# Supplementary File 1 – List of excluded articles

*PSCs, Pluripotent stem cells.*

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| **Authors (Year of publication)** | **Title** | **First exclusion reason** |
| Birren & Anderson (1990)1 | A v-myc-immortalized sympathoadrenal progenitor cell line in which neuronal differentiation is initiated by FGF but not NGF | Non-human |
| Birren et al. (1992)2 | Membrane depolarization induces p140trk and NGF responsiveness, but not p75LNGFR, in MAH cells | Non-human |
| Ip et al. (1994)3 | CNTF, FGF, and NGF collaborate to drive the terminal differentiation of MAH cells into postmitotic neurons | Non-human |
| Verdi et al. (1994)4 | Expression of trk in MAH cells lacking the p75 low-affinity nerve growth factor receptor is sufficient to permit nerve growth factor-induced differentiation to postmitotic neurons | Non-human |
| Doering et al. (1995)5 | Ciliary neurotrophic factor promotes the terminal differentiation of v-myc immortalized sympathoadrenal progenitor cells in vivo | Non-human |
| Sommer et al. (1995)6 | The cellular function of MASH1 in autonomic neurogenesis | Non-human |
| Negro & Skaper (1996)7 | Synthesis, cytotoxic properties and effects on early and late gene induction of a chimeric diphtheria toxin-leukemia-inhibitory factor protein | No PSCs or immortalization |
| Gaspar et al. (1997)8 | Effects of neurotrophic factors and cell substrates on the differentiation of a sympathoadrenal progenitor cell line | Non-human |
| Hill & Robertson (1998)9 | Differentiation of LA-N-5 neuroblastoma cells into cholinergic neurons: Methods for differentiation, immunohistochemistry and reporter gene introduction | No autonomic neurons/precursors |
| Song et al. (1998)10 | Bone morphogenetic proteins induce apoptosis and growth factor dependence of cultured sympathoadrenal progenitor cells | Non-human |
| Thiel & Cibelli (1999)11 | Corticotropin-releasing factor and vasoactive intestinal polypeptide activate gene transcription through the cAMP signaling pathway in a catecholaminergic immortalized neuron | Non-human |
| Bharmal et al. (2001)12 | Target cells promote the development and functional maturation of neurons derived from a sympathetic precursor cell line | Non-human |
| Venkatesan et al. (2002)13 | Endomorphin-2 inhibits GABAergic inputs to cardiac parasympathetic neurons in the nucleus ambiguus | No PSCs or immortalization |
| Venkatesan et al. (2002)14 | Nociceptin inhibits gamma-aminobutyric acidergic inputs to cardiac parasympathetic neurons in the nucleus ambiguus | No PSCs or immortalization |
| Clouthier et al. (2003)15 | Cell-autonomous and nonautonomous actions of endothelin-A receptor signaling in craniofacial and cardiovascular development | Non-human |
| Gao et al. (2005)16 | Human neural stem cell-derived cholinergic neurons innervate muscle in motoneuron deficient adult rats | No PSCs or immortalization |
| Pomp et al. (2005)17 | Generation of peripheral sensory and sympathetic neurons and neural crest cells from human embryonic stem cells | Non-homogenous neuron population |
| Singh Roy et al. (2005)18 | Enhancer-specified GFP-based FACS purification of human spinal motor neurons from embryonic stem cells | No autonomic neurons/precursors |
| Gossrau et al. (2007)19 | Bone morphogenetic protein-mediated modulation of lineage diversification during neural differentiation of embryonic stem cells | Non-human |
| Johnson et al. (2007)20 | Functional neural development from human embryonic stem cells: Accelerated synaptic activity via astrocyte coculture | No autonomic neurons/precursors |
| Erceg et al. (2008)21 | Differentiation of human embryonic stem cells to regional specific neural precursors in chemically defined medium conditions | No autonomic neurons/precursors |
| Murata et al. (2008)22 | Neuronal differentiation elicited by glial cell line-derived neurotrophic factor and ciliary neurotrophic factor in adrenal chromaffin cell line tsAM5D immortalized with temperature-sensitive SV40 T-antigen | Non-human |
| Hashimoto et al. (2009)23 | The bHLH transcription factor Hand2 regulates the expression of nanog in ANS differentiation | No PSCs or immortalization |
| Jiang et al. (2009)24 | Isolation and characterization of neural crest stem cells derived from in vitro-differentiated human embryonic stem cells | Non-homogenous neuron population |
| Lee et al. (2009)25 | Modelling pathogenesis and treatment of familial dysautonomia using patient-specific iPSCs | No autonomic neurons/precursors |
| Michibata et al. (2009)26 | Human GPM6A is associated with differentiation and neuronal migration of neurons derived from human embryonic stem cells | Non-homogenous neuron population |
| Schwarz et al. (2009)27 | Neuropilin 1 signaling guides neural crest cells to coordinate pathway choice with cell specification | No PSCs or immortalization |
| Valensi-Kurtz et al. (2010)28 | Enriched population of PNS neurons derived from human embryonic stem cells as a platform for studying peripheral neuropathies | Non-homogenous neuron population |
| Lee et al. (2012)29 | Large-scale screening using familial dysautonomia induced pluripotent stem cells identifies compounds that rescue IKBKAP expression | No autonomic neurons/precursors |
| Lüningschrör et al. (2012)30 | Knockdown of IKK1/2 promotes differentiation of mouse embryonic stem cells into neuroectoderm at the expense of mesoderm | Non-human |
| Vukicevic et al. (2012)31 | Modulation of Dopaminergic Neuronal Differentiation from Sympathoadrenal Progenitors | Review article |
| Fujiwara et al. (2013)32 | Restoration of spatial memory dysfunction of human APP transgenic mice by transplantation of neuronal precursors derived from human iPS cells | No autonomic neurons/precursors |
| Liu et al. (2013)33 | Neural differentiation of human embryonic stem cells as an in vitro tool for the study of the expression patterns of the neuronal cytoskeleton during neurogenesis | No autonomic neurons/precursors |
| Reinhardt et al. (2013)34 | Derivation and Expansion Using Only Small Molecules of Human Neural Progenitors for Neurodegenerative Disease Modeling | No autonomic neurons/precursors |
| Efthymiou et al. (2014)35 | Functional screening assays with neurons generated from pluripotent stem cell-derived neural stem cells | No autonomic neurons/precursors |
| Liu et al. (2014)36 | Human neural crest stem cells derived from human pluripotent stem cells | Non-homogenous neuron population |
| Mong et al. (2014)37 | Transcription factor-induced lineage programming of noradrenaline and motor neurons from embryonic stem cells | No autonomic neurons/precursors |
| Tarunina et al. (2014)38 | Directed differentiation of embryonic stem cells using a bead-based combinatorial screening method | No autonomic neurons/precursors |
| Acevedo et al. (2015)39 | hESC Differentiation toward an Autonomic Neuronal Cell Fate Depends on Distinct Cues from the Co-Patterning Vasculature | Non-homogenous neuron population |
| Begum et al. (2015)40 | Rapid generation of sub-type, region-specific neurons and neural networks from human pluripotent stem cell-derived neurospheres | No autonomic neurons/precursors |
| Fujiwara et al. (2015)41 | Cellular and molecular mechanisms of the restoration of human APP transgenic mouse cognitive dysfunction after transplant of human iPS cell-derived neural cells | No autonomic neurons/precursors |
| Imaizumi et al. (2015)42 | Controlling the Regional Identity of hPSC-Derived Neurons to Uncover Neuronal Subtype Specificity of Neurological Disease Phenotypes | No autonomic neurons/precursors |
| Lee et al. (2015)43 | Single Transcription Factor Conversion of Human Blood Fate to NPCs with CNS and PNS Developmental Capacity | No PSCs or immortalization |
| Lefler et al. (2015)44 | Familial Dysautonomia (FD) Human Embryonic Stem Cell Derived PNS Neurons Reveal that Synaptic Vesicular and Neuronal Transport Genes Are Directly or Indirectly Affected by IKBKAP Downregulation | Non-homogenous neuron population |
| Markus et al. (2015)45 | An In Vitro Model of Latency and Reactivation of Varicella Zoster Virus in Human Stem Cell-Derived Neurons | No autonomic neurons/precursors |
| Miura et al. (2015)46 | Generation of primitive neural stem cells from human fibroblasts using a defined set of factors | No PSCs or immortalization |
| Romanyuk et al. (2015)47 | Beneficial effect of human induced pluripotent stem cell-derived neural precursors in spinal cord injury repair | No autonomic neurons/precursors |
| Fattahi et al. (2016)48 | Deriving human ENS lineages for cell therapy and drug discovery in Hirschsprung disease | No autonomic neurons/precursors |
| Ho et al. (2016)49 | Rapid Ngn2-induction of excitatory neurons from hiPSC-derived neural progenitor cells | No autonomic neurons/precursors |
| Takayama & Kida (2016)50 | In Vitro Reconstruction of Neuronal Networks Derived from Human iPS Cells Using Microfabricated Devices | No autonomic neurons/precursors |
| Vazquez-Arango et al. (2016)51 | Variant U1 snRNAs are implicated in human pluripotent stem cell maintenance and neuromuscular disease | No autonomic neurons/precursors |
| Zhou et al. (2016)52 | Generation of Human Embryonic Stem Cell Line Expressing zsGreen in Cholinergic Neurons Using CRISPR/Cas9 System | No autonomic neurons/precursors |
| Course et al. (2017)53 | Live imaging mitochondrial transport in neurons | No autonomic neurons/precursors |
| Kim et al. (2017)54 | Schwann Cell Precursors from Human Pluripotent Stem Cells as a Potential Therapeutic Target for Myelin Repair | No autonomic neurons/precursors |
| Oh et al. (2017)55 | Zika virus directly infects peripheral neurons and induces cell death | No autonomic neurons/precursors |
| Romero-Moya et al. (2017)56 | Genetic Rescue of Mitochondrial and Skeletal Muscle Impairment in an Induced Pluripotent Stem Cells Model of Coenzyme Q10 Deficiency | No autonomic neurons/precursors |
| Rubi et al. (2017)57 | Modulation of the heart's electrical properties by the anticonvulsant drug retigabine | No PSCs or immortalization |
| Vichier-Guerre et al. (2017)58 | Impact of selective serotonin reuptake inhibitors on neural crest stem cell formation | No autonomic neurons/precursors |
| Abu-Bonsrah et al. (2018)59 | Generation of Adrenal Chromaffin-like Cells from Human Pluripotent Stem Cells | No autonomic neurons/precursors |
| De Santis et al. (2018)60 | Direct conversion of human pluripotent stem cells into cranial motor neurons using a piggyBac vector | No autonomic neurons/precursors |
| Abo-Rady et al. (2019)61 | Phenotypic screening using mouse and human stem cell-based models of neuroinflammation and gene expression analysis to study drug responses | No autonomic neurons/precursors |
| Alvarez-Carbonell et al. (2019)62 | Cross-talk between microglia and neurons regulates HIV latency | No autonomic neurons/precursors |
| Mohlin & Kerosuo (2019)63 | In Vitro Maintenance of Multipotent Neural Crest Stem Cells as Crestospheres | No autonomic neurons/precursors |
| Pellett et al. (2019)64 | Botulinum neurotoxins A, B, C, E, and F preferentially enter cultured human motor neurons compared to other cultured human neuronal populations | No autonomic neurons/precursors |
| Garcia-Diaz et al. (2020)65 | Standardized Reporter Systems for Purification and Imaging of Human Pluripotent Stem Cell-derived Motor Neurons and Other Cholinergic Cells | No autonomic neurons/precursors |
| Hosseini et al. (2020)66 | Differentiation of human embryonic stem cells into neuron, cholinergic, and glial cells | No autonomic neurons/precursors |
| Kim et al. (2020)67 | Directly induced human Schwann cell precursors as a valuable source of Schwann cells | No PSCs or immortalization |
| Mennen et al. (2020)68 | Oxygen tension influences embryonic stem cell maintenance and has lineage specific effects on neural and cardiac differentiation | Non-human |
| Belair et al. (2021)69 | Investigation Into the Role of ERK in Tyrosine Kinase Inhibitor-Induced Neuropathy | No autonomic neurons/precursors |
| Gunaseelan et al. (2021)70 | Loss of FEZ1, a gene deleted in Jacobsen syndrome, causes locomotion defects and early mortality by impairing motor neuron development | No autonomic neurons/precursors |
| Jeong et al. (2021)71 | Direct SARS-CoV-2 infection of the human inner ear may underlie COVID-19-associated audiovestibular dysfunction | No autonomic neurons/precursors |
| Okuno & Okano (2021)72 | Modeling human congenital disorders with neural crest developmental defects using patient-derived induced pluripotent stem cells | Review article |
| Ordureau et al. (2021)73 | Temporal proteomics during neurogenesis reveals large-scale proteome and organelle remodeling via selective autophagy | No autonomic neurons/precursors |
| Pandya et al. (2021)74 | A non-toxic concentration of telomerase inhibitor BIBR1532 fails to reduce tert expression in a feeder-free induced pluripotent stem cell model of human motor neurogenesis | No autonomic neurons/precursors |
| Solomon et al. (2021)75 | Global transcriptome profile of the developmental principles of in vitro iPSC-to-motor neuron differentiation | No autonomic neurons/precursors |
| Togo et al. (2021)76 | Postsynaptic structure formation of human iPS cell-derived neurons takes longer than presynaptic formation during neural differentiation in vitro | No autonomic neurons/precursors |
| Wang et al. (2021)77 | Mechanisms of peripheral neurotoxicity associated with four chemotherapy drugs using human induced pluripotent stem cell-derived peripheral neurons | No autonomic neurons/precursors |
| Clement et al. (2022)78 | Dendritic Polyglycerol Amine: An Enhanced Substrate to Support Long-Term Neural Cell Culture | No autonomic neurons/precursors |
| Cooper & Tsakiridis (2022)79 | Shaping axial identity during human pluripotent stem cell differentiation to neural crest cells | No autonomic neurons/precursors |
| Cuomo et al. (2022)80 | CellRegMap: a statistical framework for mapping context-specific regulatory variants using scRNA-seq | No autonomic neurons/precursors |
| Gogolou et al. (2022)81 | Early anteroposterior regionalisation of human neural crest is shaped by a pro-mesodermal factor | No autonomic neurons/precursors |
| Gonzalez et al. (2022)82 | Small molecule modulation of TrkB and TrkC neurotrophin receptors prevents cholinergic neuron atrophy in an Alzheimer's disease mouse model at an advanced pathological stage | No autonomic neurons/precursors |
| Hakli et al. (2022)83 | Human Neurons Form Axon-Mediated Functional Connections with Human Cardiomyocytes in Compartmentalized Microfluidic Chip | No autonomic neurons/precursors |
| Lin et al. (2022)84 | ETS1 loss in mice impairs cardiac outflow tract septation via a cell migration defect autonomous to the neural crest | No autonomic neurons/precursors |
| Majd et al. (2022)85 | Deriving Schwann Cells from hPSCs Enables Disease Modeling and Drug Discovery for Diabetic Peripheral Neuropathy | No autonomic neurons/precursors |
| Miranda et al. (2022)86 | A Dynamic 3D Aggregate-Based System for the Successful Expansion and Neural Induction of Human Pluripotent Stem Cells | No autonomic neurons/precursors |
| Chitrangi et al. (2023)87 | Patient-derived organoids for precision oncology: a platform to facilitate clinical decision making | No autonomic neurons/precursors |
| Davis-Anderson et al. (2023)88 | CRISPR/Cas9 Directed Reprogramming of iPSC for Accelerated Motor Neuron Differentiation Leads to Dysregulation of Neuronal Fate Patterning and Function | No autonomic neurons/precursors |
| Enderami et al. (2023)89 | Enhanced yield of cholinergic neurons from induced pluripotent stem cells (iPSC): A two-step induction protocol | No autonomic neurons/precursors |
| Kanno et al. (2023)90 | SOCS7-Derived BC-Box Motif Peptide Mediated Cholinergic Differentiation of Human Adipose-Derived Mesenchymal Stem Cells | No PSCs or immortalization |
| Koh et al. (2023)91 | Visualization of accessible cholesterol using a GRAM domain-based biosensor | No autonomic neurons/precursors |
| Lamiable et al. (2023)92 | Revealing invisible cell phenotypes with conditional generative modeling | No autonomic neurons/precursors |
| Perego et al. (2023)93 | Arsenic Impairs Differentiation of Human Induced Pluripotent Stem Cells into Cholinergic Motor Neurons | No autonomic neurons/precursors |
| Rockel et al. (2023)94 | Neuro-mesodermal assembloids recapitulate aspects of peripheral nervous system development in vitro | Non-homogenous neuron population |
| Saito-Diaz et al. (2023)95 | Genipin Crosslinks the Extracellular Matrix to Rescue Developmental and Degenerative Defects, and Accelerates Regeneration of Peripheral Neurons | No peer-reviewed full text |
| Dermentzaki et al. (2024)96 | Depletion of Mettl3 in cholinergic neurons causes adult-onset neuromuscular degeneration | Non-human |
| Mathias et al. (2024)97 | Human stem cell derived neurons and astrocytes to detect novel auto-reactive IgG signature in immune-mediated neurological diseases | No peer-reviewed full text |
| Ofrim et al. (2024)98 | Characterization of two human induced pluripotent stem cell lines derived from Batten disease patient fibroblasts harbouring CLN5 mutations | No autonomic neurons/precursors |
| Passos et al. (2024)99 | Innate immune response to SARS-CoV-2 infection contributes to neuronal damage in human iPSC-derived peripheral neurons | No autonomic neurons/precursors |
| Xue et al. (2024)100 | A patterned human neural tube model using microfluidic gradients | Non-homogenous neuron population |
| Patel et al. (2024)101 | Establishment of a Serum-Free Human iPSC-Derived Model of Peripheral Myelination | No autonomic neurons/precursors |

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