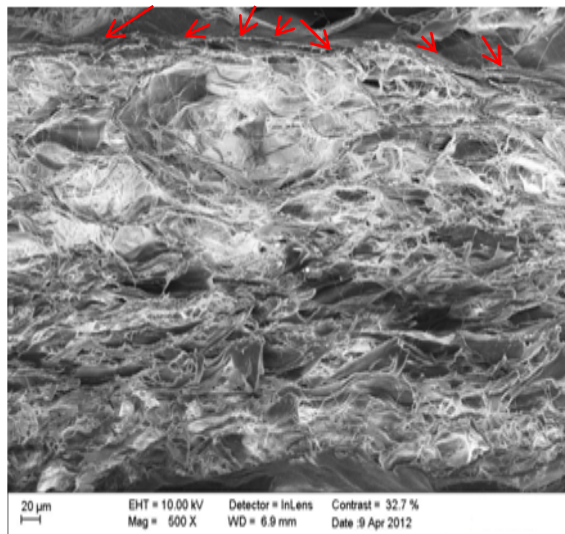


Supplementary Data 1. Thickness of APP, as visualized by SEM.



1 : smooth side(<0.01 mm)

2 : porous side

Supplementary Data 2. Morphology of APP, as visualized by SEM.

Supplementary Data 3. Tensile strength of commercial natural ECM membrane.

Test Result					
Results	Tensile strength		6.37 MPa		
Tensile Strength Test Result Summary					
1. Test Result					
Result	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
1.1. Cross-section area(mm ²)	5.10	4.20	4.50	3.00	4.90
1.2. Maximum load(N)	42.60	27.60	36.20	17.40	26.00
1.3. Maximum deformation amount(mm)	12.48	11.16	13.60	7.86	12.22
1.4. Maximum distortion(N/mm)	3.41	2.47	2.66	2.21	2.13
1.5. Tensile strength(MPa)	3.35	6.57	8.04	5.30	5.31
Result	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10
1.1. Cross-section area(mm ²)	4.00	5.00	2.60	4.10	4.40
1.2. Maximum load(N)	28.40	33.40	18.00	17.20	20.80
1.3. Maximum deformation amount(mm)	11.77	9.62	12.61	12.82	9.86
1.4. Maximum distortion(N/mm)	2.41	3.47	1.43	1.34	2.11
1.5. Tensile strength(MPa)	7.10	6.68	6.92	4.20	4.73
1.6. Average	6.37 MPa (SD : 1.35 MPa, CV : 21.27 %)				

Supplementary Data 4. Tensile strength of APP.

Test Result		
Results	Tensile strength	14.15 MPa

Tensile Strength Test Result Summary

1. Test Result

Result	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5
1.1. Cross-section area(mm ²)	3.40	2.80	2.10	2.10	3.50
1.2. Maximum load(N)	40.60	37.00	36.80	30.80	40.80
1.3. Maximum deformation amount(mm)	1.71	1.55	1.71	1.61	1.25
1.4. Maximum distortion(N/mm)	23.74	23.87	21.52	19.13	32.64
1.5. Tensile strength(MPa)	11.94	13.21	17.52	14.67	11.66
Result	Sample 6	Sample 7	Sample 8	Sample 9	Sample 10
1.1. Cross-section area(mm ²)	3.30	2.70	2.10	2.20	2.50
1.2. Maximum load(N)	48.20	30.20	31.40	31.20	44.00
1.3. Maximum deformation amount(mm)	1.33	1.11	1.14	1.14	1.67
1.4. Maximum distortion(N/mm)	36.24	27.21	27.54	27.37	26.35
1.5. Tensile strength(MPa)	14.61	11.19	14.95	14.18	17.60
1.6. Average	14.15 MPa (SD : 2.23 MPa, CV : 15.32 %)				