

	111	120	130	140	150	160	170	180	190	200	218
<i>S. salexigens</i>	IWQVAVRETQRGKGLGTRMLMQLLEREQL-TN--	IRYVEATVSPSNLPSQYFLFLGLAEKLDTECVVGNYYLSIDFPR---	TGHEDEQLYKIGFFQKGNNE-----								
<i>V. pantothenicus</i>	IWQVAVEAQRGKGLGTHMLLQLLNKRKI-AQ--	VQYIEATVAPSNLPSQYFLFLGLAKKLDTECVVGNYYTSVDFPR---	TGHEDEQLYKIGFIRRANNK-----								
<i>S. pasteurii</i>	YLASCSDETQRQKGLASRMLQAILHRYAWRN---	IRYLEATVGTSTNEAPEALFQKLSRDCLKTAYHVTEFFTEDQFPQK---	GHEDELFKIGFFQOV-----								
<i>O. iheyensis</i>	IWQVAVSSTQRGKGLATKMLLQLLEWN---ES--	VNFIETVAPSNKPSNYLFLGLARKIHTNWKISDYFKTDHFPAKD-EB	HEEELFRIGFPMRKNKNKRMI-----								
<i>B. clausii</i>	IWQIGVAASQRGRGLDLINKLIEREAC-KD--	IRYVEATVTPSNKASQALFRKLARSHQTDCCVSSCFSEQLFPG---	DSHEQNTFRIGFLRS-----								
<i>B. halodurans</i>	VWQIGVDSQRGKGLASKLLQELISRDIK-SN--	VNYVEATVTPSNKASQALFQKLAREYNTQCEVSECFSEDLFPG---	DDHEAELTFRIGFLHP-----								
<i>M. halophilus</i>	VWQVGVDTQRGKGLASRLNALLERDVC-EN--	VLYLEATITPSTNEASQALFKKLAQKRETEVTVSECFTEDLFPG---	DEHEEELTFRIGFFTK-----								
<i>N. oceani</i>	IWQIVAVSPQARGKGLALSMLKELLRRNAD-HK--	VTFLETITVSPNTASRALFNLSLARDLNTELVEIPGFDESFLFPTG---	NHESEPFLLRGLPFPEAKNLQ-----								
<i>B. linens</i>	IWQVAVSSDFRGLAKTMLNELADRTNALR----	LETTITDDNDASNRLFQSFQAEQDANCERSALITPDLYPDG---	HDTEYLIEIAPL-----								
<i>S. scabies</i>	VWQVAVDEAHRGLGLAGALLDGLTERVARRHP--	LTTVETTITPNTASERLFAAYAARHGADIERTVLFETADFPDGP---	HPPPEMLHRIGFLSP-----								
<i>S. avermitilis</i>	VWQVAVDAAYRGRGLAARMLDGLTARVTDYEG--	VTGIETTISPNTASERLFTSYAQRHGADLEREVLEAGLFPDAP---	HDPEVLYRIGFLSH-----								
<i>S. coelicolor</i>	VWQVAVDGTYYRGRGLAATLVDGLADRVARERG--	ITILETTISPNTASQRLFTSFAERRGARLEREVLFDTAVFPDGP---	HEPEVLYRIGFLSAGG-----								
<i>S. chrysomallus</i>	VWQVAVDQHRGKGLAALLDALIARVAADQV--	LSSVETTITPNTASDRLFTSYAQRHVALEKEVLFQDGFPEET---	HLPEVLYRIGFFAT-----								
<i>N. farcinica</i>	VWQVAVSPTEGRGTGTALIQKLLDRVAPHG--	VTALETTISPNDPASIAMFAAVARRGAQLTKQPLFDAGVFPDE---	HAPEDLYRIAPIAQEIR-----								
<i>R. equi</i>	VWQVAVDEQQRGLAGRMLSHLLDHVALQG--	VWKLETTISPNAASIALFTSVAHRRGEITKSELSFNDFPDG---	HEADLFTIERNAS-----								
<i>R. sp. RHA1</i>	VWQVAVDADQRGKGIAGRMLSALLDRLAPEG--	ITHLETTISPNEASIALFTALARRRDTAINKQELSPNDFPDG---	HEADLTYTIG-----								
<i>T. fusca</i>	LWQVAVDPAFRGRRLARRMLDRISSCITERG--	IRYLEATVTPNTASRALFASFAARARSAAISWTPLFDRGHFPAELPE	CHEPEDLVRIGFLR-----								
<i>M. smegmatis</i>	VWQVAVAPSAQGTGLASAMLDNIVQVRVSRDRGGRPIT	VEATVSPGNAASRAIFGAFARRHGVPPIERPHFDESELLAADG--	AHEDEPILRIGFIGV-----								
<i>W. succinogenes</i>	VWQVAVTEAKSRGKGIAKRAIEAILKNLERKG-HC	IQAIETATPSTNLSKALFHALGREWKVWVIEENFLEGALLSAQ--	EAHEEELWITLFPSSSEALGVQGANHANL								
<i>B. avium</i>	IWQVAVHERARQKGLARAMLNALLQRAGLNS--	VRHLETTVGPDNQASRRTFASLAADLGAHIAERPYFDRSVFGGA---	DHDEMLLKIGFFEPVSRKR-----								
<i>B. bronchiseptica</i>	VWQVAVHSRARGHRLGRAMLGHILERQECRH--	VRHLETTVGPDNQASRRTFAGLAGERGAHVSEQPFDRQAFGGA---	DHDEMLLRIGFFTHPPH-----								
<i>B. parapertussis</i>	VWQVAVHSRARGHRLGRAMLGHILERQECRH--	VRHLETTVGPDNQASRRTFAGLAGERGAHVSEQPFDRQAFGGA---	DHDEMLLRIGFFTHPPH-----								
<i>H. neptunium</i>	LWQVAVHPDARGKSLPKRMLGNILARQAQGG--	ISWLETSITRTNDASWGLFRSVSGWLSAPLREEPWFDRQTHFGG---	CHDTEFLVTIGFEAPAASG-----								
<i>S. sp. TM1040</i>	VWQVAVGEAARGMGLGKKMLKALIARDDIRD-ASV--	LKTITTKDNAASWGLFRSFARDIGGELSAPHFEREVHFDG---	AHDEHMTITLDNEAKILKRAA-----								
<i>S. alaskensis</i>	VWQVAVSAEGRGRRLASRMIAALLARPAQDG--	VTHMITITADNQASWGLFRGLARDWGAELERTPLFERETHFAG---	AHATEYLARIGFFDRMKIDAEQG-----								
<i>V. cholerae</i>	IWQVAVHPSARGKGLAYQMLKHLLAREDLAD---	ITVLETTITRNSQASWRLFQKLDREQGEQGSVSTFLDETCHFEFEG---	BHDETYLYRIPLQSSN-----								
<i>V. parahaemolyticus</i>	IWQVAVSPFRFGNGLAFRMLKELLEREALSE---	VKSVEETTITEDNQASWALFKKLDAMNGNHQVSTFLDEKAHFKG---	KHDETYLYRIPLK-----								
<i>C. salexigens</i>	LWQVAVGEKARGTGLARRLVEAVLMRPGMGD---	VRHLETTITPDNEASWGLFKRLADRWQAPLNSR-EYFSTGQLGG---	BHDPEMLVRIGFFEPQQI-----								
<i>H. elongata</i>	LWQVAVGEKARGTGLARRLVEAVMTRPEMAE---	VHHLETTITPDNQASWGLFRRLADRWQAPLNSR-EYFSTDQLGG---	BHDPEMLVRIGFFQTDQI-----								
<i>M. degradans</i>	VWQIVAVHSSARGCGLAGRMLEAILEREALAG--	VSFIQTITISPGNEASQAVFRKLANKRDTHIRSEMFLGKDTHFNG---	AHDELLFTVGGF-----								

Abbildung 44. Vergleich der Aminosäuresequenzen von EctA-Proteinen.

Dargestellt ist ein Vergleich der abgeleiteten Aminosäuresequenz von EctA aus *Salibacillus salexigens* (AY935521, diese Arbeit) mit den charakterisierten oder potentiellen L-2,4-Diaminobutyrat-N γ -Acetyltransferasen (EctA) aus *Sporosarcina pasteurii* (AF316874), *Virgibacillus pantothenicus* (AY585263), *Bacillus halodurans* (AP001510), *Marinococcus halophilus* (O06059), *Streptomyces coelicolor* (AL591322), *Chromohalobacter salexigens* (AJ011103), *Halomonas elongata* (AF031489), *Vibrio cholerae* (AE004410), *Bordetella avium* (Sanger Institute; www.sanger.ac.uk), *Rhodococcus equi* (Sanger Institute), *Rhodococcus sp. RHA1* (www.rhodococcus.ca), *Nitrosococcus oceani* (JGI; genome.jgi-psf.org), *Microbulbifer degradans* (PEDANT; pedant.gsfc.de), *Oceanobacillus iheyensis* (PEDANT), *Silicibacter sp. TM1040* (PEDANT), *Shingopyxis alaskensis* RB 2256 T (PEDANT), *Streptomyces scabies* 87-22 (PEDANT), *Thermobifida fusca* YX (PEDANT), *Vibrio parahaemolyticus* O3K6 (PEDANT) und *Wolinella succinogenes* DSMZ 1740 (PEDANT). In allen Organismen konservierte Aminosäuren sind schwarz, in der Mehrheit der Organismen vorkommende Aminosäuren grau unterlegt.

	120	130	140	150	160	170	180	190	200	210	220																																																								
<i>S. salexigens</i>	KVMFP	GPTG	INTVES	ALKIARK	VTRD	TIVIS	FTNAFH	GMTIG	SLSVT	CNSFKR	HGA-GIPL	HHSV	SMPFD	DYVED	Q-DS	IAYLER	FLEDS	SGSG	VALPAA	II	IETV	QEGG	INAA																																												
<i>V. pantothenticus</i>	KIMFF	GPTG	INTVES	ALKIARK	VTRD	TIVIS	FTNAFH	GMTIG	SLSVT	CNSFKR	HGA-GVPL	HHSV	SMPYD	KYVND	Q-DS	IAYLER	FLEDS	SGSG	VALPAA	II	IETV	QEGG	INAA																																												
<i>O. iheyensis</i>	KVMFF	GPTG	INTVES	ALKIARK	VTRD	TIVIG	FTNAFH	GMTIG	SLSVT	CNSFKR	NGA-GIPL	NHAI	SMPFD	QYVDE	Q-DS	IAYIER	FLEDS	SGSG	VALPAA	II	IETV	QEGG	INAA																																												
<i>S. pasteurii</i>	KVMFP	GPTG	INTVES	ALKIARK	VTRQ	NIIS	FTNAFH	GMTL	GLSIS	CNSSI	RNGA-GVPL	TNTI	SMPYD	TFKNG	-NA	IDYLE	QYLED	TGSG	VDP	PAAM	II	IETV	QEGG	INAA																																											
<i>B. clausii</i>	KVMFP	GPTG	INTVES	ALKLARK	VTRTE	IIIS	FTNGFH	GMTIG	SLSVT	CNASKR	KGA-GIPL	TNVV	TMPYD	KFGDE	VD	TLR	YLEQ	FLHD	NGSG	VDP	IPAA	II	IETV	QEGG	INAA																																										
<i>B. halodurans</i>	KVMFP	GPTG	INTVES	ALKLARK	VTRD	TIIS	FTNGFH	GMTIG	SLSVT	CNSFKR	KGA-GIPL	TNVV	TMPYD	NFVSE	SLD	TL	DYLER	FLED	GGSG	VEIP	PAAM	II	IETV	QEGG	INAA																																										
<i>M. halophilus</i>	KIMFF	GPTG	ANSVES	ALKLARK	VTRN	VVS	FTNGFH	GMTIG	CALSVT	CNKFKR	NGA-GMPL	SNTS	TLPYD	QFL	KES	NNS	IEYIE	NFLD	NGSG	GLDK	PAAF	IVET	VQEGG	LNAA																																											
<i>B. linens</i>	TVMFF	GPTG	INTVE	AALKLARK	VTRQ	HMLS	FTNAFH	GMTL	GLSVT	CNSMKR	EKA-GIPL	TNSKI	PYDDY	FDFGE	IPDF	LWLE	KEV	LED	SGSG	VDP	PAAV	IVET	VQEGG	LRAA																																											
<i>M. smegmatis</i>	KVQFP	GPTG	ANAVES	ALKLARK	VTRG	RES	VIS	FTNAFH	GMTL	CALSVT	CNSMKR	RAGA-GIPL	VHAT	PMPYD	NYFD	GVTE	DFQW	FGRV	LDD	SGSG	LNRP	PAAV	IVET	VQEGG	LNVA																																										
<i>N. farcinica</i>	KVQFP	GPTG	ANAVE	AALKLARK	VTRG	RETV	LS	FTNAFH	GMTL	CALSVT	CNAKR	RAGA-GVPL	VHAA	HMPYD	DGYF	DNT	TADF	QW	MERV	LDD	TSSG	FR	PAAV	IVET	VQEGG	INVA																																									
<i>R. sp. RHA1</i>	KVQFP	GPTG	INTVE	AALKLARK	VTRG	RS	II	FTNAFH	GMTL	CALSVT	CNSMKR	RAGA-GIPL	VHAT	PMPYD	NYFD	GVTE	DFH	WFRV	LDD	SGSG	LNRP	PAAV	IVET	VQEGG	VNVA																																										
<i>T. fusca</i>	KVQFP	GPTG	INAVE	AALKLARK	VTRG	RETV	IS	FTNSFH	GMTL	CALAVT	CNSMKR	GA-GVPL	NHTV	TMPYD	NYMD	QV	PDFL	WLRS	LLED	SGSG	GLDR	PAAV	IVET	VQEGG	INVA																																										
<i>S. avermitilis</i>	KVMFF	GPTG	INAVES	ALKLARK	VKGR	EAI	V	FTNAFH	GM	SLGSLAVT	CNAFKR	RAGA-GIPL	VHGT	PMPYD	NYFD	GKVP	DFL	WFER	LLED	QSG	LNK	PAAV	IVET	VQEGG	INVA																																										
<i>S. scabies</i>	KVMFF	GPTG	INAVES	ALKLARK	VKGR	ES	V	FTNAFH	GM	SLGSLAVT	CNAFKR	RAGA-GIPL	VHGT	PMPYD	NYFD	GVTE	DFL	WFER	LLED	QSG	LNK	PAAV	IVET	VQEGG	INVA																																										
<i>S. coelicolor</i>	KVMFF	GPTG	INAVES	ALKLARK	VKGR	ES	V	FTNAFH	GM	SLGSLAVT	CNAFKR	RAGA-GIPL	VHGT	PMPYD	NYFD	GVTE	DFI	WFER	LLED	QSG	LNK	PAAV	IVET	VQEGG	INVA																																										
<i>S. chrysomallus</i>	KVMFF	GPTG	INAVES	ALKLARK	VKGR	ES	V	FTNAFH	GM	SLGSLAVT	CNAFKR	RAGA-GIPL	VHGT	PMPYD	NYFD	GVTE	DFL	WFER	LLED	QSG	LNK	PAAV	IVET	VQEGG	INVA																																										
<i>N. oceani</i>	KVQFT	GPTG	INAT	ETAL	KLAR	MI	KRR	SNVIA	FTNGYH	GLTM	GSLAVT	CNTFY	RDE	SYG-IR	NNS	AF	MPYD	DGYF	GP	VDT	IEY	FR	FLED	SSG	VDP	PAAV	II	IETV	QAE	GG	INVA																																				
<i>W. succinogenes</i>	KVQFT	GPTG	INAI	ESALK	LARM	VKGR	SNVIA	FTNAFH	GLTM	GMAV	TCAFY	RDEAF-V	NRAN	V	SF	MPYD	DGYF	GE	VD	T	SLY	LR	FLED	GSS	G	VDP	PAAI	II	IETV	QAE	GG	VNVA																																			
<i>B. avium</i>	TLQFT	GPTG	INAVE	AALKIAR	VQKGR	PN	II	SFT	HGFH	GV	SGSLAAT	ANAK	FRDAA-GV	SLGN	T	F	MPYD	DGYF	GP	VDT	IAY	I	ER	LDD	PSS	GLDK	PAAV	IVET	VQEGG	VNVA																																					
<i>B. bronchiseptica</i>	TLQFT	GPTG	INAVE	AALKIAR	VQKGR	SN	II	SFT	HGFH	GV	SGSLAAT	ANAK	FRDAA-GV	SLGN	T	F	MPYD	DGYF	GP	VDT	IAY	I	ER	LDD	PSS	GLDK	PAAV	IVET	VQEGG	VNVA																																					
<i>B. paraptetussis</i>	TLQFT	GPTG	INAVE	AALKIAR	VQKGR	SN	II	SFT	HGFH	GV	SGSLAAT	ANAK	FRDAA-GV	SLGN	T	F	MPYD	DGYF	GP	VDT	IAY	I	ER	LDD	PSS	GLDK	PAAV	IVET	VQEGG	VNVA																																					
<i>C. salexigens</i>	KVHLP	GPTG	INAVE	AAIR	LARNAK	GRHN	IV	FTNGFH	GV	TM	CALATT	CNRK	FREAT	GGI	PT	Q	GA	S	F	M	P	D	G	Y	M	G	E	G	V	D	T	L	S	Y	F	E	K	L	L	G	D	K	S	G	L	D	V	PAAV	II	IETV	QEGG	INPA															
<i>H. elongata</i>	KVHLP	GPTG	INAVE	AAIR	LARNAK	GRHN	IV	FTNGFH	GV	TM	CALATT	CNRK	FREAT	GGV	F	T	Q	A	S	F	M	P	D	G	Y	L	G	S	S	T	D	T	L	D	Y	F	E	K	L	L	G	D	K	S	G	L	D	V	PAAV	IVET	VQEGG	INVA															
<i>H. neptunium</i>	RVLFP	GPTG	ANAVE	AALKIAR	VTRG	NT	VIA	FTNGFH	GMTL	CALAA	T	CNSG	KR	GA-GVPL	T	GV	T	H	E	A	F	D	G	Y	F	G	E	D	T	D	T	A	D	Q	L	D	R	L	S	P	S	S	G	L	D	K	PAAI	IVET	VQEGG	LNVA																	
<i>S. alaskensis</i>	RVMFT	GPTG	INAVE	AAIKLARK	VTRG	EM	VIA	FTNGFH	GMTL	CALACT	CNAT	KR	GA-GVPL	SHV	A	H	E	P	Y	D	Y	G	P	E	V	D	T	A	E	L	L	Q	R	L	A	D	P	S	S	G	L	D	PAAI	IVET	VQEGG	LNAA																					
<i>S. sp. TM1040</i>	KVMFT	GPTG	ANAVE	AAIKLARK	VTRG	NT	VIS	FTNGFH	GV	TM	CALAA	T	CNGY	H	R	GA-GMD	K	A	G	V	T	R	M	P	Y	D	A	Y	V-DG	V	S	A	A	L	L	D	K	M	L	S	D	P	S	G	G	I	D	PAAI	IM	LE	P	V	QEGG	LNAA													
<i>M. degradans</i>	TMQFT	GPTG	ANAVE	AALKLARK	VKGR	NT	VVS	FTNGFH	GV	T	C	A	V	A	A	T	C	N	O	H	R	D	G	T-GV	P	L	A	N	S	R	M	P	F	C	G	Y	H	G	Q	N	V	D	T	I	K	M	I	D	K	L	I	G	D	P	S	S	G	V	D	PA	AA	IV	E	V	V	QEGG	LNVA
<i>V. cholerae</i>	KLQFT	GPTG	INAVE	AALKLARK	VTRG	NT	VVT	FTNGFH	C	S	L	G	A	A	T	C	N	O	H	R	O	G	A-G	L	A	L	S	G	V	R	V	P	Y	D	G	Y	A	G--	V	D	G	L	T	L	F	E	T	M	L	Q	D	N	S	S	G	L	D	K	PAAV	II	IETV	QEGG	LNVA				
<i>V. parahaemolyticus</i>	KVQFT	GPTG	INAVE	AALKLAKK	VKGR	SS	VVA	FTNGFH	C	T	A	G	A	A	T	C	N	O	H	R	O	G	N-G	S	S	L	T	N	V	T	R	I	P	F	E	G	Y	A	G--	V	D	G	L	A	L	F	E	T	M	L	N	D	N	S	A	G	M	D	K	PAAV	II	IETV	QEGG	LNAA			

	240	250	260	270	280	290	300	310	320	330																				
<i>S. salaxigens</i>	SMEWLK	KVEA	ICKR	WDILLI	IDDV	QACG	GRTG	IFFS	FEPAG	IKPDI	IVCL	SKSI	GGIG	LPM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>V. pantothenticus</i>	SIEWL	QKIAS	ICER	WDILLI	IDDV	QACG	GRTG	IFFS	FEPAG	IAPDI	IVCL	SKSI	GGIG	LPM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>O. ihayensis</i>	RLEWV	KIEE	ICRK	WDILLI	IDDV	QACG	GRTG	IFFS	FEEAG	INPDI	IVCL	SKSI	GGVGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>S. pasteurii</i>	SFEWLR	RGIE	KLCR	RYDILLI	IDDV	QACG	GRTG	IFFS	FEPAG	QPDIV	IVCL	SKSI	GGYGL	PL	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>B. clausii</i>	RMEWL	QQLER	ICKK	YDILLI	IDDV	QACG	GRTG	IFFS	FEEAG	ITPDI	IVCL	SKSI	GGYGL	PL	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>B. halodurans</i>	RTEWL	QORVE	KICK	RWILLI	IDDV	QACG	GRTG	IFFS	FEDAG	ITPDI	IVCL	SKSI	GGGFL	PL	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>M. halophilus</i>	SSEWLR	SIEK	ICRE	RDKILLI	IDDV	QACG	GRTG	IFFS	FEPAG	IKPDI	IVCL	SKSI	GGNGS	PL	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>B. linens</i>	RAEWLR	ALSEL	TKKH	DILLI	IDDV	QACG	GRTG	IFFS	FEEAG	IBPDI	IVCL	SKSI	SGSGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>M. smegmatis</i>	RVEWL	QALAD	LCTR	RDILLI	IDDV	QACG	GRTG	IFFS	FBAAG	IVPDI	IVCL	SKSI	SGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>N. farcinica</i>	RVEWL	QHLAQ	LCAE	REILLI	IDDV	QACG	GRTG	IFFS	FVAG	ITPDI	IVCL	SKSI	GGYGL	PL	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>R. sp. RHA1</i>	RAEWLR	ALADL	CAE	REILLI	IDDV	QACG	GRTG	IFFS	FVAG	ITPDI	IVCL	SKSI	SGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>T. fusca</i>	RADWL	RGLAE	LCRE	HELLI	IDDV	QACG	GRTG	IFFS	FEEAG	IVPDI	IVCL	SKSI	SGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>S. avermitilis</i>	RPEWLR	ALAE	LCKR	QDMLLI	IDDV	QACG	GRTG	IFFS	FEEAG	IVPDI	IVCL	SKSI	SGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>S. scabies</i>	RPEWLR	ALAE	LCKR	QDMLLI	IDDV	QACG	GRTG	IFFS	FEEAG	IVPDI	IVCL	SKSI	SGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>S. coelicolor</i>	RAEWLR	ALADL	CERQ	DMLLI	IDDV	QACG	GRTG	IFFS	FEEAG	IVPDI	IVCL	SKSI	SGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>S. chrysomallus</i>	RAEWLR	ALQEL	CLRQ	VMLLI	IDDV	QACG	GRTG	IFFS	FEEAG	IVPDI	IVCL	SKSI	SGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>N. oceani</i>	SDEWLR	RLER	LCRE	FDILLI	IDDV	QACG	GRTG	IFFS	FBRAG	ITPDI	IVCL	SKSI	GG-GL	PL	SILL	MRPE	LDQ	WKP	GEHT	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>W. succinogenes</i>	RDEWLR	SVEK	VCRD	FDILLI	IDDV	QACG	GRTG	IFFS	FESG	IRPDI	IVCL	SKSI	GG-GL	PL	ALVLL	RPPE	LDQ	WKP	GEHT	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>B. avium</i>	TLRWL	KDLK	LCKR	RHMLLI	IDDV	QACG	GRTG	IFFS	FBAAG	IQPDI	IVCL	SKSI	GGFL	PM	SIVL	MKPE	LDV	WKP	GAHS	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>B. bronchiseptica</i>	TLRWL	KDLK	LCKR	RHMLLI	IDDV	QACG	GRTG	IFFS	FBAAG	IQPDI	IVCL	SKSI	GGFL	PM	SIVL	MKPE	LDV	WKP	GAHS	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>B. paraptentis</i>	TLRWL	KDLK	LCKR	RHMLLI	IDDV	QACG	GRTG	IFFS	FBAAG	IQPDI	IVCL	SKSI	GGFL	PM	SIVL	MKPE	LDV	WKP	GAHS	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>C. salaxigens</i>	GIPWL	QORLE	KICR	DHMLLI	IDDV	QACG	GRTG	IFFS	FHAG	ITPDI	IVCL	SKSI	GGFL	PM	SIVL	MKPE	LDV	WKP	GAHS	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>H. elongata</i>	GLEWLR	KRLES	ICRAN	DILLI	IDDV	QACG	GRTG	IFFS	FHAG	ITPDI	IVCL	SKSI	GGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>H. neptunium</i>	SDAWLR	KIEK	IARK	HGALLI	IDDV	QACG	GRTG	IFFS	FHKAG	IVPDI	IVCL	SKSI	GGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>S. alaskensis</i>	SAEWLR	RIAG	IAKA	HGALLI	IDDV	QACG	GRTG	IFFS	FDMG	IVPDI	IVCL	SKSI	GGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>S. sp. TM1040</i>	SAGFV	KVQEI	AHKH	GALLI	IDDV	QACG	GRTG	IFFS	FDMG	IVPDI	IVCL	SKSI	GGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>M. degradans</i>	QDEWLR	QLEK	LCKR	KHMLLI	IDDV	QACG	GRTG	IFFS	FHKAG	ITPDI	IVCL	SKSI	GGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	
<i>V. cholerae</i>	SDAWL	QORV	QAI	CRAQ	ILLI	IDDV	QACG	GRTG	IFFS	FPSG	IBPDI	IVCL	SKSI	GGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S
<i>V. parahaemolyticus</i>	SNEWL	QRLSK	ICKAN	DILLI	IDDV	QACG	GRTG	IFFS	FPSG	IBPDI	IVCL	SKSI	GGYGL	PM	AITL	IKPE	YDQ	WGP	GEHN	GTFR	GNNL	AFIA	AATE	ALSN	-WED	STF	SEAI	QRKA	-S	

	350	360	370	380	390	400	410	420	430	440	455		
<i>S. salicigenes</i>	LIQERIES	IITKFFSLAGEE	--RGRGLM	CGIAIQE	---DDL	SNQICAEAF	SRGLIV	ETSGP	NDEVVK	FLPPLV	IDEEGINS	CFDILEDAIKQA	IK-----
<i>V. pantothenicus</i>	LVRQRIDRI	IDKFFSLQGEA	--RGRGLM	CGIUIPE	---PNC	ASEICKAAFDI	CLIVETS	SGPND	EVVKFL	PPLIID	KEGINO	CFDILEVSM	EHVLLK
<i>O. iheyensis</i>	LFQERMKR	IWEKFFPELNADL	--RGRGLM	ICIGVHV	---DGL	AGETCAEAF	SRGLIIE	ETSGA	KEDEVVK	FLPPLI	IDDEDG	IEKMDIL	EEISQA
<i>S. pasteurii</i>	IITKLRFEQ	IVEDYPELKATT	--RGRGF	MCGIACGKG	-KEAY	ATKICAKAF	EKGVIM	ETSGP	SDEVVK	FLGALT	IDETSLI	KCLGILEE	EATEEV
<i>B. clausii</i>	KIHAF	LTKLVDSYP	PEMDGCV	--KGRGF	MAGIGSKV	---DGL	AGVAAEAF	KRGLIM	ETAGPE	DEVKFL	PPLTIS	DEDELEK	CFAIIE
<i>B. halodurans</i>	TISDF	LKLVTEY	PEIKGEV	--KGRGF	MVGIASDV	---EG	FASKVTEEAF	SRGLIM	ETSGP	NDEVVK	FLPPLT	IDDEGLEK	CLAIIE
<i>M. halophilus</i>	RI	T	SFLDDMIK	KHP	PEMKGVR	--KGRGF	MCGIMSPI	---ED	LADN	IAGRC	FEHGLI	METAGAE	DEVEK
<i>B. linens</i>	ALHQ	R	LDSI	VEKAEG	--AS	I--RGRGL	LACGLHFAD	---DE	VAGK	VAAEAF	ENGLLI	ETSGP	KDEVTK
<i>M. smegmatis</i>	LIRS	R	LDEI	ADRYDG	--VTA	--RGRG	MACGLKFAD	---TE	RAGE	VCKAA	AFDR	CALMET	SGP
<i>N. farcinica</i>	KVATE	L	ATVAGH	FFG	--LST	--RGRG	LVIHGI	AFED	---PS	QAGK	VQVAF	ERGLL	VETSG
<i>R. sp. RHA1</i>	KIHQ	A	FTDLAN	QDFGS	-VST	--RGRG	LVOGLV	FDE	---PE	NAGK	VCKL	AFDE	GLLA
<i>T. fusca</i>	LI	T	ERLEATA	AAEHA	EAGASV	--RGRG	MACGLV	LPG	---EG	DARR	VCAE	A	FERGL
<i>S. avermitilis</i>	QVEQ	A	LISIT	EENLAD	VKEY	--RGRG	LVIHGI	EFDK	---K	RAGRI	AQRAF	ELGLL	IETSG
<i>S. scabies</i>	QVEQ	A	FISIT	EENLAD	VKEY	--RGRG	LVIHGI	EFDK	---K	RAGRI	AQRAF	ELGLL	IETSG
<i>S. coelicolor</i>	QVEQ	H	MIAT	EENLAD	VKEY	--RGRG	LVIHGI	EFDK	---K	RAGRI	AQRAF	ELGLL	IETSG
<i>S. chrysomallus</i>	QVEQ	T	L	LAI	CAE	EPT--AQ	F--RGRG	LVIHGI	EFDK	---K	RAGRI	AQRAF	ELGLL
<i>N. oceanii</i>	II	T	ELKAI	AKKY	PELNGK	V--R	VGM	I	WGLE	MPRN	---G	F	T
<i>W. succinogenes</i>	ILKE	G	LEAL	VQAF	PEL	GMSA	--RGRG	LVIHGI	EFDK	---G	MAKE	V	SAN
<i>B. avium</i>	MVRD	W	LENL	LAHSY	PNAGLAA	--RGRG	LVIHGI	EFDK	---E	L	A	N	R
<i>B. bronchiseptica</i>	LVRD	W	LENL	LAHSY	PNAGLAV	--RGRG	LVIHGI	EFDK	---E	L	A	N	R
<i>B. parapertussis</i>	LVRD	W	LENL	LAHSY	PNAGLAV	--RGRG	LVIHGI	EFDK	---E	L	A	N	R
<i>C. salicigenes</i>	VVED	R	FQKL	ASFM	TEKGHP	PASER	GRGLM	RGLD	V	GDG	---D	M	A
<i>H. elongata</i>	I	V	EER	F	G	K	A	A	W	L	S	E	N
<i>H. neptunium</i>	RLR	A	G	L	E	K	L	A	A	S	A	S	F
<i>S. alaskensis</i>	L	L	E	T	R	L	A	R	A	A	E	H	G
<i>S. sp. TM1040</i>	L	V	T	S	A	L	Q	E	V	A	S	H	I
<i>M. degradans</i>	K	V	T	K	R	L	K	H	A	D	K	Y	G
<i>V. cholerae</i>	Q	V	T	Q	A	L	L	Q	L	S	R	Y	P
<i>V. parahaemolyticus</i>	N	V	E	V	I	D	R	C	V	R	R	F	Q

Abbildung 46. Vergleich der Aminosäuresequenzen von EctB-Proteinen.

Dargestellt ist ein Vergleich der abgeleiteten Aminosäuresequenz von EctB aus *Salibacillus salicigenes* (AY935521, diese Arbeit) mit den charakterisierten oder potentiellen L-2,4-Diaminobutyrat Transaminasen (EctB) aus *Sporosarcina pasteurii* (AF316874), *Virgibacillus pantothenicus* (AY585263), *Bacillus halodurans* (AP001510), *Marinococcus halophilus* (O06059), *Streptomyces coelicolor* (AL591322), *Chromohalobacter salicigenes* (AJ011103), *Halomonas elongata* (AF031489), *Vibrio cholerae* (AE004410), *Bordetella avium* (Sanger Institute; www.sanger.ac.uk), *Rhodococcus* sp. RHA1 (www.rhodococcus.ca), *Nitrosococcus oceanii* (JGI; genome.jgi-psf.org), *Microbulbifer degradans* (PEDANT; pedant.gsf.de), *Oceanobacillus iheyensis* (PEDANT), *Silicibacter* sp. TM1040 (PEDANT), *Sphingopyxis alaskensis* RB 2256 T (PEDANT), *Streptomyces scabies* 87-22 (PEDANT), *Thermobifida fusca* YX (PEDANT), *Vibrio parahaemolyticus* O3K6 (PEDANT) und *Wolinella succinogenes* DSMZ 1740 (PEDANT). In allen Organismen konservierte Aminosäuren sind schwarz, in der Mehrheit der Organismen vorkommende Aminosäuren grau unterlegt.

EctC

	1	10	20	30	40	50	60	70																																																															
<i>S. salexigens</i>	M	I	V	K	S	L	E	D	I	I	G	T	E	D	E	T	S	G	E	N	--	W	S	S	R	R	F	I	Y	K	K	D	G	V	G	F	S	M	N	D	T	V	I	K	A	G	T	N	F	F	W	K	N	H	I	E	L	V	Y	C	I	E	G	E	G	E	I	E			
<i>V. pantothenticus</i>	M	I	V	K	S	L	D	D	I	I	G	T	D	E	T	S	S	D	N	--	W	T	S	R	R	F	I	M	K	K	D	N	V	G	F	S	L	N	D	T	L	I	K	A	G	T	N	F	F	W	K	N	H	I	E	A	V	Y	C	I	E	G	E	G	E	I	E				
<i>O. iheyensis</i>	M	I	V	K	S	L	E	I	Q	G	T	E	D	H	Q	K	G	E	--	T	W	E	S	R	R	F	V	L	N	K	D	N	V	G	F	S	L	N	D	T	I	I	K	A	G	T	S	Y	F	W	K	N	H	I	E	A	V	Y	C	I	E	G	E	G	E	V	E				
<i>B. clausii</i>	M	K	V	V	K	L	A	D	I	I	G	T	N	R	D	V	D	G	--	G	N	W	R	S	R	Q	R	I	V	V	E	S	D	G	M	G	Y	S	L	H	D	T	Q	I	K	A	G	T	E	T	H	L	W	Y	K	Y	H	L	E	S	V	Y	V	I	E	G	E	G	E	V	E
<i>B. halodurans</i>	M	K	V	V	K	L	E	D	V	I	G	T	E	Q	E	V	K	G	E	--	W	T	S	R	L	L	L	K	K	D	G	M	G	Y	S	V	H	D	T	I	I	K	A	G	T	E	T	H	I	W	Y	Q	N	H	L	E	A	V	Y	C	I	E	G	E	G	E	V	E			
<i>M. halophilus</i>	M	K	V	I	K	L	E	D	L	L	G	T	E	R	E	V	D	--	G	N	W	S	R	R	F	I	M	K	D	N	M	G	Y	S	V	N	D	T	I	I	R	A	G	T	E	T	H	I	W	Y	Q	N	H	L	E	T	V	Y	C	I	E	G	D	G	E	I	E				
<i>B. avium</i>	M	I	V	R	N	V	K	D	V	I	G	T	P	D	E	V	R	T	--	T	W	V	S	R	R	V	L	L	K	K	D	K	M	G	F	S	F	H	E	T	T	I	F	P	G	T	R	T	H	I	H	Y	K	N	H	L	E	A	V	W	C	I	E	G	D	G	S	I	E		
<i>B. bronchiseptica</i>	M	I	V	R	N	V	K	D	V	M	G	T	E	D	E	V	R	T	--	T	W	V	S	R	R	V	L	L	K	K	D	K	M	G	F	S	F	H	E	T	T	I	F	P	G	T	R	T	H	I	H	Y	K	N	H	L	E	A	V	W	C	I	E	G	D	G	S	I	E		
<i>B. parapertussis</i>	M	I	V	R	N	V	K	D	V	M	G	T	E	D	E	V	R	T	--	T	W	V	S	R	R	V	L	L	K	K	D	K	M	G	F	S	F	H	E	T	T	I	F	P	G	T	R	T	H	I	H	Y	K	N	H	L	E	A	V	W	C	I	E	G	D	G	S	I	E		
<i>S. pasteurii</i>	M	I	V	R	T	I	D	E	I	I	G	T	E	N	E	V	E	S	--	T	W	T	S	R	L	L	L	E	K	D	G	M	G	F	S	F	H	E	T	I	I	Y	A	G	T	E	T	H	I	Y	Q	N	H	L	E	A	V	Y	C	V	G	D	G	E	I	E					
<i>W. succinogenes</i>	M	I	V	K	T	K	E	E	V	V	G	T	P	R	E	I	F	A	P	N	G	H	W	I	S	R	R	L	L	A	G	E	G	M	G	F	S	F	H	E	T	I	L	A	G	T	K	T	H	I	Y	Q	N	H	L	E	A	V	F	C	V	Q	G	R	G	E	V	E			
<i>B. linens</i>	M	Y	V	V	N	R	D	L	N	D	T	D	R	D	I	K	S	E	--	T	W	R	S	R	M	V	L	G	K	E	R	V	G	F	S	L	H	D	T	V	I	Y	A	G	T	T	S	T	F	H	Y	Q	N	H	V	E	A	V	Y	L	V	Q	K	G	T	L	T				
<i>M. smegmatis</i>	M	I	V	R	T	T	D	E	I	T	G	T	D	R	D	V	S	V	--	T	W	R	S	K	R	I	I	L	A	D	D	K	V	G	F	S	F	H	E	T	T	I	E	S	N	S	V	N	E	Y	R	Y	E	H	H	V	E	A	V	W	V	I	E	G	T	G	T	L	T		
<i>N. farcinica</i>	M	I	V	R	T	T	D	E	I	T	G	T	E	R	D	V	A	G	P	--	G	W	R	S	K	R	I	V	L	G	D	G	V	G	F	S	F	H	E	T	T	I	D	A	G	T	H	E	F	H	Y	V	H	H	I	E	A	V	W	L	V	E	G	E	G	T	L	T			
<i>R. equi</i>	M	I	V	R	T	T	D	E	I	T	D	R	D	I	T	S	E	D	G	N	W	R	S	K	R	I	V	L	A	G	D	G	V	G	F	S	F	H	E	T	T	R	A	G	S	V	N	E	F	H	Y	A	N	H	I	E	A	V	W	L	I	E	G	D	G	I	L	T			
<i>R. sp. RHA1</i>	M	I	V	R	T	T	A	E	I	T	D	T	D	R	D	I	T	S	E	D	G	N	W	R	S	K	R	I	L	L	G	D	K	V	G	F	S	F	H	E	T	T	K	A	G	S	V	N	E	F	H	Y	A	N	H	V	E	A	V	W	L	V	E	G	T	G	K	L	I		
<i>S. avermitilis</i>	M	I	V	R	S	F	K	D	I	E	G	T	D	R	H	V	K	A	A	S	G	T	W	E	S	K	R	I	V	L	A	K	E	K	V	G	F	S	L	H	E	T	V	L	Y	A	G	T	E	T	S	M	W	Y	A	N	H	I	E	A	V	L	C	V	E	G	E	A	E	L	T
<i>S. chrysomallus</i>	M	I	V	R	S	F	S	D	I	E	N	T	D	R	H	V	K	A	A	S	G	T	W	E	S	K	R	I	V	L	A	K	E	K	V	G	F	S	L	H	E	T	V	L	Y	A	G	T	E	T	S	M	W	Y	A	N	H	I	E	A	V	L	C	T	E	G	E	A	E	L	T
<i>S. scabies</i>	M	I	V	R	S	F	K	D	L	E	G	T	D	R	H	V	K	A	A	S	G	T	W	E	S	K	R	I	V	L	A	K	E	R	V	G	F	S	L	H	E	T	V	L	Y	A	G	T	E	T	S	M	W	Y	A	N	H	V	E	A	V	C	V	E	G	E	A	E	L	T	
<i>S. coelicolor</i>	M	I	V	R	S	F	K	E	F	E	G	T	D	R	H	V	K	S	A	S	G	T	W	E	S	T	R	I	V	L	A	K	E	K	V	G	F	S	V	H	E	T	I	L	Y	A	G	T	E	T	S	M	W	Y	A	N	H	I	E	A	V	V	C	T	K	G	D	A	E	L	T
<i>T. fusca</i>	M	I	V	R	S	L	D	D	I	N	G	T	D	A	D	V	T	E	N	--	W	R	S	R	I	V	L	A	R	D	G	V	G	F	S	F	H	E	T	V	L	Y	A	G	T	E	T	S	M	W	Y	A	N	H	I	E	L	V	H	C	I	E	G	E	A	E	V	T			
<i>C. salexigens</i>	M	I	V	R	N	L	E	E	C	R	K	T	E	R	F	V	E	A	E	N	G	N	D	S	T	R	L	V	L	A	D	D	N	V	G	F	S	F	N	I	T	R	I	H	P	G	T	E	T	H	I	H	Y	K	H	H	F	E	A	V	F	C	Y	E	G	E	G	E	V	E	
<i>H. elongata</i>	M	I	V	R	N	L	E	E	C	R	K	T	E	R	F	V	E	A	E	N	G	N	D	S	T	R	L	V	L	A	D	D	N	V	G	F	S	F	N	I	T	R	I	H	P	G	T	E	T	H	I	H	Y	K	H	H	F	E	A	V	F	C	Y	E	G	E	G	E	V	E	
<i>M. degradans</i>	M	I	V	R	T	L	A	E	A	E	A	S	D	R	R	V	T	S	E	N	--	W	E	S	V	R	L	L	L	K	D	D	N	M	G	F	S	F	H	I	T	I	F	E	G	A	D	F	E	M	H	Y	K	N	H	L	E	S	V	F	C	M	S	G	E	G	E	V	E		
<i>N. oceani</i>	M	I	V	R	D	Y	N	K	A	K	E	T	D	R	R	V	A	S	Q	--	W	E	S	V	R	L	L	L	K	S	D	N	M	G	F	S	F	H	I	T	I	Y	E	G	A	L	P	M	E	Y	K	H	H	L	E	S	V	Y	C	L	S	G	E	G	E	V	E				
<i>V. cholerae</i>	M	I	V	R	T	L	E	E	C	R	Q	S	E	R	R	V	A	E	N	--	W	E	S	V	R	L	L	K	D	H	M	G	F	S	F	H	I	T	I	Y	A	N	T	Q	T	H	I	Y	R	N	H	L	E	S	V	Y	C	M	S	G	E	G	E	I	E						
<i>V. parahaemolyticus</i>	M	I	V	R	T	L	D	E	C	R	N	S	E	R	R	V	A	D	N	--	W	E	S	V	R	L	L	K	D	D	N	M	G	F	S	F	H	I	T	I	Y	E	G	T	E	T	H	I	Y	Q	N	H	L	E	S	V	F	C	M	S	G	E	G	E	I	E					
<i>H. neptunium</i>	M	I	V	R	D	L	A	K	E	I	L	T	D	R	R	V	D	S	D	--	G	W	S	S	V	R	L	L	K	D	D	M	G	F	S	F	H	I	T	I	H	A	G	A	L	H	M	H	Y	K	N	H	L	E	S	V	F	C	M	E	G	T	G	S	I	T					
<i>S. sp. TM1040</i>	M	I	V	R	D	F	N	E	L	K	N	T	D	R	S	V	S	D	A	R	--	W	T	S	T	R	L	L	A	D	D	M	G	F	S	F	H	I	T	V	L	E	A	G	S	E	H	Q	F	H	Y	K	H	H	L	E	S	V	Y	C	M	K	G	K	S	I	T				
<i>S. alaskensis</i>	M	I	V	R	N	L	G	D	I	R	K	T	D	R	N	V	R	S	D	--	G	W	A	S	A	R	L	L	K	D	D	M	G	F	S	F	H	V	T	L	F	A	G	S	E	L	R	M	H	Y	Q	N	H	L	E	A	V	L	V	L	K	G	T	G	T	I	E				

	80	90	100	110	120	130	142
<i>S. salexigens</i>	KLETG	DVYQLKPGTMYLLDEHDKHEL	LR-ART-QMRMVCVFNPLVCS	ETHKEGYPLLTE	-----		
<i>V. pantothenicus</i>	KLETGEIYKLGAGTMYLLINEHDKHEL	LR-AKT-QMRMVCVFNPLVCS	ETHKEGYPLLTE	-----			
<i>O. iheyensis</i>	KKDTEGEVWQKPGTMYLLNDNDKHYLR	-AKT-QMRMVCVFNALVCS	ETHDEGDVYPLLA	-----			
<i>B. clausii</i>	TVKDGKVVVPVKQYECYVLDKNDEHLLR	-AKT-DMRMVCVFNPPVTG	REVHDEDGAYPLPEHMKPLNS	----			
<i>B. halodurans</i>	TVKDGKVVPIKANETIYALDEHDEHLLR	-AKT-DMRMVCVFNPPITG	RETHDENGVPVVDDE	-----			
<i>M. halophilus</i>	TLSDNKVYQLEPGVLYALDKNDEHMLRGGSK	-DMRMVCVFNPPLSG	REVHDENGVPADLD	-----			
<i>B. avium</i>	TIADGKRYDLGPGVVYALNEHDEHWLCCGGKE	-PLRVICVFNPPITG	CEVHDADGVYALPQAETA	-----			
<i>B. bronchiseptica</i>	TIADGKTYELGPGVVYALNENDEHWLCCGGKQ	-PLRVICVFNPPITG	CEVHDAEGVYALVEEAA	-----			
<i>B. parapertussis</i>	TIADGKTYELGPGVVYALNENDEHWLCCGGKQ	-PLRVICVFNPPITG	CEVHDAEGVYALVEEAA	-----			
<i>S. pasteurii</i>	TVSDGKVYPTQDGTMYALDQDEHYPRGGKT	-DMRLICTFNPPLVCS	ETHDENGVPPLLSKQFVVGK	-----			
<i>W. succinogenes</i>	LIPSGERFLTEEGVMYALDKHDEHYLS-ASE	-EMRLICVFNPPVCS	NEVHDEKGVYPLKKGQ	-----			
<i>B. linens</i>	DHETGETYPLSDGTMYLLDGHKHTVVAEEE	--LRMACVFNPPVTG	RETHDENGVPPLIVEED	-----			
<i>M. smegmatis</i>	DLETGVEYPLAPGTMYLLNGHERHRVTCDDQ	--LRMLCVFNPPVTG	CEVHDETCAYPAQSV	-----			
<i>N. farcinica</i>	DLNDQVYDLRPGTMYLLNGHEKHRVQART	--MRMVCVFNPPVTG	CEVHDENGVPPLVAVPAS	-----			
<i>R. equi</i>	DLDSGEVYQLRPGTMYLLNGHERHRVPEVTT	--MRMLCVFNPPVTG	REVHDENGVPPLVTLDEDERAAS	--			
<i>R. sp. RHA1</i>	DLNDNKVYELGPGSMYLLNGHERHRVEPETE	--MRMLCVFNPPVTG	REVHDENGVPPLVEVPA	-----			
<i>S. avermitilis</i>	DDETGEKHWITPGTMYLLDGERHTMRPKTD	--FRCVCFNPPVTG	REDHDENGVPPLLTPPEEV	-----			
<i>S. chrysomallus</i>	NDETGETHWITPGTMYLLDGERHTMRPKTD	--FRCVCFNPPVTG	REDHDENGVPPLLTHEA	-----			
<i>S. scabies</i>	DDETGRTYTITPGTMYLLDGERHTMRIKED	--FRCLCVFNPPVTG	REDHDANGVPPLLTHEG	-----			
<i>S. coelicolor</i>	DRETGKTYHITPGTMYLLDGERHTLKVVED	--FHCICVFNPPVTG	REDHDENGVPPLLTHEV	-----			
<i>T. fusca</i>	NDETGETFLTITPGTMYLLNGHERHTVRPKTD	--FRVLCVFNPPVTG	REVHDENGVPPLLTEDATD	TD----			
<i>C. salexigens</i>	TLADGKIHPKAGDMYLLDQDEHLLRGKKEK	-GMTVACVFNALTC	REVHREDGSYAFVD	-----			
<i>H. elongata</i>	TLADGKIHPKAGDMYLLDQDEHLLRGKKEK	-GMTVACVFNALTC	REVHREDGSYAFVD	-----			
<i>M. degradans</i>	TLADGKVYPIKPGTMYLLDKHDKHVLRAK	--EMKMACVFNPPVTG	KEVHDESGAYPLEAEAVD	-----			
<i>N. oceani</i>	TLADGKIHPTRPGVYIYILDHNDQHILRAKT	--EMQMACVFNPLTC	KEVHDSGAYPLEAEAVTAD	-----			
<i>V. cholerae</i>	VVG-GKTYPTQPGTMYIILDQDEHYLRAFFS	-EMVMACVFNPLTC	HEIHDAGVYPLDKSELISQCHKEK	-----			
<i>V. parahaemolyticus</i>	VVG-GETYPIKPGTMYIILDKHDEHYLRAYKNKEMVM	ACVFNPPITG	AEVHDENGVPPLVD	-----			
<i>H. neptunium</i>	DLATGETHEIRPGVYALNKNDKHILRANAGAPMM	ACVFNPPVTG	KEVHGEDGAYPADAALNSA	-----			
<i>S. sp. TM1040</i>	DIATGETHEIKPGVMYALNLHDKHILRA	--EELHMACEFNPPVTG	TEVHREDGSYAPAEELA	-----			
<i>S. alaskensis</i>	DLATGEVHALRPGVMYALDDHHRHIVRP	--ETDILTACVFNPPVTG	REVHDESGAYPADPELAREPVAAD	-----			

Abbildung 48. Vergleich der Aminosäuresequenzen von EctC-Proteinen.

Dargestellt ist ein Vergleich der abgeleiteten Aminosäuresequenz von EctC aus *Salibacillus salexigens* (AY935521, diese Arbeit) mit den charakterisierten oder potentiellen L-Ectoin-Synthasen (EctC) aus *Sporosarcina pasteurii* (AF316874), *Virgibacillus pantothenicus* (AY585263), *Bacillus halodurans* (AP001510), *Marinococcus halophilus* (O06059), *Streptomyces coelicolor* (AL591322), *Chromohalobacter salexigens* (AJ011103), *Halomonas elongata* (AF031489), *Vibrio cholerae* (AE004410), *Bordetella avium* (Sanger Institute; www.sanger.ac.uk), *Rhodococcus equi* (Sanger Institute), *Rhodococcus* sp. RHA1 (www.rhodococcus.ca), *Nitrosococcus oceani* (JGI; genome.jgi-psf.org), *Microbulbifer degradans* (PEDANT; pedant.gsf.de), *Oceanobacillus iheyensis* (PEDANT), *Silicibacter* sp. TM1040 (PEDANT), *Sphingopyxis alaskensis* RB 2256 T (PEDANT), *Streptomyces scabies* 87-22 (PEDANT), *Thermobifida fusca* YX (PEDANT), *Vibrio parahaemolyticus* O3K6 (PEDANT) und *Wolinella succinogenes* DSMZ 1740 (PEDANT). In allen Organismen konservierte Aminosäuren sind schwarz, in der Mehrheit der Organismen vorkommende Aminosäuren grau unterlegt.