

Homologous proteins in CMNR <sup>1</sup> microorganisms				Homologous proteins in Mammals <sup>2</sup>			
Organism	Protein	Identity (%)	E-value	Organism	Protein	Identity (%)	E-value
<i>C. pseudotuberculosis</i> 1002	PknG	100	0.0	<i>Ovis aries</i>	Uncharacterized Protein PRKX <sup>4</sup>	30	4.0x10 <sup>-12</sup>
<i>C. pseudotuberculosis</i> 258	PknG	99	0.0	<i>Ovis aries</i>	Uncharacterized Protein CAMK1 <sup>5</sup>	29	4.0x10 <sup>-12</sup>
<i>C. pseudotuberculosis</i> C231	PknG	100	0.0	<i>Bos Taurus</i>	Uncharacterized Protein PRKX <sup>4</sup>	30	3.0x10 <sup>-12</sup>
<i>C. diphtheriae</i> HC02	PknG	74	0.0	<i>Bos Taurus</i>	CAMK1 <sup>5</sup>	29	1.0x10 <sup>-12</sup>
<i>C. glutamicum</i> ATCC 14067	S/T PK <sup>3</sup>	61	0.0	<i>Equus caballus</i>	Uncharacterized Protein CAMK1 <sup>5</sup>	31	9.0x10 <sup>-13</sup>
<i>M. tuberculosis</i> SUMu007	PknG	46	1.0x10 <sup>-169</sup>	<i>Mus musculus</i>	CAMK1 <sup>5</sup>	29	3x10 <sup>-13</sup>
<i>N. farcinica</i> IFM10152	Putative S/T PK <sup>3</sup>	41	4.0x10 <sup>-173</sup>	<i>Mus musculus</i>	Smok2b <sup>6</sup>	31	1x10 <sup>-13</sup>
<i>R. pyridinivorans</i> SB3094	S/T PK <sup>3</sup>	46	1.0x10 <sup>-179</sup>	<i>Homo sapiens</i>	CAMK1 <sup>5</sup>	29	2x10 <sup>-12</sup>

**Additional file 1:** NCBI BLASTP searches were performed in UniprotKB database. <sup>1</sup>*Corynebacterium, Mycobacterium, Nocardia,*

*Rhodococcus*; <sup>2</sup>*Ovis, Bos, Equus and Mus* genera, *Homo sapiens*; <sup>3</sup>S/T PK, serine/threonine protein kinase; <sup>4</sup>PRKX, protein kinase X-linked;

<sup>5</sup>CAMK1, Calcium/calmodulin-dependent protein kinase 1; <sup>6</sup>Smok2b, sperm motility kinase 2B.