Supplementary Materials: Arcanobacterium haemolyticum Phospholipase D Enzymatic Activity Promotes the Hemolytic Activity of the Cholesterol-Dependent Cytolysin Arcanolysin

Patrick S. Gellings and David J. McGee

::

PLD Dcongolensis	MSSRAMKVSIAAVVAAGS	FLAASPVHAAPAT-PSNPASOR <mark>P</mark> V <mark>Y</mark> AIA <mark>H</mark> RVLTVKGVDDAVK	59
PLD Ahaemolyticum	MKTRK-KIALALSLLTGF	MLPIGSAAAAPLAQEQPTTGNR <mark>P</mark> VYAIA <mark>H</mark> RVLTKQSVDDAIK	59
PLD Cpseudotb	MRE-KVVLFLSIIMAIN	MLFVGNAAAAFVVHNFASTANR <mark>F</mark> VYAIAHRVLTTOGVDDAVA	57
PLD Culcerans	MKK-KIVLFLSIIMGI	LLPVGNAVATPVSHDAASTGNR <mark>P</mark> V <mark>YAIAH</mark> RVLTTÕGVDDAVA	57
-	: *: : : .	:* *:* :.:****************	
PLD Dcongolensis	LGANAIEIDLTARKSGWS	ADHDGLPTSAGDSAETMFKHIAAKKKAGSNISFIWLDIKNPD	119
PLD Ahaemolyticum	IGANALEIDFTAWRRGWW	ADHDGLFTSAGDTAEDILKYIAOKRREGNNITFVWFDIKNPD	119
PLD Cpseudotb	IGANALEIDFTAWGRGWW	ADHDGIPTSAGATAEEIFKHIADKRKQGANITFTWLDIKNPD	117
PLD Culcerans		ADHDGIFTSAGATAEAIFKHIAEKRRÕGANITFTWLDIKNPD	117
-		*****:***** :** ::*:** *:: * **:* *:******	
PLD Dcongolensis	YCKSGEAGSKCSIDHLRD	LARNTFEKEGVRALYGFYKTAGAAAWNTITHDLNDKEAVALS	179
PLD Ahaemolvticum	YCKDONSVCSITKLRD	LARCTIEOEGVRALFGFYKTVGGVGWNTIANNLNDKEAVALS	177
PLD Cpseudotb	YCRDARSVCSINALRD	LARKYLEPAGVRVLYGFYKTVGGPAWKTITADLRDGEAVALS	175
PLD Culcerans	YCTDPDSVCSINALRD	LARKYLEPAGVRVLYGFYKTVGGPGWKTITSDLRDKEAVALS	175
	** . * *** ***	***: :* ***.*:*****.**:**: :*.* *****	
PLD Dcongolensis	GPTETVLSDYNKSKKPVP	VNKRIADYGFFNLRLGFGSCTGTAKKTCDQLRLSNEARDKGK	239
PLD Ahaemolyticum	GRKDDIMKDFKQYENKIK	PQQRVADNGYYNLSYGFGGCYRDENQTCDQLRLAGEERKKGN	237
PLD Cpseudotb	GPAQDVLNDFARSENKIL'	TKQKIADYGYYNINQGFGNCYGTWNRTCDQLRKSSEARDQGK	235
PLD_Culcerans		TKQKIADYGYYDINQGFGNCYGDGNKTCDQLRKSSEARDQGQ	235
	* ::.*:: . :	::::** *:::: ***.* ::***** :.* *.:*:	
PLD Dcongolensis	LGKVFGWTVTGKQKDIVS	DLLGKAHVDGLIAGFKATNFYE <mark>H</mark> PD <mark>S</mark> KASLKNIHDWVAAHPQ	299
PLD Ahaemolyticum	LGKTFGWTVSTGQEYLAADLLNKAEVDGMIFGFKTTYFYD <mark>H</mark> AD <mark>T</mark> RNAFAGIKNWVDAHQG		297
PLD Cpseudotb	lgktfgwtiatgqdarvndllgkanvdglifgfkithfyr <mark>h</mark> ad <mark>t</mark> ensfkaikrwvdkhsa		295
PLD Culcerans		DLLGKAHVDGMIFGFKVTHFYR <mark>H</mark> AD <mark>T</mark> ENSFKAIKTWVDKHSD	295
	.:: *	***.**.***:* *** * ** * *:. :: *: ** *	
PLD Dcongolensis	THRMATANDKPW	311	
PLD Ahaemolyticum	THHMATNKDIFW	309	
PLD Cpseudotb	THHLATVADNPW	307	
PLD Culcerans	THHLATAADNPW	307	
	And the state of the state		

Figure S1. Sequence alignment of various PLD amino acid sequences. PLD amino acid sequences from *Arcanobacterium haemolyticum* (WT_041640381.1), *Corynebacterium pseudotuberculosis* (WP_013240889.1), *Corynebacterium ulcerans* (WP_014525098.1) and *Dermatophilus congolensis* (WP_028327396.1) were aligned using Clustal Omega analysis. Amino acids highlighted in yellow were selected as candidates for mutagenesis to alanine.