

Table S1. Stiffness measurements of various basement membranes

Basement membrane	Species	Technique	Elastic Modulus	Reference
Renal proximal and distal nephron BM		Pipette microaspiration	500-1500 Pa	Miller, 2017
Renal tubule BM	Drosophila	Glass pipette cantilever	400 kPa at low strain 3 MPa at high strain	Bhave et al., 2017
Embryo ovarian follicle BM	Drosophila	AFM	from 20 to 800 kPa with development	Chlasta et al., 2017
Descemet's membrane	Rat	Volume-strain procedure	2.81 MPa	
	Cow		6.14 MPa	
	Sow		4.29 MPa	Danielsen, 2004
	Human		2.57 MPa	
Lens capsule	Rat	Volume-strain procedure	0.54 MPa	
	Cow		1.20 MPa	
	Sow		1.26 MPa	Danielsen, 2004
	Human		2.40 MPa	
Lens capsule	Human	Stretching	45 MPa to 4 MPa with age	Krag et al., 1996
Inner Limiting Membrane	Human	AFM	227 kPa (retinal side) 44 kPa (vitreal side)	Henrich et al., 2012
Inner Limiting Membrane	Human	AFM	1.5-5 MPa	Candiello et al., 2010
Cornea anterior BM	Human	AFM	7.5 kPa	Last et al., 2009
Descemet's membrane	Human	AFM	50 kPa	Last et al., 2009
Retinal BM	Mouse	AFM	3-4 MPa	Candiello et al., 2007

Table S2. Topographical features of various basement membranes

Basement membrane	Species	Dimensions	Reference
Oral BM (Epithelial)	Mouse	Fiber diameter 30 nm to 0.5 μ m	Abe and Osawa, 1999
Esophageal BM (Epithelial)	Porcine	Pore diameter 177 nm Fiber diameter 66 nm Interpore distance 198 nm	Li et al., 2012
Bronchial BM (Epithelial)	Human	Pore density 737 pores/mm ² Pore diameter 1.5 μ m	Howat et al., 2002
Bladder BM (Epithelial)	Macaques	Feature height 178 nm Fiber diameter 52 nm Pore diameter 82 nm Interpore distance 127 nm	Abrams et al., 2003
Cornea BM (Epithelial)	Macaques	Elevation 190 nm Pores 71 nm Fibers 77 nm Interpores distance 87 nm	Abrams et al., 2000
Cornea BM (Epithelial)	Dog	Elevation 150 nm Pore diameter 32 nm Fiber diameter 18 nm Interpore distance 40 nm	Abrams et al., 2002

Cornea BM (Epithelial)	Human	Elevation 182 nm Pores 92 nm Fibers 46 nm Interpores distance 159 nm	Abrams et al., 2000a
Descemet's membrane	Human	Elevation 131 nm Pores 38 nm Fibers 31 nm	Abrams et al., 2000a
Descemet's membrane	Dog	Elevation 115 nm Pore diameter 24 nm Fiber diameter 15 nm Interpore distance 38 nm	Abrams et al., 2002
Amniotic BM	Human	Collagen fibers 15-40 nm diameter	Yurchenco and Ruben, 1987
Vascular BM (Endothelial)	Macaques	Pore diameter 49-63 nm Fiber diameter 24-31 nm	Liliensiek et al., 2009
Vascular aortic BM (Endothelial)	Porcine	Pore diameter 30 nm Fiber diameter 28 nm Elevation 22-26 nm Pore depth 22 nm	Brody et al., 2006
Kidney Glomerular BM (Endothelial)	Rat	Fiber diameter 5-10 nm Pore diameter 10-30 nm	Shirato et al., 1991
Kidney Glomerular BM (Endothelial)	Rat	Fiber diameter 6 nm Pore diameter 9-14 nm	Hironaka et al., 1993
Kidney Bowman's capsule BM (Epithelial)	Rat	Fiber diameter 4-50 nm Pore diameter 14 nm	Hironaka et al., 1993
Kidney Tubular BM (Epithelial)	Rat	Fiber diameter 7 nm Fiber length 4-100 nm Pore diameter 13 nm	Hironaka et al., 1993
Kidney Glomerular BM (Endothelial)	Bovine	Fiber diameter 3-15 nm Pore diameter 9 nm	Yamasaki et al., 1994

Kidney Tubular BM (Epithelial)	Bovine	Fiber diameter 3-15 nm Pore diameter 11 nm	Yamasaki et al., 1994
Kidney Glomerular BM (Endothelial)	Rat	Fiber diameter 4 nm Interfiber distance 8 nm	Inoue, 1994
Reichert's membrane (embryonic)	Rat	Fiber diameter 5 nm Interfiber distance 15 nm	Inoue, 1994
Lens capsule (Epithelial)	Mouse	Fiber diameter 4.7 nm Interfiber distance 21 nm	Inoue, 1994
Breast gland BM (from spheroids)	Human	Fiber diameter 200 nm Pore area 50 nm^2 - $1 \mu\text{m}^2$	Fabris et al., 2018
Matrigel		Elevation 162 nm Fiber diameter 69 nm Pore diameter 105 nm	Abrams et al., 2000a