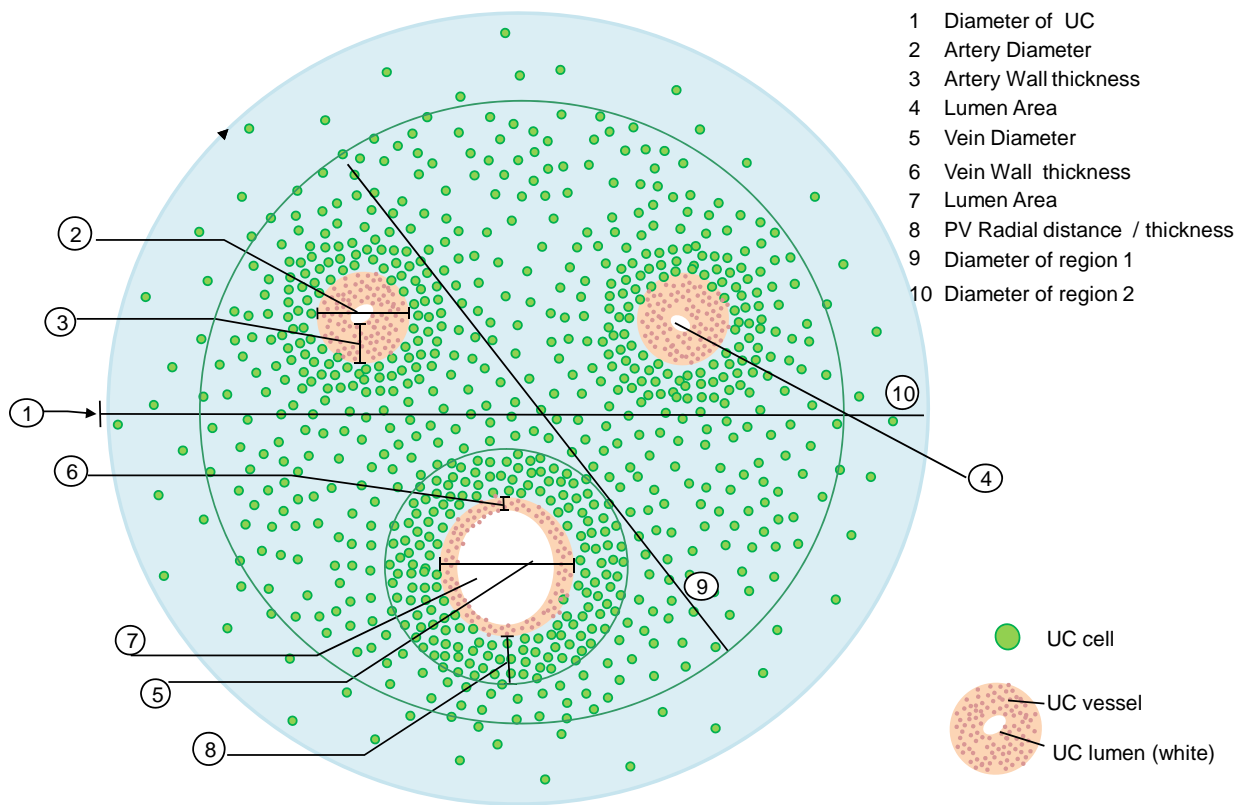


Supplementary Table 1. Parameter		Measurement
Total cord	Mean Length of Human Umbilical Cord (cm)	30 – 60
	① Mean Diameter of Human Umbilical Cord (cm)	1.3 ± 0.25
Vessels-artery	② Diameter (cm)	0.204 ± 0.007
	③ Wall thickness (cm)	0.080 ± 0.008
	Area of artery (cm ²)	0.033 ± 0.006
	④ Area of artery lumen (cm ² , fixed section)	0.0009 ± 0.0005
	Mean Intercellular Distance (um)	24.0 ± 3.6
Vessel-vein	⑤ Diameter (cm)	0.355 ± 0.019
	⑥ Wall thickness (cm)	0.0598 ± 0.019
	Area of vein (cm ²)	0.081 ± 0.01
	⑦ Area of vein lumen (cm ² , fixed section)	0.0180 ± 0.0005
	Mean Intercellular Distance (um)	27.0 ± 3.3
Perivascular, PV, region	⑧ Radial distance (um) or thickness (um)	430 ± 120
	Area of region (cm ²)	0.013 ± 0.002
	Mean Intercellular Distance (um)	50.1 ± 4.7
Wharton's Jelly region 1	⑨ Diameter of region 1, cm	0.91
	Mean Intercellular Distance (um)	81.2 ± 16.1
region 2	⑩ Diameter of region 2, cm (same as UC diameter)	1.30 ± 0.25
	Mean Intercellular Distance (um)	105.7 ± 5.4
Cell Estimates	Vessels, Theoretical Total Number of Cells per gram	8.1 x 10⁶ – 8.9 x 10⁶
	Perivascular Regions, Theoretical Total Number of Cells per gram	~1 x 10⁶
	Wharton's Jelly, Theoretical Total Number of Cells per gram	1.3 x 10⁶ – 1.4 x 10⁶

Volumetric cell densities are based on body-centered closed packing and face-centered closed packing models using the mean intracellular distance obtained from images of 10-micron thick sections. Within the Wharton's Jelly, there are 2 regions with significantly different cell distributions; region 1 immediately surrounds the vessels as shown in this figure below, while region 2 is the outer ring of the UC cross-section. Values are based on measurements taken from images of frozen sections stained with Hoechst. Physical measurements are mean ± standard deviation obtained from n = 4 UC samples.



Supplementary Table 1