Supplementary Materials: Towards a Novel Patch Material for Cardiac Applications: Tissue-Specific Extracellular Matrix Introduces Essential Key Features to Decellularized Amniotic Membrane

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Table S1. Proteins in hgECM identified by mass spectrometry.

Accession	Name	Scores A	Scores B	Scores C	Matches
A2MG_HUMAN	Alpha-2-macroglobulin OS=Homo sapiens GN=A2M PE=1 SV=3		114.4	13.7	1
AATM_HUMAN	Aspartate aminotransferase, mitochondrial OS=Homo sapiens GN=GOT2 PE=1 SV=3	42.1		13.2	1
ACADV_HUMAN	Very long-chain specific acyl-CoA dehydrogenase, mitochondrial OS=Homo sapiens GN=ACADVL PE=1 SV=1	22.3		31.4	2
ACON_HUMAN	Aconitate hydratase, mitochondrial OS=Homo sapiens GN=ACO2 PE=1 SV=2	156.9		66.7	3
ACTA_HUMAN	Actin, aortic smooth muscle OS=Homo sapiens GN=ACTA2 PE=1 SV=1	1247.8	34.6	1149.1	8
ACTN2_HUMAN	Alpha-actinin-2 OS=Homo sapiens GN=ACTN2 PE=1 SV=1	806.3		835.8	9
ACTS_HUMAN	Actin, alpha skeletal muscle OS=Homo sapiens GN=ACTA1 PE=1 SV=1	840.3		990.5	7
ADT1_HUMAN	ADP/ATP translocase 1 OS=Homo sapiens GN=SLC25A4 PE=1 SV=4	360.9		401.3	7
ADT3_HUMAN	ADP/ATP translocase 3 OS=Homo sapiens GN=SLC25A6 PE=1 SV=4			231.7	5
ALBU_HUMAN	Serum albumin OS=Homo sapiens GN=ALB PE=1 SV=2	269.8	292.1	47.1	4
APOA1_HUMAN	Apolipoprotein A-I OS=Homo sapiens GN=APOA1 PE=1 SV=1	67.3	76.9	27.0	1

ARHL1_HUMAN	[Protein ADP-ribosylarginine] hydrolase-like protein 1 OS=Homo sapiens GN=ADPRHL1 PE=2 SV=1	48.3		31.0	1
AT2A1_HUMAN	Sarcoplasmic/endoplasmic reticulum calcium ATPase 1 OS=Homo sapiens GN=ATP2A1 PE=1 SV=1			151.1	1
ATP5I_HUMAN	ATP synthase subunit e, mitochondrial OS=Homo sapiens GN=ATP5I PE=1 SV=2			42.1	1
ATP6_HUMAN	ATP synthase subunit a OS=Homo sapiens GN=MT-ATP6 PE=1 SV=1	112.5		82.2	1
ATPA_HUMAN	ATP synthase subunit alpha, mitochondrial OS=Homo sapiens GN=ATP5A1 PE=1 SV=1	165.1		51.6	4
ATPB_HUMAN	ATP synthase subunit beta, mitochondrial OS=Homo sapiens GN=ATP5B PE=1 SV=3	108.1		155.2	1
ATPK_HUMAN	ATP synthase subunit f, mitochondrial OS=Homo sapiens GN=ATP5J2 PE=1 SV=3	308.0	29.7	580.1	2
CAV1_HUMAN	Caveolin-1 OS=Homo sapiens GN=CAV1 PE=1 SV=4	108.6	84.5	31.0	1
CHIA_HUMAN	Acidic mammalian chitinase OS=Homo sapiens GN=CHIA PE=1 SV=1			245.1	1
CMC1_HUMAN	Calcium-binding mitochondrial carrier protein Aralar1 OS=Homo sapiens GN=SLC25A12 PE=1 SV=2	73.7		30.9	1
CO1A1_HUMAN	Collagen alpha-1(I) chain OS=Homo sapiens GN=COL1A1 PE=1 SV=5	327.8	695.0	598.4	6
CO3_HUMAN	Complement C3 OS=Homo sapiens GN=C3 PE=1 SV=2	95.0	430.9	141.9	2
CO3A1_HUMAN	Collagen alpha-1(III) chain OS=Homo sapiens GN=COL3A1 PE=1 SV=4	18.5	299.4	614.5	2
CO4A2_HUMAN	Collagen alpha-2(IV) chain OS=Homo sapiens GN=COL4A2 PE=1 SV=4	294.3	428.4	642.1	5
CO5A3_HUMAN	Collagen alpha-3(V) chain OS=Homo sapiens GN=COL5A3 PE=1 SV=3		60.5	22.8	1
CO6A3_HUMAN	Collagen alpha-3(VI) chain OS=Homo sapiens GN=COL6A3 PE=1 SV=5	988.4	12200.9	27.0	1
COX1_HUMAN	Cytochrome c oxidase subunit 1 OS=Homo sapiens GN=MT-CO1 PE=1 SV=1	212.6		434.9	1

COX2_HUMAN	Cytochrome c oxidase subunit 2 OS=Homo sapiens GN=MT-CO2 PE=1 SV=1	15.4		40.8	2
COX3_HUMAN	Cytochrome c oxidase subunit 3 OS=Homo sapiens GN=MT-CO3 PE=1 SV=2	70.4		13.7	1
CRYAB_HUMAN	Alpha-crystallin B chain OS=Homo sapiens GN=CRYAB PE=1 SV=2	78.4	22.5	54.9	3
CTRO_HUMAN	Citron Rho-interacting kinase OS=Homo sapiens GN=CIT PE=1 SV=2			13.7	1
CX7A1_HUMAN	Cytochrome c oxidase subunit 7A1, mitochondrial OS=Homo sapiens GN=COX7A1 PE=1 SV=2	61.4		51.8	2
CYB_HUMAN	Cytochrome b OS=Homo sapiens GN=MT-CYB PE=1 SV=2	45.5		144.0	1
CYC_HUMAN	Cytochrome c OS=Homo sapiens GN=CYCS PE=1 SV=2	32.5		15.1	1
DDX6_HUMAN	Probable ATP-dependent RNA helicase DDX6 OS=Homo sapiens GN=DDX6 PE=1 SV=2	22.2	52.0	31.0	1
DERM_HUMAN	Dermatopontin OS=Homo sapiens GN=DPT PE=1 SV=2	85.1	84.1	27.0	1
DESM_HUMAN	Desmin OS=Homo sapiens GN=DES PE=1 SV=3	174.1		438.3	2
ECD_HUMAN	Protein ecdysoneless homolog OS=Homo sapiens GN=ECD PE=1 SV=1			22.8	1
EF1A2_HUMAN	Elongation factor 1-alpha 2 OS=Homo sapiens GN=EEF1A2 PE=1 SV=1	284.5		66.5	2
FABPH_HUMAN	Fatty acid-binding protein, heart OS=Homo sapiens GN=FABP3 PE=1 SV=4	141.1		31.0	1
FBN1_HUMAN	Fibrillin-1 OS=Homo sapiens GN=FBN1 PE=1 SV=3	248.7	107.6	41.4	3
FHL1_HUMAN	Four and a half LIM domains protein 1 OS=Homo sapiens GN=FHL1 PE=1 SV=4	102.9		94.3	1
FHL2_HUMAN	Four and a half LIM domains protein 2 OS=Homo sapiens GN=FHL2 PE=1 SV=3	42.9		46.3	1
FINC_HUMAN	Fibronectin OS=Homo sapiens GN=FN1 PE=1 SV=4	1698.4	9406.0	27.0	1

FLNC_HUMAN	Filamin-C OS=Homo sapiens GN=FLNC PE=1 SV=3	692.1		43.1	2
G3P_HUMAN	Glyceraldehyde-3-phosphate dehydrogenase OS=Homo sapiens GN=GAPDH PE=1 SV=3	204.4	125.2	105.8	3
GELS_HUMAN	Gelsolin OS=Homo sapiens GN=GSN PE=1 SV=1	66.9	41.2	13.7	1
GHITM_HUMAN	Growth hormone-inducible transmembrane protein OS=Homo sapiens GN=GHITM PE=1 SV=2	22.5		13.7	1
GPAA1_HUMAN	Glycosylphosphatidylinositol anchor attachment 1 protein OS=Homo sapiens GN=GPAA1 PE=1 SV=3			13.7	1
GYS1_HUMAN	Glycogen [starch] synthase, muscle OS=Homo sapiens GN=GYS1 PE=1 SV=2	47.7		38.3	1
H4_HUMAN	Histone H4 OS=Homo sapiens GN=HIST1H4A PE=1 SV=2	250.7	277.8	23.0	2
HBB_HUMAN	Hemoglobin subunit beta OS=Homo sapiens GN=HBB PE=1 SV=2	394.3	1418.0	28.3	1
HEMO_HUMAN	Hemopexin OS=Homo sapiens GN=HPX PE=1 SV=2			27.0	1
HHATL_HUMAN	Protein-cysteine N-palmitoyltransferase HHAT-like protein OS=Homo sapiens GN=HHATL PE=2 SV=1	227.9		23.5	2
HS71A_HUMAN	Heat shock 70 kDa protein 1A OS=Homo sapiens GN=HSPA1A PE=1 SV=1	37.7	145.9	89.1	2
HSPB1_HUMAN	Heat shock protein beta-1 OS=Homo sapiens GN=HSPB1 PE=1 SV=2	39.7	142.8	152.9	1
IDH3G_HUMAN	Isocitrate dehydrogenase [NAD] subunit gamma, mitochondrial OS=Homo sapiens GN=IDH3G PE=1 SV=1			27.0	1
IGHG1_HUMAN	Ig gamma-1 chain C region OS=Homo sapiens GN=IGHG1 PE=1 SV=1	26.9	204.3	88.2	1
IGKC_HUMAN	Ig kappa chain C region OS=Homo sapiens GN=IGKC PE=1 SV=1	96.0		60.1	2
K2C1_HUMAN	Keratin, type II cytoskeletal 1 OS=Homo sapiens GN=KRT1 PE=1 SV=6		95.5	16.9	2

KCRS_HUMAN	Creatine kinase S-type, mitochondrial OS=Homo sapiens GN=CKMT2 PE=1 SV=2	23.5		13.3	1
KPYM_HUMAN	Pyruvate kinase PKM OS=Homo sapiens GN=PKM PE=1 SV=4	27.5	116.4	27.0	1
LAMA2_HUMAN	Laminin subunit alpha-2 OS=Homo sapiens GN=LAMA2 PE=1 SV=4	45.5	68.3	26.3	2
LDB3_HUMAN	LIM domain-binding protein 3 OS=Homo sapiens GN=LDB3 PE=1 SV=2	103.2		90.5	4
LDHB_HUMAN	L-lactate dehydrogenase B chain OS=Homo sapiens GN=LDHB PE=1 SV=2			95.7	1
LMNA_HUMAN	Prelamin-A/C OS=Homo sapiens GN=LMNA PE=1 SV=1	268.5	1000.4	27.0	1
LRC47_HUMAN	Leucine-rich repeat-containing protein 47 OS=Homo sapiens GN=LRRC47 PE=1 SV=1			26.9	1
M2OM_HUMAN	Mitochondrial 2-oxoglutarate/malate carrier protein OS=Homo sapiens GN=SLC25A11 PE=1 SV=3	36.1		49.8	2
MFAP5_HUMAN	Microfibrillar-associated protein 5 OS=Homo sapiens GN=MFAP5 PE=1 SV=1	76.6	413.9	65.8	2
MGST3_HUMAN	Microsomal glutathione S-transferase 3 OS=Homo sapiens GN=MGST3 PE=1 SV=1	662.2		941.8	2
MIC60_HUMAN	MICOS complex subunit MIC60 OS=Homo sapiens GN=IMMT PE=1 SV=1			13.3	1
MPC2_HUMAN	Mitochondrial pyruvate carrier 2 OS=Homo sapiens GN=MPC2 PE=1 SV=1	34.0		22.6	1
MPCP_HUMAN	Phosphate carrier protein, mitochondrial OS=Homo sapiens GN=SLC25A3 PE=1 SV=2	234.2	29.1	89.6	2
MTCH2_HUMAN	Mitochondrial carrier homolog 2 OS=Homo sapiens GN=MTCH2 PE=1 SV=1	372.2		19.8	1
MYH7_HUMAN	Myosin-7 OS=Homo sapiens GN=MYH7 PE=1 SV=5	3052.7		2949.5	22
MYL3_HUMAN	Myosin light chain 3 OS=Homo sapiens GN=MYL3 PE=1 SV=3	26.6		27.0	1

MYOM1_HUMAN	Myomesin-1 OS=Homo sapiens GN=MYOM1 PE=1 SV=2	142.0		38.5	3
MYOM2_HUMAN	Myomesin-2 OS=Homo sapiens GN=MYOM2 PE=1 SV=2	113.8		90.2	2
MYOM3_HUMAN	Myomesin-3 OS=Homo sapiens GN=MYOM3 PE=2 SV=1	137.1		197.3	4
MYOZ2_HUMAN	Myozenin-2 OS=Homo sapiens GN=MYOZ2 PE=1 SV=1	57.8		31.0	1
MYPC3_HUMAN	Myosin-binding protein C, cardiac-type OS=Homo sapiens GN=MYBPC3 PE=1 SV=4	880.9		1077.8	13
NDUAB_HUMAN	NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11 OS=Homo sapiens GN=NDUFA11 PE=1 SV=3	73.9		27.0	1
NDUB5_HUMAN	NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial OS=Homo sapiens GN=NDUFB5 PE=1 SV=1			27.0	1
NNTM_HUMAN	NAD(P) transhydrogenase, mitochondrial OS=Homo sapiens GN=NNT PE=1 SV=3	126.3		152.9	1
NU4M_HUMAN	NADH-ubiquinone oxidoreductase chain 4 OS=Homo sapiens GN=MT-ND4 PE=1 SV=1	272.0		43.0	2
NU5M_HUMAN	NADH-ubiquinone oxidoreductase chain 5 OS=Homo sapiens GN=MT-ND5 PE=1 SV=2	390.1		185.9	3
OBSCN_HUMAN	Obscurin OS=Homo sapiens GN=OBSCN PE=1 SV=3	132.1		361.5	5
PDLI5_HUMAN	PDZ and LIM domain protein 5 OS=Homo sapiens GN=PDLIM5 PE=1 SV=5	61.0	22.9	44.5	2
PGBM_HUMAN	Basement membrane-specific heparan sulfate proteoglycan core protein OS=Homo sapiens GN=HSPG2 PE=1 SV=4	433.9	2232.2	22.8	1
PRDX6_HUMAN	Peroxiredoxin-6 OS=Homo sapiens GN=PRDX6 PE=1 SV=3		70.2	19.3	1
PROS_HUMAN	Vitamin K-dependent protein S OS=Homo sapiens GN=PROS1 PE=1 SV=1			27.0	1

QCR10_HUMAN	Cytochrome b-c1 complex subunit 10 OS=Homo sapiens GN=UQCR11 PE=3 SV=1			19.4	1
RL13A_HUMAN	60S ribosomal protein L13a OS=Homo sapiens GN=RPL13A PE=1 SV=2	20.8	85.6	25.2	1
RYR2_HUMAN	Ryanodine receptor 2 OS=Homo sapiens GN=RYR2 PE=1 SV=3	163.0		252.9	2
SC24C_HUMAN	Protein transport protein Sec24C OS=Homo sapiens GN=SEC24C PE=1 SV=3		40.3	13.7	1
SCO2_HUMAN	Protein SCO2 homolog, mitochondrial OS=Homo sapiens GN=SCO2 PE=1 SV=3			13.7	1
SMYD1_HUMAN	Histone-lysine N-methyltransferase SMYD1 OS=Homo sapiens GN=SMYD1 PE=1 SV=1	159.0		184.1	1
SRBS1_HUMAN	Sorbin and SH3 domain-containing protein 1 OS=Homo sapiens GN=SORBS1 PE=1 SV=3	280.1		149.3	1
TANC1_HUMAN	Protein TANC1 OS=Homo sapiens GN=TANC1 PE=1 SV=3			13.6	1
TBA1A_HUMAN	Tubulin alpha-1A chain OS=Homo sapiens GN=TUBA1A PE=1 SV=1		394.5	58.4	2
TBB2A_HUMAN	Tubulin beta-2A chain OS=Homo sapiens GN=TUBB2A PE=1 SV=1			79.3	1
TGM2_HUMAN	Protein-glutamine gamma-glutamyltransferase 2 OS=Homo sapiens GN=TGM2 PE=1 SV=2	464.6	582.2	31.7	2
THIM_HUMAN	3-ketoacyl-CoA thiolase, mitochondrial OS=Homo sapiens GN=ACAA2 PE=1 SV=2			20.1	1
TIMP3_HUMAN	Metalloproteinase inhibitor 3 OS=Homo sapiens GN=TIMP3 PE=1 SV=2	84.6	21.1	140.0	2
TINAL_HUMAN	Tubulointerstitial nephritis antigen-like OS=Homo sapiens GN=TINAGL1 PE=1 SV=1	224.5		60.9	3
TITIN_HUMAN	Titin OS=Homo sapiens GN=TTN PE=1 SV=4	31133.7		25097.0	294
TMCO4_HUMAN	Transmembrane and coiled-coil domain-containing protein 4			152.9	1

	OS=Homo sapiens GN=TMCO4 PE=2 SV=1				
TPM1_HUMAN	Tropomyosin alpha-1 chain OS=Homo sapiens GN=TPM1 PE=1 SV=2	88.2	39.3	58.5	3
TSP1_HUMAN	Thrombospondin-1 OS=Homo sapiens GN=THBS1 PE=1 SV=2	268.3	441.7	23.5	2
VDAC1_HUMAN	Voltage-dependent anion-selective channel protein 1 OS=Homo sapiens GN=VDAC1 PE=1 SV=2	158.1		75.7	2
VDAC2_HUMAN	Voltage-dependent anion-selective channel protein 2 OS=Homo sapiens GN=VDAC2 PE=1 SV=2	176.1		13.7	1
VDAC3_HUMAN	Voltage-dependent anion-selective channel protein 3 OS=Homo sapiens GN=VDAC3 PE=1 SV=1	85.7		24.2	2
VTNC_HUMAN	Vitronectin OS=Homo sapiens GN=VTN PE=1 SV=1	139.0	202.1	40.9	1
WDR1_HUMAN	WD repeat-containing protein 1 OS=Homo sapiens GN=WDR1 PE=1 SV=4			27.0	1

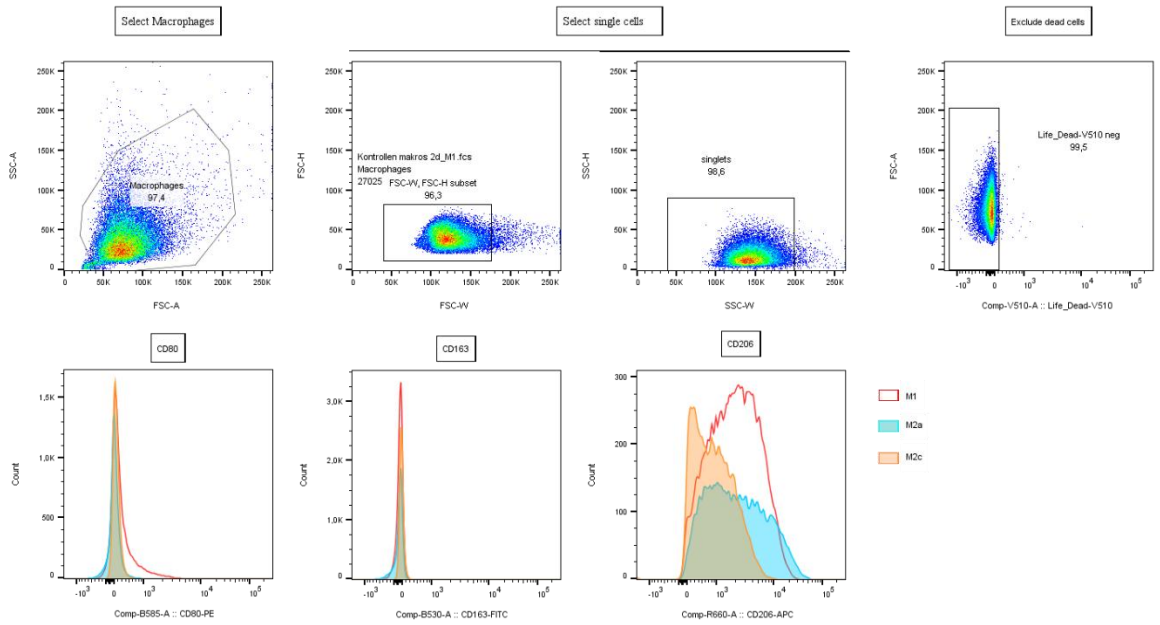

Figure S1. Representative flow cytometry gating strategy for macrophage polarization.

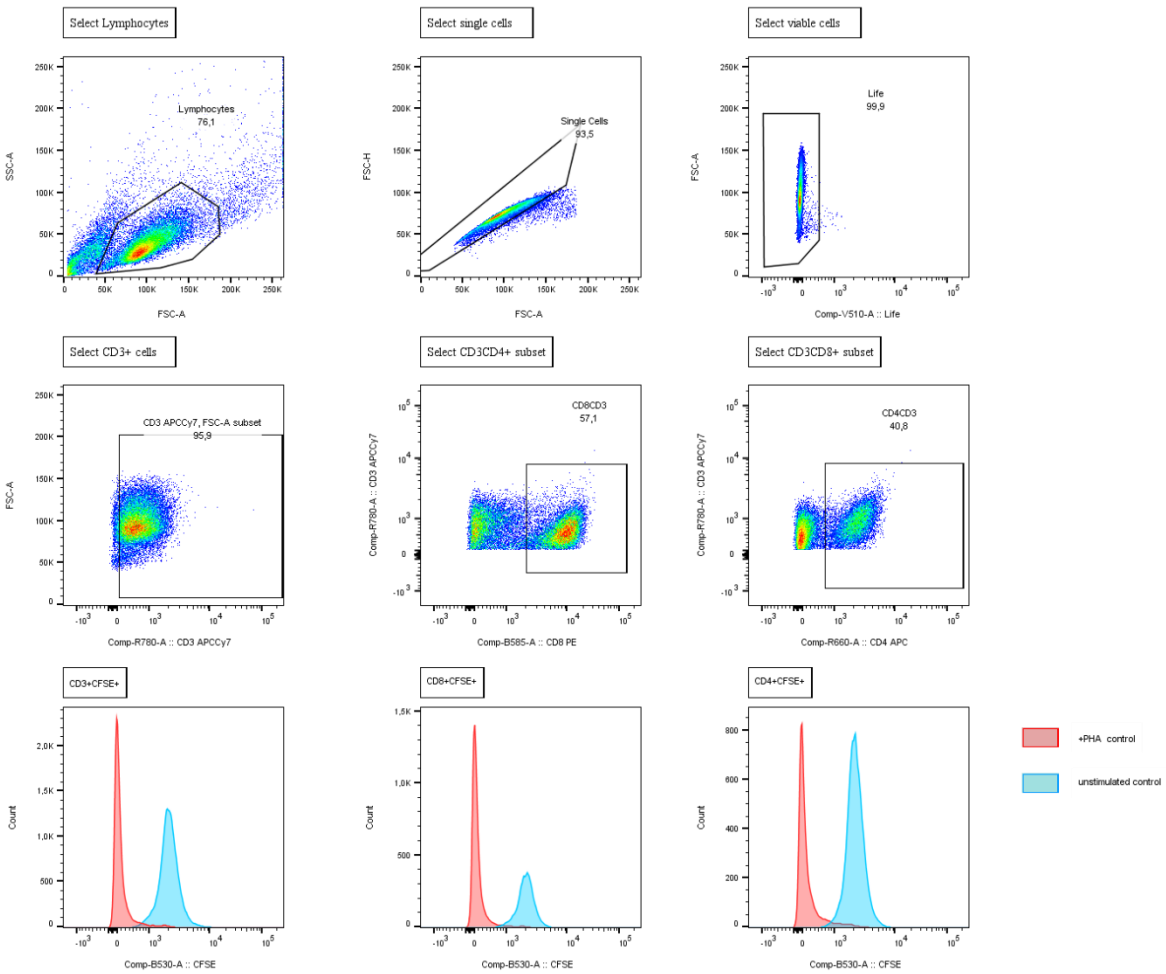

Figure S2. Representative flow cytometry gating strategy for T cell proliferation.