

Table S1 Scale of animal tracheal samples

Species	Group	Length (cm)	P value	A-P inner diameter (cm)	P value	A-P external diameter (cm)	P value	Lateral inner diameter (cm)	P value	Lateral external diameter (cm)	P value
Porcine	4 rings	2.18±0.23	<0.001*	1.70±0.22	0.389	2.36±0.1	0.096	1.92±0.16	0.549	2.48±0.08	0.382
	6 rings	3.09±0.18		1.45±0.12		2.15±0.13		1.85±0.17		2.32±0.16	
	8 rings	4.07±0.45		1.51±0.28		2.27±0.12		1.9±0.28		2.40±0.30	
Canine	4 rings	2.00±0.10	0.012*	1.40±0.20	0.988	1.88±0.3	1.000	1.83±0.13	0.204	2.12±0.20	0.079
	6 rings	3.17±0.38		1.42±0.16		2.13±0.84		1.98±0.33		2.60±0.35	
	8 rings	3.70±0.72		1.42±0.03		1.88±0.20		2.23±0.23		2.77±0.31	
Caprine	4 rings	1.98±0.25	0.001*	1.07±0.08	0.455	2.35±0.56	1.000	1.20±0.10	0.892	1.65±0.05	0.618
	6 rings	3.03±0.40		1.22±0.03		1.92±0.03		1.35±0.10		1.83±0.08	
	8 rings	3.80±0.17		1.23±0.06		2.07±0.23		1.60±0.18		2.12±0.19	

*P<0.05. A-P, anterior-posterior.

Table S2 One-way ANOVA of elastic modulus and tensile strength of tracheas

Species	Outcome	Variable	Level	Mean ± SD	SE	F test	P value	LSD		
								4,6	6,8	4,8
Porcine	Elastic modulus (kPa)	Ring number	4	594.12±156.35	68.55	3.466	0.065	0.252	0.179	0.022*
			6	883.70±437.39	195.61					
			8	1190.48±363.68	162.64					
	Tensile strength (kPa)	Ring number	4	352.92±53.74	17.98	0.713	0.51	0.365	0.873	0.29
			6	422.67±155.92	69.73					
			8	437.63±191.41	85.60					
Canine	Elastic modulus (kPa)	Ring number	4	577.23±313.45	180.97	5.833	0.039*	0.026*	0.976	0.025*
			6	2550.67±1247.68	720.35					
			8	2572.00±608.19	351.14					
	Tensile strength (kPa)	Ring Number	4	404.58±130.41	75.29	4.686	0.059	0.145	0.217	0.022*
			6	625.99±107.67	62.16					
			8	808.38±223.48	129.03					
Caprine	Elastic modulus (kPa)	Ring Number	4	654.73±373.82	215.83	14.295	0.005*	0.039*	0.034*	0.002*
			6	1202.47±187.93	108.5					
			8	1771.27±145.54	84.03					
	Tensile strength (kPa)	Ring Number	4	358.41±127.74	73.75	0.687	0.539	0.928	0.372	0.33
			6	366.21±111.16	64.18					
			8	445.76±44.00	25.40					

*P<0.05, SD, standard deviation; SE, standard error; LSD, least-significant difference.

Table S3 One-way ANOVA of A-P and lateral L@50%D of animal tracheas

Species	Outcome	Variable	Level	Mean ± SD	SE	F test	P value	LSD		
								4,6	6,8	4,8
Porcine	A-P L@50%D (N)	Ring Number	4	4.86±1.20	0.54	17.057	<0.001*	0.246	0.001*	<0.001*
			6	5.53±0.43	0.19					
			8	7.94±0.82	0.37					
	Lateral L@50%D (N)	Ring Number	4	5.30±0.84	0.38	26.054	<0.001*	0.01*	0.019*	0.001*
			6	7.39±0.61	0.27					
			8	8.75±0.82	0.37					
Canine	A-P L@50%D (N)	Ring Number	4	4.35±0.05	0.03	1478.796	<0.001*	<0.001*	0.002*	<0.001*
			6	6.83±0.08	0.05					
			8	7.54±0.07	0.04					
	Lateral L@50%D (N)	Ring Number	4	7.52±1.98	1.14	6.572	0.031*	0.685	0.027*	0.016*
			6	8.42±3.29	1.90					
			8	14.55±2.29	1.32					
Caprine	A-P L@50%D (N)	Ring Number	4	4.73±0.20	0.12	23.696	0.001*	0.022*	0.009*	<0.001*
			6	5.38±0.10	0.057					
			8	6.18±0.38	0.22					
	Lateral L@50%D (N)	Ring Number	4	8.10±1.87	1.08	9.118	0.015*	0.068	0.087	0.005*
			6	11.65±2.75	1.58					
			8	11.12±0.40	0.38					

*P<0.05. A-P, anterior-posterior; L@50%D, load at the displacement reaches the 50% original length of trachea; SD, standard deviation; SE, standard error; LSD, least-significant difference.