGR-KALR 178
A35H	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	QNGSVSGEND	PDFTGHGITNNGR-KALR 178
6104H	FMQQRGNGFATYRNTD	FFGLVDGLDFAVQYQG	KNGSAHGE	-----MTTNGRDDVFE 171
A54H	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	KNGSVSGEG	-----MTNNGR-GALR 171
A42H	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	KNGSVSDGEG	-----MTNNGR-GALR 170
F11	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	KNGSVSGEG	-----MTNNGR-DALR 170
EC93	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	KNGSVSGEG	-----MTNNGR-GALR 170
EC869	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	KNGSVSGEG	-----MTNNGR-EALR 170
UTI89	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	KNGSVSGEG	-----MTNNGR-GALR 170
A33H	FMQQRGNGFATYRNTD	FFGLVDGLNFAVQYQG	KNGSVSGEG	-----MTNNGR-GALR 170

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	$\beta 9$	$\beta 10$	L5	$\beta 11$			
K12	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TDAQN	-----TAAYIGNGDR	AEITYTGGLK 226	
EC536	QNGDVGGSITYD	YEGFGVGA	AAVSSSK	R	TDAQN	-----TAAYIGNGDR	AEITYTGGLK 230
CFT073	QNGDVGGSITYD	YEGFGVGA	AAVSSSK	R	TWDQNN	-----TGLIGTGD	RAEITYTGGLK 230
A35H	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TWDQNN	-----TGLIGTGD	RAEITYTGGLK 230	
6104H	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TWDQNN	-----TGLIGTGD	RAEITYTGGLK 223	
A54H	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TDDQNGSYIS	NGVVRNYIGTGD	RAEITYTGGLK 231	
A42H	QNGDVGGSITYD	YEGFGVGA	AAVSSSK	R	TDAQNGTYVVDNV	THNYIGTGD	RAEITYTGGLK 230
F11	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TDAQN	-----TAAYIGNGDR	AEITYTGGLK 222	
EC93	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TDDQN	-----SPLYIGNGDR	AEITYTGGLK 222	
EC869	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TDDQN	-----SPLYIGNGDR	AEITYTGGLK 222	
UTI89	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TDDQN	-----SPLYIGNGDR	AEITYTGGLK 222	
A33H	QNGDVGGSITYD	YEGFGIGGAISSSK	R	TDDQN	-----SPLYIGNGDR	AEITYTGGLK 222	

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	β12	L6	β13	β14	
K12	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSLAYLQSKGKNLG	286
EC536	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSVAYLQSKGKNLG	290
CFT073	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSVAYLQSKGKNLG	290
A35H	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSVAYLQSKGKNLG	290
6104H	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSLAYLQSKGKNLG	283
A54H	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSVAYLQSKGKNLG	291
A42H	YDANNIYLAAQYTQTY	DATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSLAYLQSKGKNLG	290
F11	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSVAYLQSKGKNLG	282
EC93	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSVAYLQSKGKNLG	282
EC869	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSLAYLQSKGKNLG	282
UTI89	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSLAYLQSKGKNLG	282
A33H	YDANNIYLAAQYTQTY	NATRVGSLGWAN	KAQNF	EAVAQYQFDFGLRPSVAYLQSKGKNLG	282

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	L7	β15	β16	L8	β1'	
K12	----	RGYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	342
EC536	TIGTRNYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	350	
CFT073	VVAGRNYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRAAGINTD	DIVALGL	350	
A35H	VINGRNYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRAAGINTD	DIVALGL	350	
6104H	----	RGYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNRF	TRDAGINTD	DIVALGL	339
A54H	VINGRNYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	351	
A42H	VINGRNYDDEDILKYVDVGATYYFNKNMSTVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	350	
F11	TIGTRNYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	342	
EC93	VINGRNYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	342	
EC869	VINGRNYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	342	
UTI89	----	RGYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	338
A33H	TIAGRNYDDEDILKYVDVGATYYFNKNMSTYVDYKIN	LLDDNQF	TRDAGINTD	NIVALGL	342	

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K12	VYQF	346
EC536	VYQF	354
CFT073	VYQF	354
A35H	VYQF	354
6104H	VYQF	343
A54H	VYQF	355
A42H	VYQF	354
F11	VYQF	346
EC93	VYQF	346
EC869	VYQF	346
UTI89	VYQF	342
A33H	GYQF	346
