

**Table S1.** Comparison of one-dimensional data obtained from serial ultrathin sectioning and cryoTEM of MSG and MTB.

			Number of cell examined	Diameter (μm)		Length (μm)	Aspect ratio
				OM	PM		
<i>M. smegmatis</i>	Serial ultrathin section	Average	7	0.58 <sup>a, c, h</sup>	0.55 <sup>a, d</sup>	3.54	6.27 <sup>f</sup>
		SD		0.05	0.05	1.83	3.71
		Min		0.51	0.49	2.07	3.35
		Max		0.66	0.63	7.41	14.35
	CryoTEM	Average	61	0.77 <sup>b, h</sup>	ND	3.46 <sup>e</sup>	4.44
		SD		0.08	ND	1.40	1.69
		Min		0.66	ND	1.08	1.34
		Max		1.00	ND	6.27	7.65
<i>M. tuberculosis</i> <sup>1</sup>	Serial ultrathin section	Average	5	0.34 <sup>a, j</sup>	0.30 <sup>a</sup>	2.70	8.24 <sup>g</sup>
		SD		0.03	0.02	1.07	3.61
		Min		0.29	0.27	1.30	3.61
		Max		0.37	0.33	3.80	13.00
	CryoTEM	Average	14	0.60 <sup>b, j</sup>	ND	2.65 <sup>e</sup>	4.38
		SD		0.06	ND	0.74	1.16
		Min		0.51	ND	1.43	2.60
		Max		0.73	ND	3.85	6.68
<i>E. coli</i> <sup>2</sup>	Serial ultrathin section	Average	9	0.89 <sup>c</sup>	0.85 <sup>d</sup>	2.47	2.84 <sup>f, g</sup>
		SD		0.06	0.06	0.37	0.46
		Min		0.67	0.77	2.05	2.18
		Max		0.80	0.92	3.04	3.46

ND: not determined.

a: p &lt; 0.0001, b: p &lt; 0.0001, c: p &lt; 0.0001, d: p &lt; 0.0001, e: p &lt; 0.05, f: p &lt; 0.02, g: p &lt; 0.001, h: p &lt; 0.000001, j: p &lt; 0.000001.

1: Yamada et al., 2015

2: Yamada et al., 2017