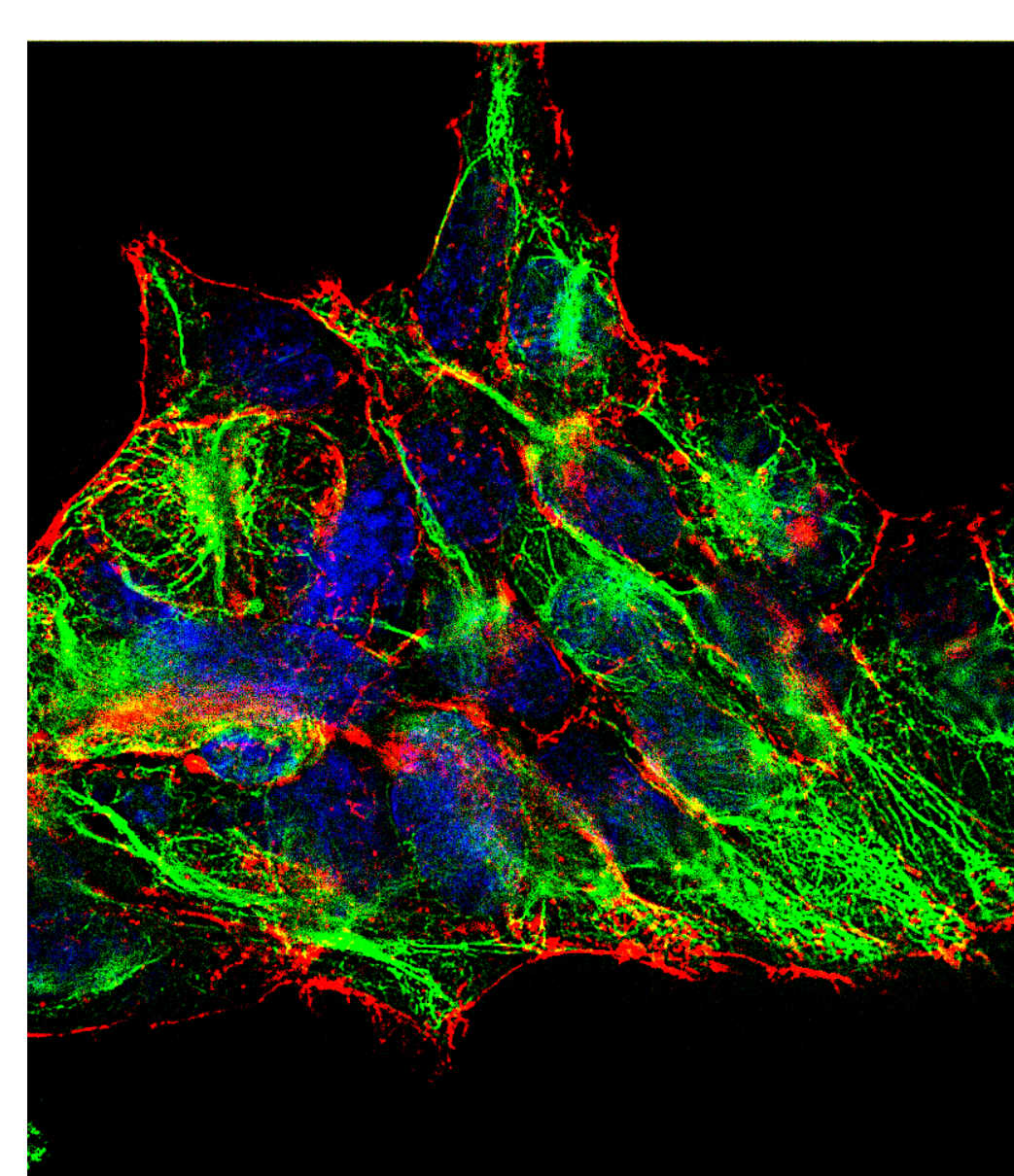
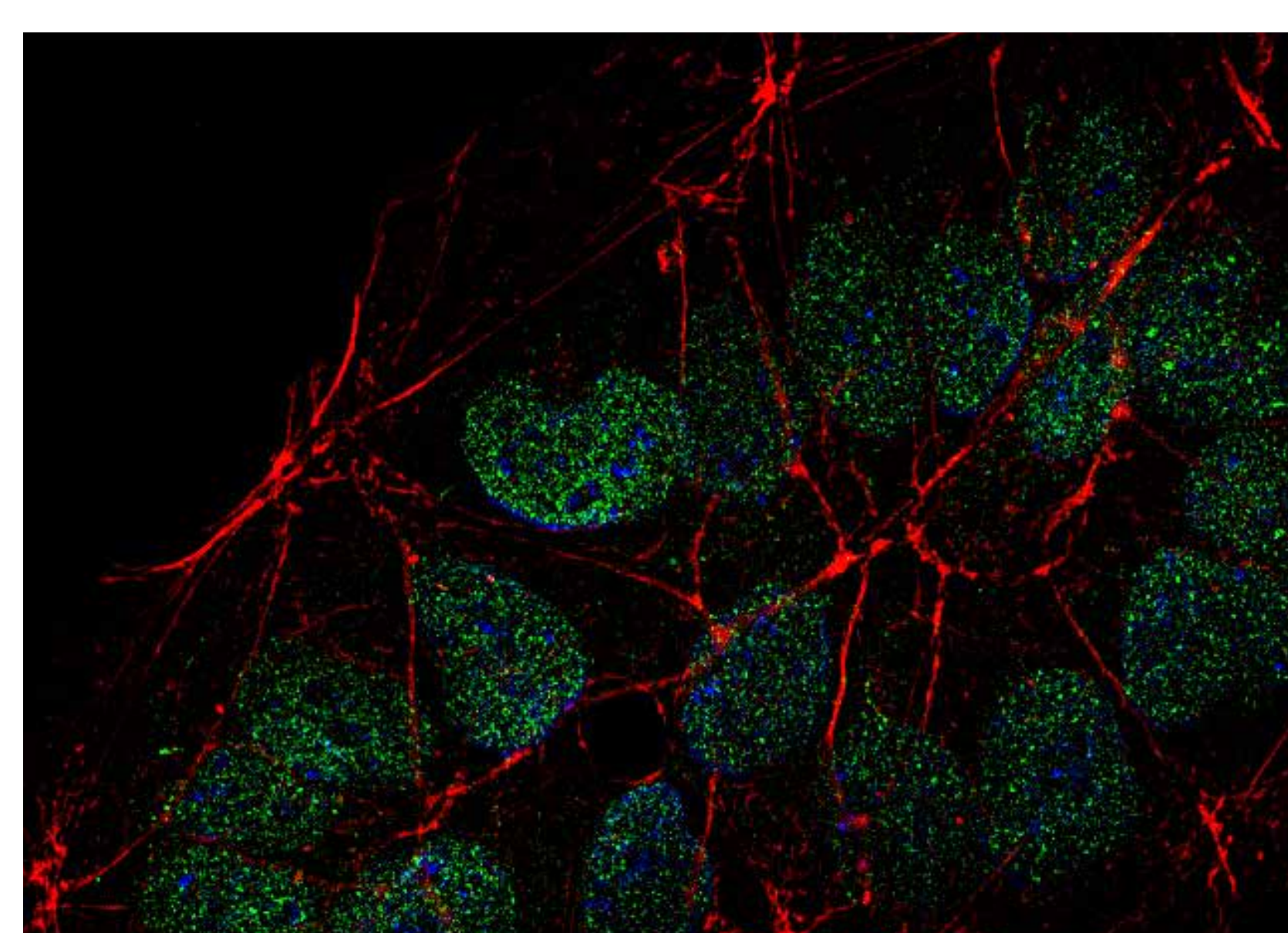
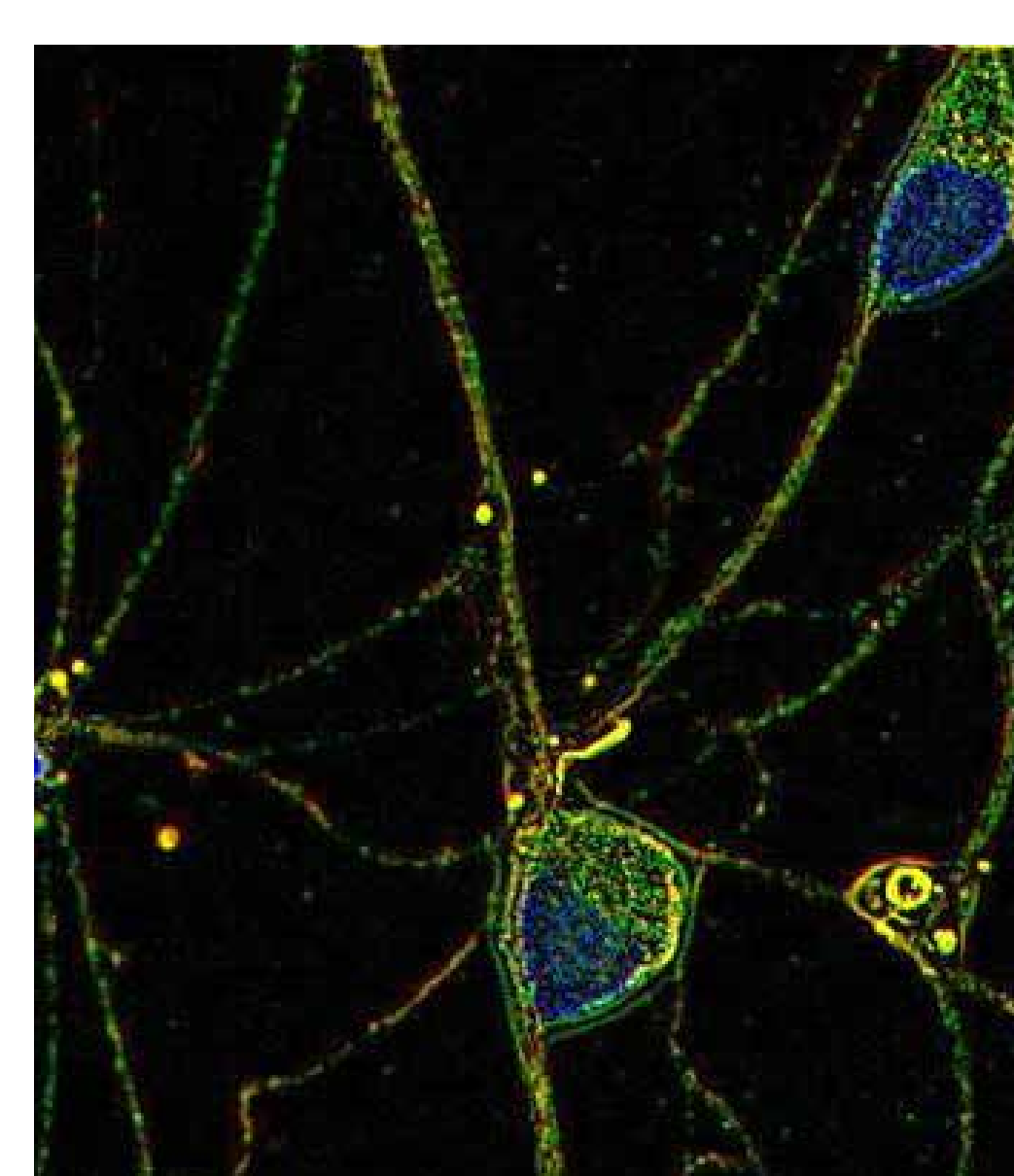
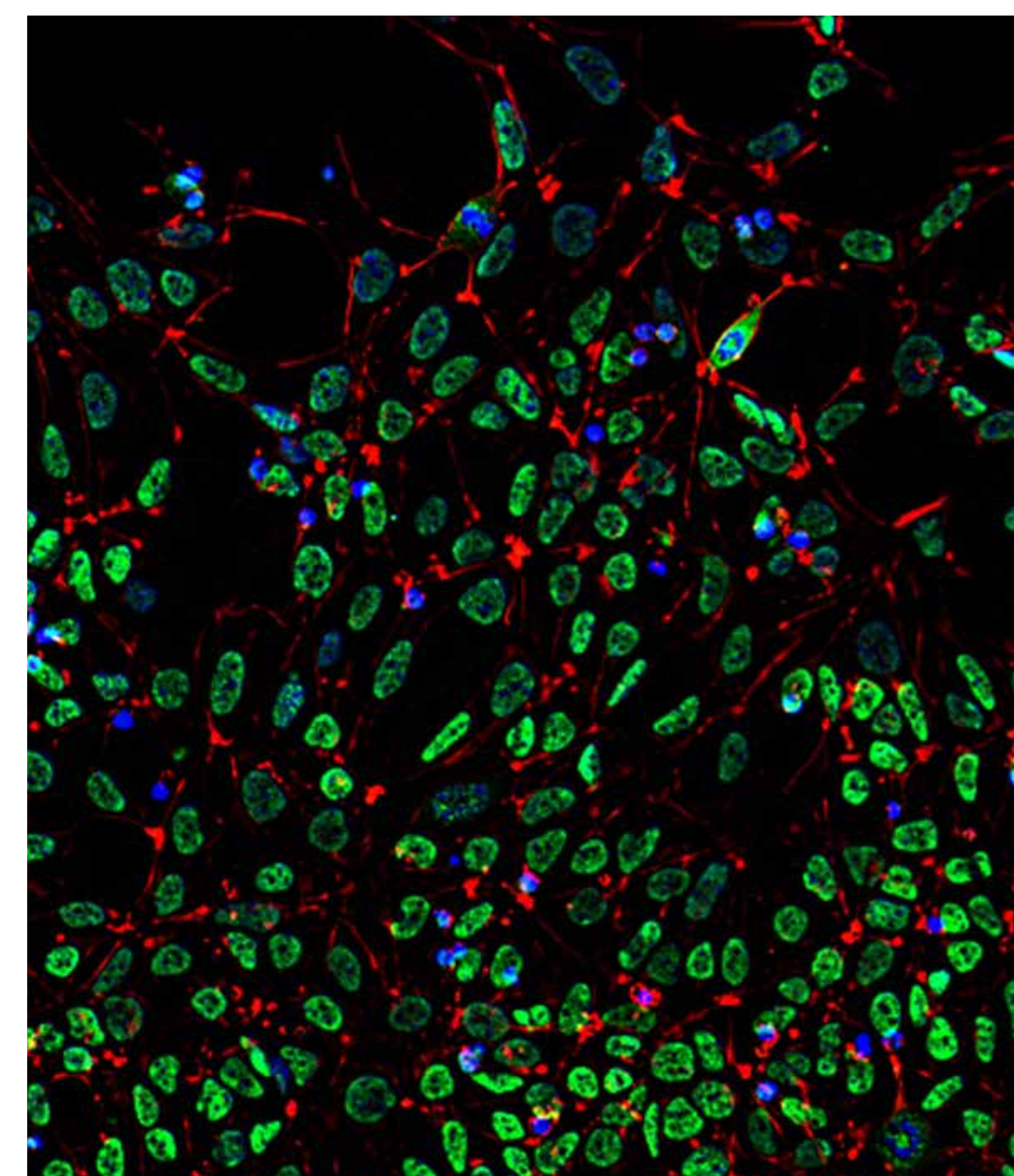
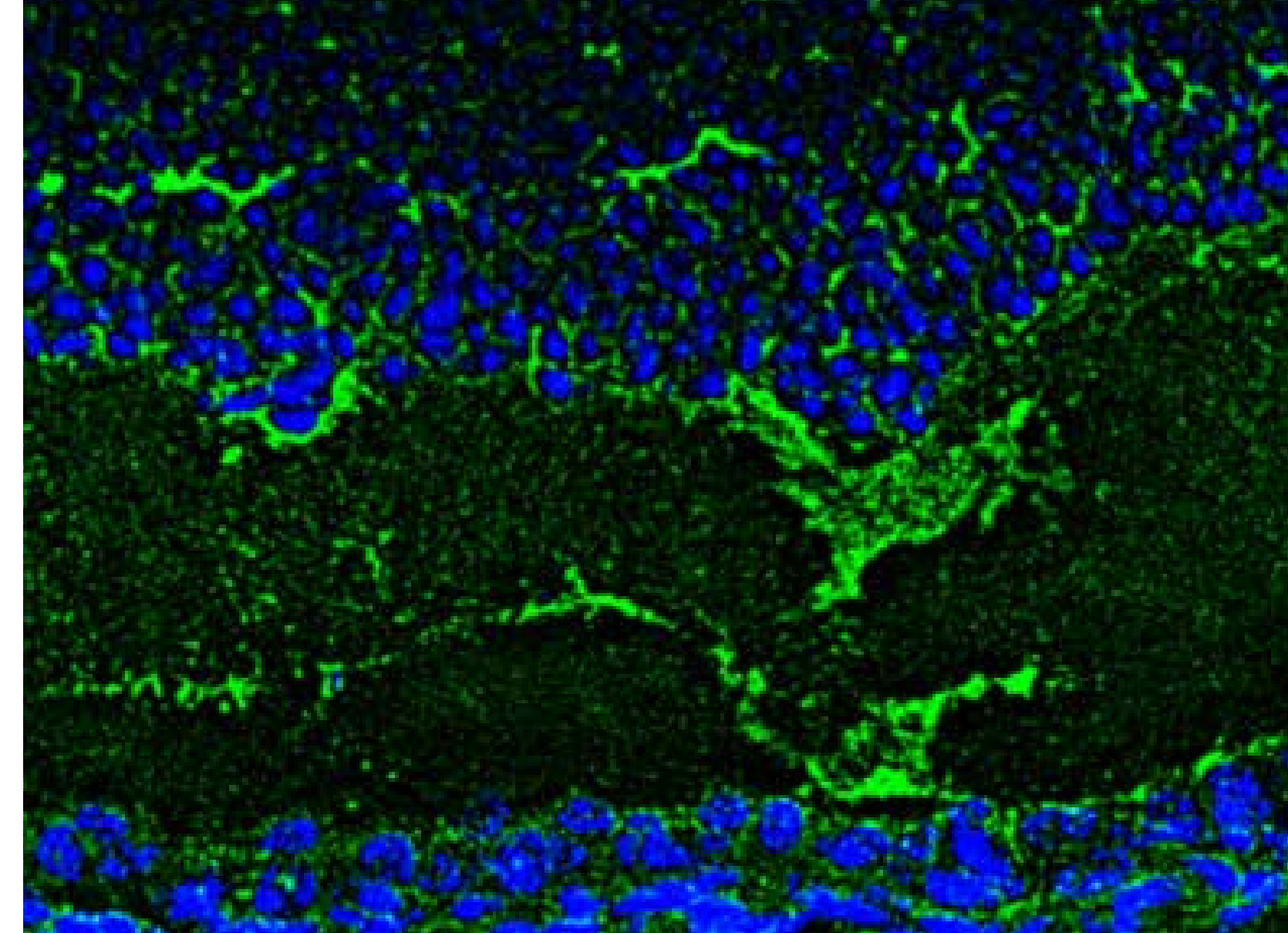
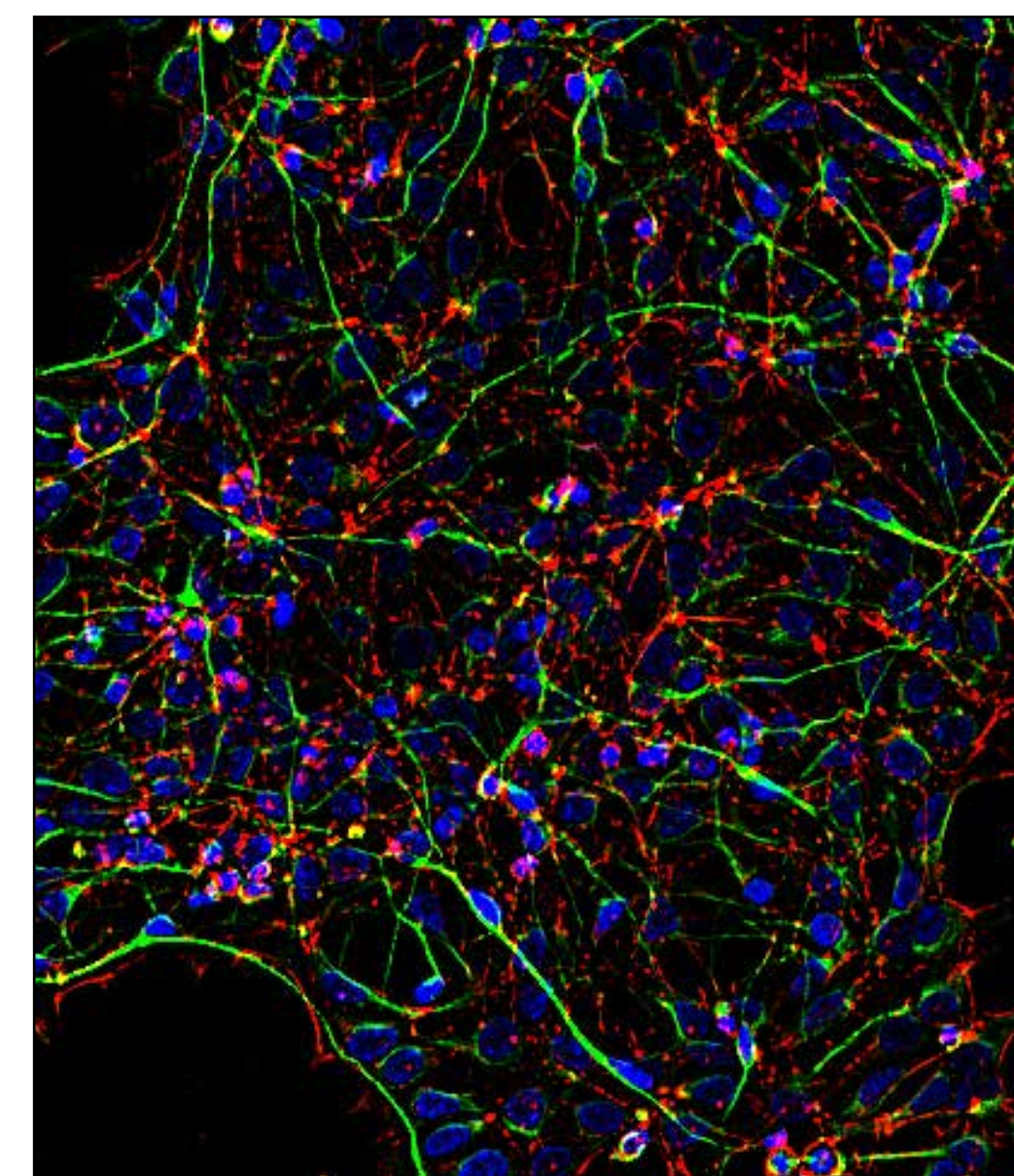
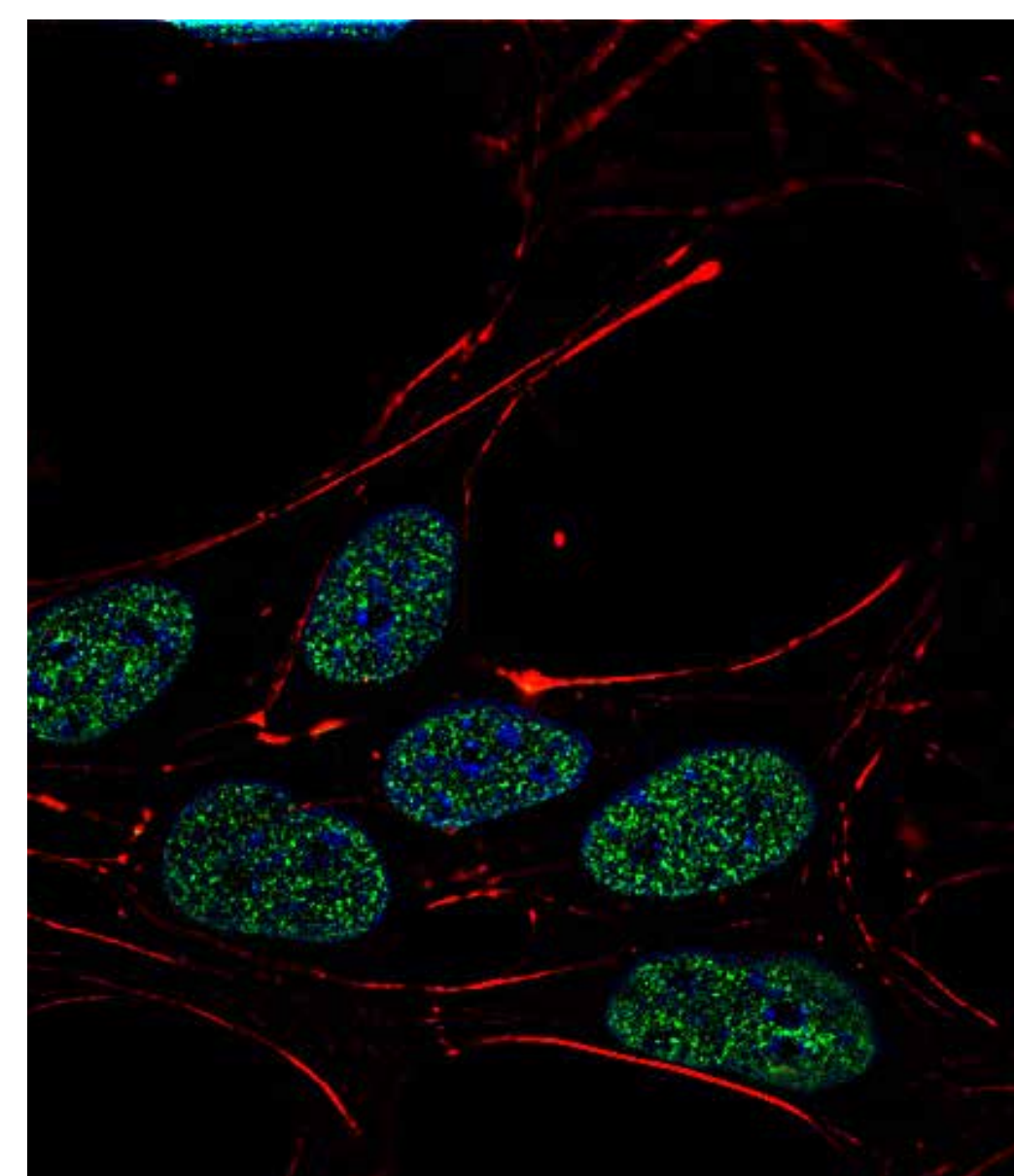
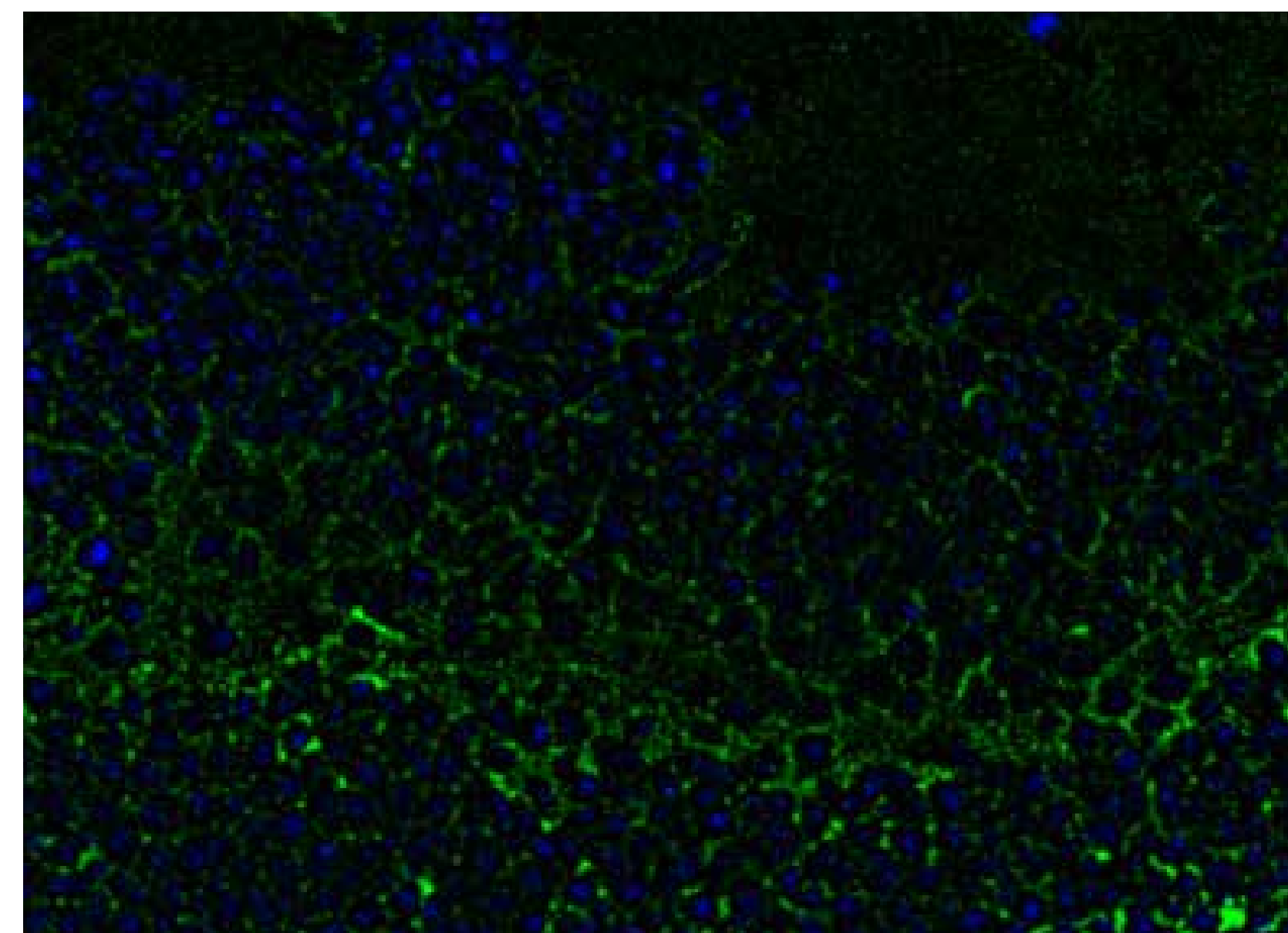
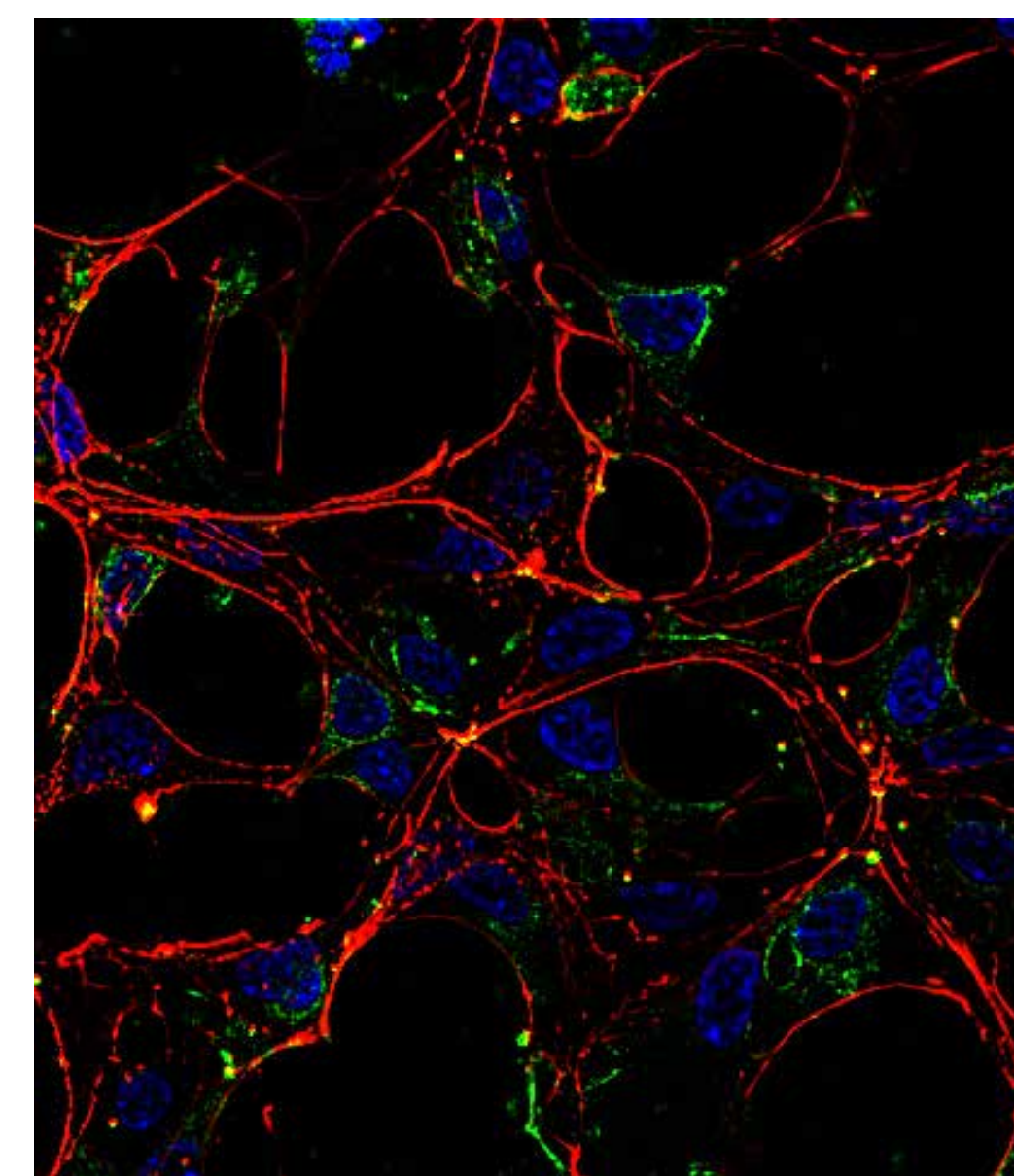
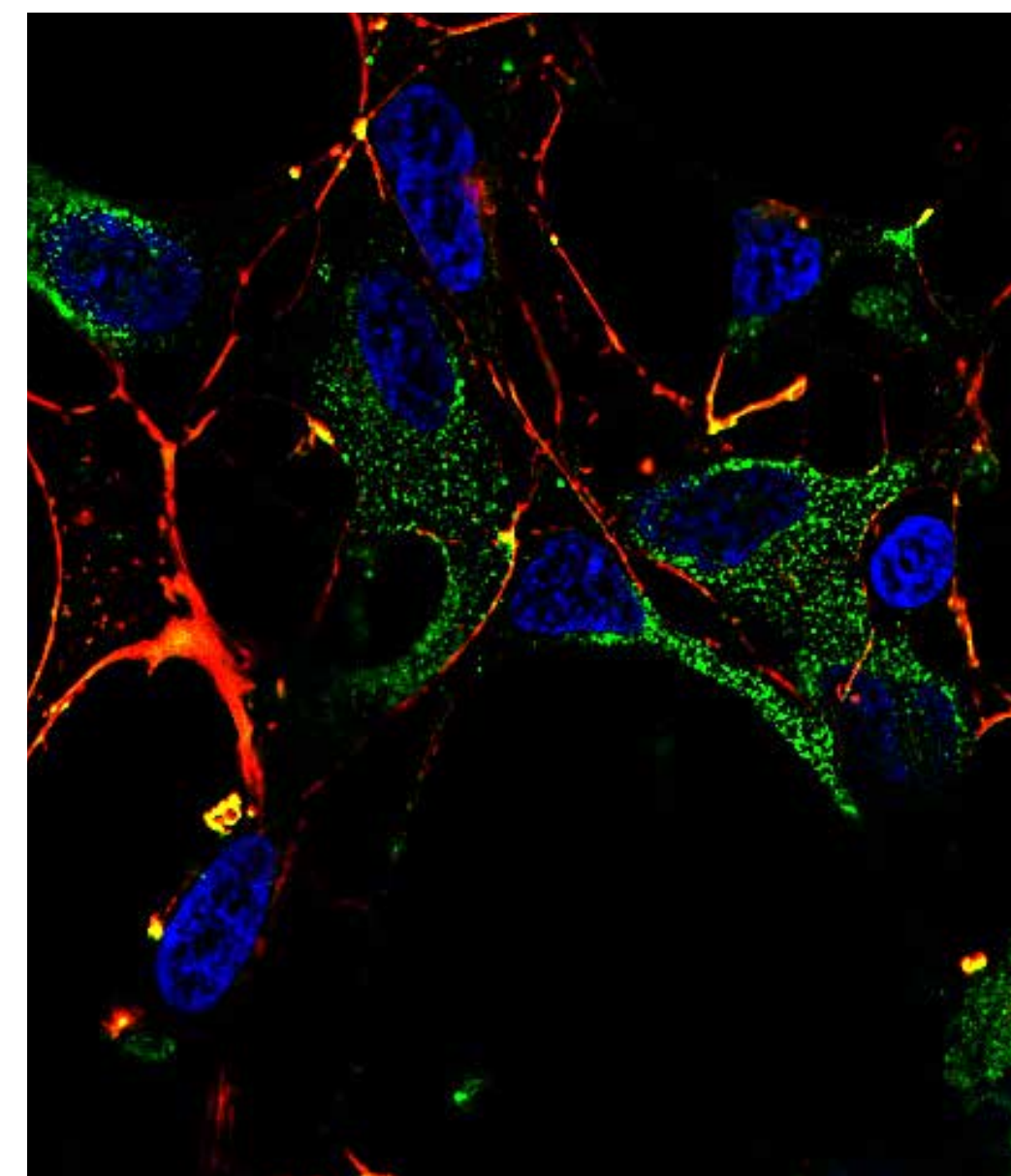
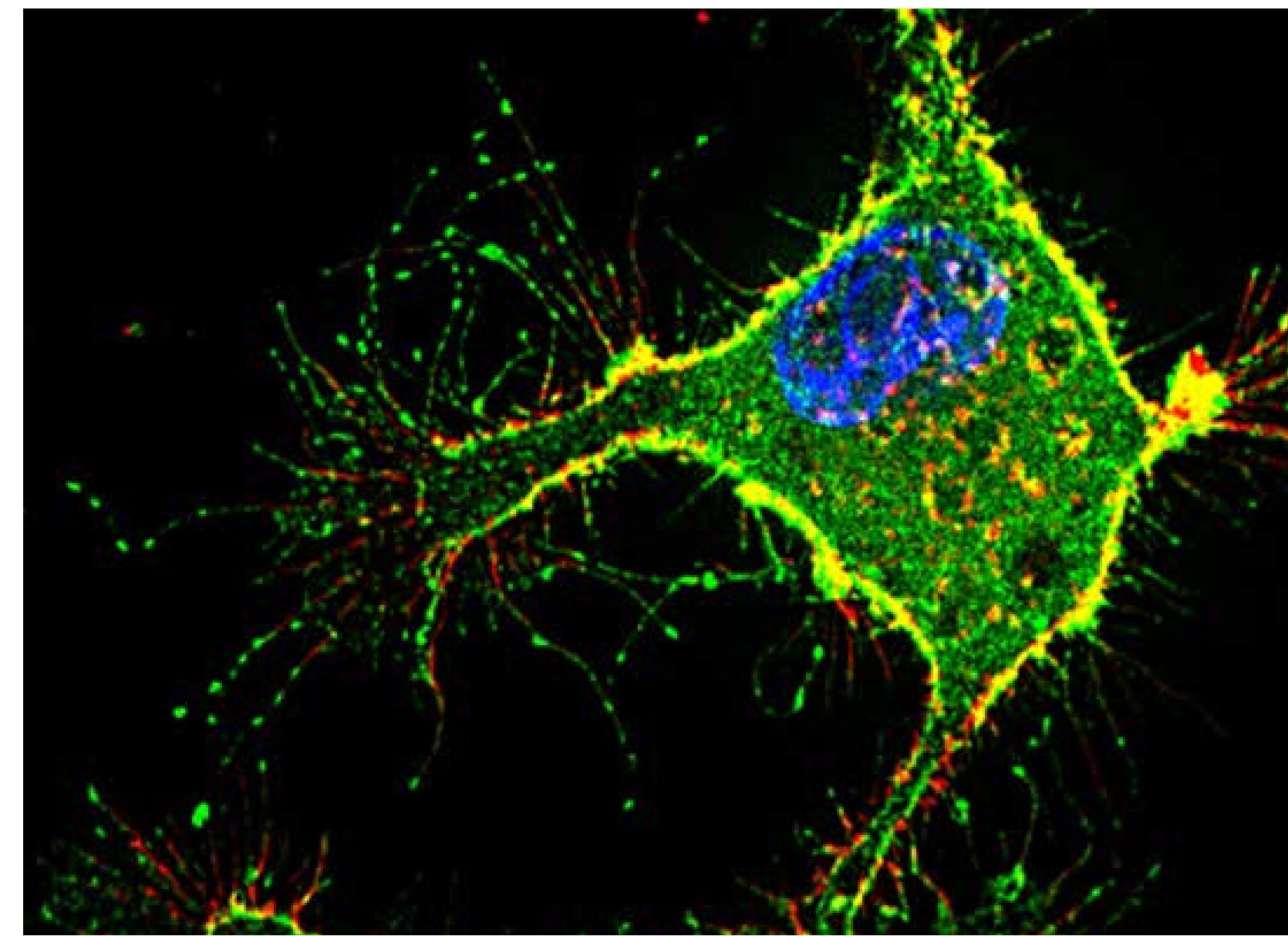
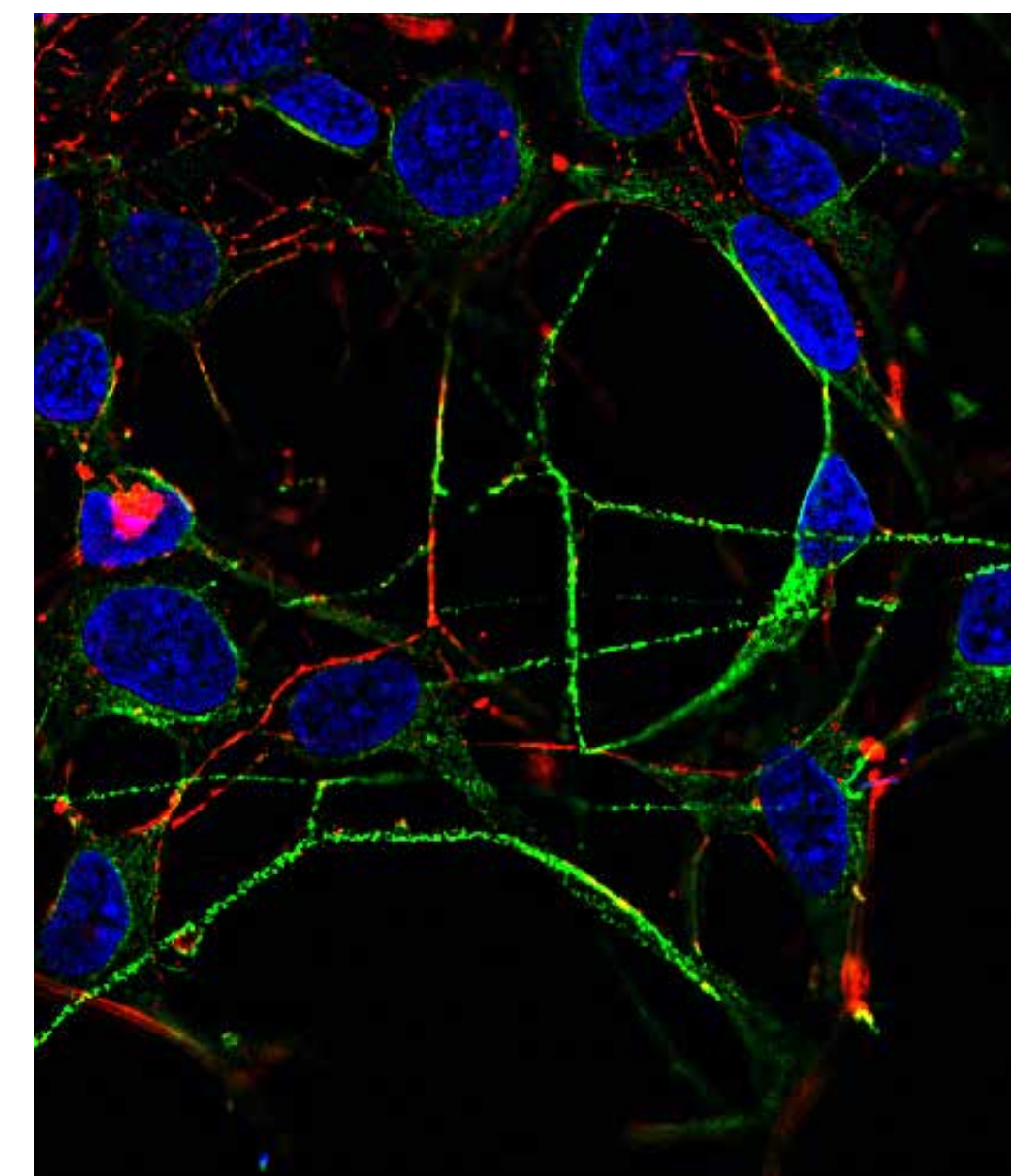


# Antibodies for neuroscience research

## Neuronal markers

Cell type	Target	Antibody Cat. No. (clone number)
Cholinergic neurons	ChAT	PA1-9027, PA5-29653, MA5-31382 (CL3169), 703789 (13H9L16)
Dopaminergic (DA) progenitor cells, DA neurons	LMX1A	710980 (20HCLC)
	Nurr1	MA1-195 (N1404)
	OTX2	701948 (14H14L5), 710981 (14HCLC), MA5-15854 (1H12C4B5), MA5-15855 (1H12G8B2), PA5-23406
	PITX3	701181 (5H10L5), 710212 (7M5HCLC), 38-2850
GABA neurons	Tyrosine hydroxylase	701949 (9H8L15), 710982 (9HCLC), MA1-24654 (185), PA1-4679, 36-8600, OPA1-04050, PA5-85167, PA5-17800, PA5-80120, PA5-18372
	GABA	PA5-32241
	GAD65	39-8200 (ZG002), PA5-22260, PA5-18369, MA5-18053 (144), PA5-21297, PA5-79293, PA5-79294, PA5-77983, PA5-38102
Glutamatergic neurons	GAD65/GAD67	PA5-38102, PA5-36080
	Somatostatin	710968 (9HCLC), MA5-17182 (7G5)
	NMDAR1	32-0500 (54.1), PA3-102, 700685 (IH13L3), OMA1-04010 (R1JHL), PA5-111814
Motor neurons, progenitor cells	NMDAR2B	71-8600, MA1-2014 (NR2B), A-6474, 32-0700 (B3-13B11), PA3-105
	VGLUT1	48-2400, OSV00007G, MA5-31373 (CL2754), MA5-27614 (S28-9), OSV00006W
	VGLUT2	MA5-31378 (CL2921), 42-7800, PA5-111785
	HLXB9	PA5-102932, PA5-97974, PA5-23407
Mature neurons	HOXB4	PA5-23366, PA5-103140, MA5-31768 (3A2F2)
	ISL1	PA5-27789, MA5-32206 (SC05-64), MA5-15515 (IH9), MA5-15516 (1B1)
	ISL2	PA5-35175, PA5-80743, PA5-47599
	OLIG2	PA5-23456, PA5-85734, P21954, MA5-15810 (1G11)
	NeuroG2	702565 (15H30L21), 711595 (15HCLC), PA5-78556, PA5-34472, PA5-11892
	NKX6.1	PA5-57809, PA5-23070, PA5-68213
	NKX6.2	PA5-68214, PA5-103900
	Synapsin 1	A6442, 51-5200, PA1-4673, MA5-31919 (7H10G6), OPA1-04001
	Neurofilament H, M, L, or pan	13-1300 (RMdO-20), 711025 (4HCLC), MA1-2012 (3G3), 701993 (4H6L2), 13-0700 (RMO-270), MA1-2011 (3H11), 34-1000 (RMO 14.9), MA1-33723 (3H11), 13-0500 (RMO-44), MA5-32613 (JM11-20), PA1-10001, OMA1-06111 (RNF 406), 13-0400 (DA2), MA5-14981 (T.400.5), PA1-32240, MA1-2010 (DA2)
	MAP2	MA5-12826 (AP18), PA5-17646, MA1-25044 (AP20), PA1-10005, MA5-12823 (AP20), 13-1500 (M13), MA1-25043 (HM-2), PA5-85755
NeuN	702022 (14H6L24), PA5-78499, 711054 (14HCLC), PA5-56560, PA5-78639	
Beta-III tubulin	MA1-118 (2G10), MA1-19187 (TU-20), 53-4510-82 (2G10-TB3), 50-4510-82 (2G10-TB3)	
PSD95	MA1-045 (6G6-1C9), MA1-046 (7E3-1B8), 51-6900, 700902 (23H23L19)	
Neural stem cell markers	FOXP1	PA5-26794, 702554 (2H7L2)
	FZD4	710731 (22HCLC), 720062
	Nestin	MA1-110 (10C2), 14-5843-82, 14-9843-82, MA1-91657 (2Q178), MA5-16421 (SP103), MA5-32272 (SN06-27), MA1-81819 (Rat-401 (4D4))
	PAX3	38-1801, PA1-107, MA5-31583 (GT1210), MA5-31582 (GT2411), 701147 (16H22L10), 710178 (16HCLC)
	PAX6	42-6600, MA1-109 (13B10-1A10), MA5-32409 (SD08-31)
	SOX1	MA5-32447 (JJ20-40)
	SOX2	PA1-094, 14-9811-82 (Bjce), MA1-014 (20G5), MA5-31455 (GT1876), 48-1400, MA5-15734 (10F10)
Astrocytes	GAP43	PA5-79299, MA5-32256 (SC60-06), PA5-34943, PA5-85949
	ALDH1L1	PA5-78622, PA5-15002, PA5-43803, 14-9595-82 (7G8)
	EAAT2 (GLT-1)	PA5-17099, 701988 (9H9L17), 711020 (9HCLC), PA5-80011
	GFAP	13-0300 (2.2B10), 51-9792-82 (2.2B10), A-21282 (131-17719), MA5-12023 (ASTRO6), 14-9892-82 (GAS), PA5-16291
Microglia	Glutamine synthetase	MA5-27749 (GT1055), PA1-46165, PA5-28940, MA5-27750, PA5-81505, 701989 (7H9L16), 710963 (7HCLC)
	S100B	PA5-78161, 710363 (16HCLC)
	CD11b	14-0112-82 (M1/70), 14-0118-82 (ICRF4), 11-0113-42 (CBRM1/5)
Presynaptic neurons	CD68	11-0689-42 (Y182A), 14-0688-82 (KP1), 14-0681-82 (FA-11), MA1-80133 (514H12), MA1-82715 (K1-M7), 14-0687-82 (B15CU17)
	CX3CR1	14-6093-81, 12-6099-42 (2A9-1), PA1-12541
	HLA-DR	17-9956-42 (LN3), 48-9952-42 (L243)
	IBA1	PA5-27436, PA5-21274, MA5-27726 (GT10312), MA5-29013 (145), 711504 (3HCLC)
	TREM2	PA5-46980, PA5-46978, 702886 (9H4L26), 703422 (4H42L9)
	Synaptophysin	PA5-16417, PA1-1043, 701503 (9H2L12), MA5-14532 (SP11), MA5-16402 (SP11)
	Synaptotagmin	MA1-25568 (ASV30), OSS00022W
VGLUT1	48-2400, OSV00007G, MA5-31373 (CL2754), MA5-27614 (S28-9), OSV00006W	



## Neuronal markers (continued)

Cell type	Target	Antibody Cat. No. (clone number)
Postsynaptic neurons	HOMER1	PA5-21487, MA5-27522 (OT17G10), PA5-83338, PA5-83337
	PSD95	MA1-045 (6G6-1C9), MA1-046 (7E3-1B8), 51-6900, 700902 (23H23L19)
Oligodendrocyte progenitor cells	PDGFRA	17-1401-81 (APAS), 710169, 701142 (7H13L1)
	NG2	14-6504-82 (9.2.27), 37-2700 (D120.43/D4.11/N143.8/N109.6), MA1-90928 (LHM2), MA5-24247 (546930), PA5-77928
Mature oligodendrocytes	OLIG1	711919 (4HCLC)
	OLIG2	PA5-23456, PA5-85734, P21954, MA5-15810 (1G11)
	MBP	PA1-10008, PA5-78397, MA5-15922 (2H9), MA1-10837, MA1-24990 (Clone 14)
	MOG	PA5-19602, MA5-32857 (JM23-06), PA5-76723, MA5-24644 (CL2852)
	Protein APC	PA5-96213, MA1-25884 (CC-1), 710859
Glial progenitor cells	A2B5	433110 (105), MA1-90445 (105)
	CD44	MA5-13890 (156-3C11), 17-0441-82 (IM7), PA5-21419, MA4400 (Hermes-1), MA5-12394 (5F12), PA5-29590
	Vimentin	PA5-27231, PA1-10003, MA5-11883 (V9), MA5-16409 (SP20), MA3-745 (J144), OMA1-06001 (RV202), PA1-16759, 702180 (7H18L9)
Neuroectoderm markers	Beta-III tubulin	MA1-118 (2G10), MA1-19187 (TU-20), 53-4510-82 (2G10-TB3), 50-4510-82 (2G10-TB3)
	GBX2	PA5-77984
	NCAM	MA5-11563 (56C04), MA1-06801 (123C3), 17-0566-42 (TULY56), MA1-19129 (MEM-188), 17-0567-42 (CMSSE)
	Nestin	MA1-110 (10C2), 14-5843-82, 14-9843-82, MA1-91657 (2Q178), MA5-16421 (SP103), MA5-32272 (SN06-27), MA1-81819 (Rat-401 (4D4))
	OTX2	701948 (14H14L5), 710981 (14HCLC), MA5-15854 (1H12C4B5), MA5-15855 (1H12G8B2), PA5-23406
	PAX3	38-1801, PA1-107, MA5-31583 (GT1210), MA5-31582 (GT2411), 701147 (16H22L10), 710178 (16HCLC)
	PAX6	42-6600, MA1-109 (13B10-1A10), MA5-32409 (SD08-31)
	SOX1	MA5-32447 (JJ20-40)
SOX2	PA1-094, 14-9811-82 (Bjce), MA1-014 (20G5), MA5-31455 (GT1876), 48-1400, MA5-15734 (10F10)	

## Neurodegenerative disease targets

Disease	Target	Antibody Cat. No. (clone number)
Alzheimer's	Beta amyloid	44-344, 51-2700, OMA1-03132 (mAbP2-1), 36-6900, 71-5800, MA1-24966 (DE2B4), MA1-25489 (3E9), PA3-16760
	Amyloid precursor protein	14-9749-82 (22C11), 13-0200 (LN27), PA5-17829
	Tau and PTM	13-6400 (T46), 44-768G, MN1010 (BT2), AHB0042 (TAU-5), 44-750G, MN1020 (AT8), MN1020 (AT8), 701056 (1H6L6), 44-752G, MN1000B (HT7)
	APOE	701241 (16H22L16), MA5-16146 (4E4), PA5-27088, MA1-25289 (1D2), PA1-26902
	PSEN1	MA1-752 (APS 18), MA1-751 (APS 11)
	PSEN2	MA1-754 (APS 26), MA1753 (APS 21)
Parkinson's	BACE1	MA1177 (3C1C3), PA1-757, PA5-19952, PA1-12529
	LRRK2 and PTM	PA1-16770, 701056 (3H8L19)
	PINK1	PA5-85930, PA5-13402, PA5-86941, 712654 (15HCLC)
	TH and PTM	PA1-4679, MA1-24654 (185), 36-8600, 701949 (9H8L15), PA5-17799
Huntington's	Parkin	702785 (21H24L9), 711820 (21HCLC), 390900 (PRK109), PA1751
	SNCA	32-8100 (Syn 211), AHB0261 (Syn 211), MA5-12272 (Syn 211), PA1-18264, PA5-85791
	HTT	PA1003, PA1002, PA5-85721, MA3-040 (IHU-4C8), PA5-17247, MA1058 (4-13), MA1-82100 (HDC8A4), MA5-16703 (HDB4E10)
Amyotrophic lateral sclerosis	C9orf72	PA5-54905, PA5-106303, PA5-109471
	FUS	PA5-52610, PA5-23696, PA5-96477, MA3-089 (1FU-ID2)
	SOD1	MA1-105 (8B10), PA5-27240, MA5-15520 (6F5), PA5-85095, PA5-81939, 711818, LF-MA0023 (7ZB1), 702783 (1H3L1), PA5-81036
	SQSTM1	PA5-20839, MA5-27800 (GT1478), 710539 (11HCLC) PA5-27247
Multiple sclerosis	TARDBP/TDP43	PA5-17011, MA5-27828 (GT1733), 711051 (1HCLC), MA5-32627 (JM51-10), PA5-29949, PA5-19064
	AS1C1	PA5-113606, PA5-28241, MA5-27640 (S271-44)
	IL-17A	11-7177-81 (eBio17B7), 53-7179-42 (eBio64DEC17), 16-7178-81 (eBio64CAP17), MA1068 (3-36.2.7.3)
	TREM2	PA5-46980, PA5-46978, 702886 (9H4L26), 703422 (4H42L9), PA5-18763
Spinal muscular atrophy	TRPM4	MA5-24918 (OT110H5), MA5-111134, PA5-34283
	SMN1/SMN2	MA1-5878 (2B1), MA5-15858 (5H1), PA5-80043, MA5-15857 (2F1), 720207