AXOL
Discovery Stems From Here

Products
Services

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ABOUT AXOL

Axol Bioscience is the leading provider of product and service solutions within the induced pluripotent stem cell (iPSC)-based neuroscience, immune cell, and cardiac modeling for drug discovery and screening markets.
Our custom research capabilities in gene editing, electrophysiology, reprogramming, and differentiation means we can offer customers validated ready-to-use cell lines and a suite of services bolstered by deep scientific expertise and robust functional data - all with short lead times.

MISSION

Our mission is to be your valued partner in the delivery of quality, consistent iPSC derived cells, models or assay data to drive R&D and drug discovery.

QUALITY

With the rapid uptake of iPSC-based products and technologies for use in drug development R&D and screening, there is a growing call from users for better reproducibility and consistency in these increasingly critical tools.

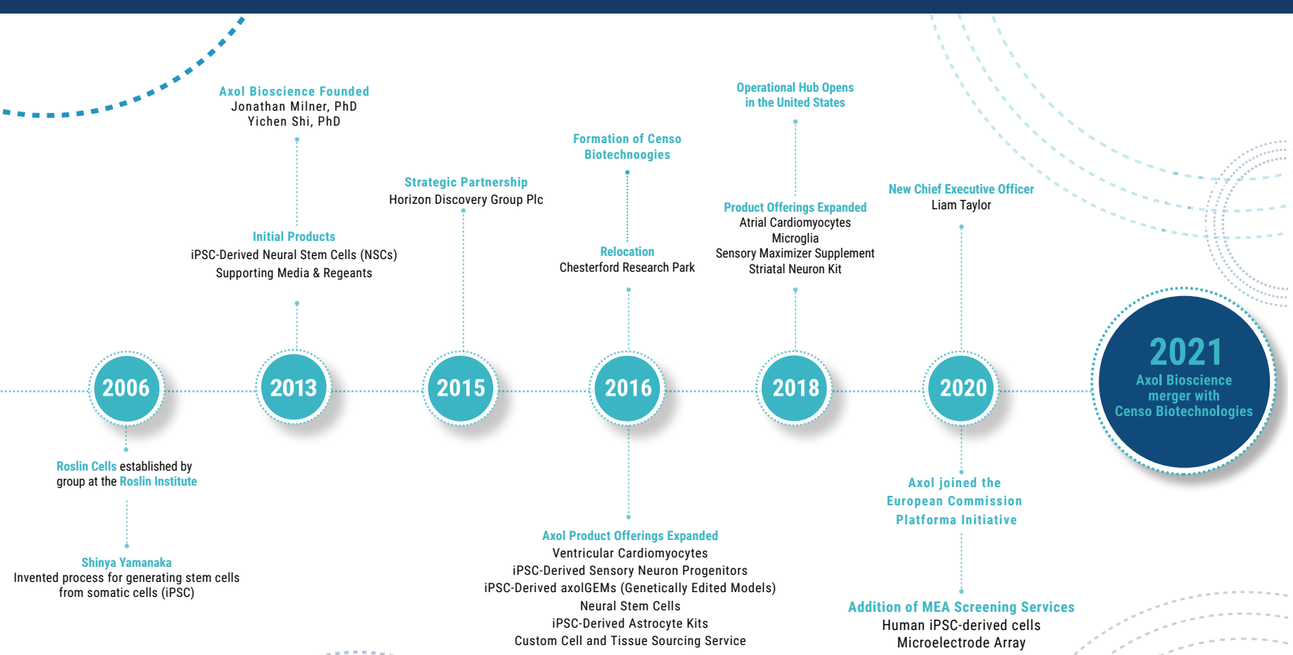
Axol is committed to being an industry leader in applying robust quality systems to the development and manufacture of iPSC products. We recently took a critical first step of obtaining ISO 9001:2015 certification at our manufacturing site in Edinburgh, Scotland.

We have implemented a quality policy that articulates our three guiding principles:

- Commitment to a quality culture
- Commitment to a customer focus
- Commitment to regulatory compliance

These are only the first steps in a quality journey to ensure that everything we produce is consistently made, data is accurately documented, and changes to product are communicated to the customers who trust us to deliver the models and discovery tools that they rely on.

Axol and Censo – Pioneers in iPSC Science



AXOL BIOSCIENCE AND CENSO BIOTECHNOLOGIES MERGER

Since the merger of Axol Bioscience and Censo Biotechnologies, we have combined our deep scientific and manufacturing expertise to embark on our mission to consistently deliver robust performance and reproducibility of results from induced pluripotent stem cell (iPSC) R&D, through strict adherence to QC, technology transfer and manufacturing protocols.

We endeavor to deliver the right iPSC solution the first time, every time. We invite you to explore this brochure that showcases our catalog of products, made-to-order disease models and services Axol provides. It also describes our vision for the future as we strive to continually improve our process and products.

"Merging with CENSO significantly grew our scientific team, broadening our expertise, capabilities, and production capacity."

- Liam Taylor
Chief Executive Officer

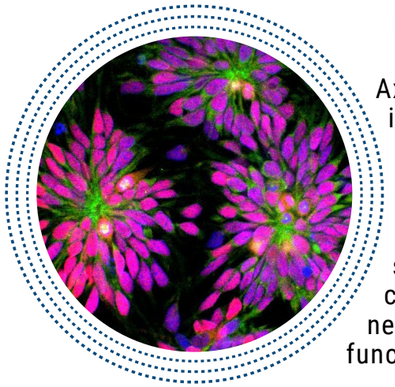
HUMAN iPSC PRODUCTS

Our market-leading iPSCs are trusted by customers across the world. Our commitment to quality extends beyond our R&D and manufacturing process to our logistics, supply and customer support teams. We work to not only provide you with our high-quality cells in the shortest time possible, but to also support you in their use.

All the cells listed in this section are ready-to-ship along with protocol information and supporting data, which are all readily available.

Cortical Neurons
Motor Neurons
Sensory Neurons
Cardiomyocytes
Microglia
Astroyctes
Culture Media & Reagents

Cortical Neurons



Axol's cerebral cortical neural stem cells (NSCs) are derived from integration-free, induced pluripotent stem cells (iPSCs) under fully-defined neural induction conditions.

They express typical markers of cerebral cortical neuron stem and progenitor cells such as PAX6 and FOXG1, and spontaneously form polarized neural rosette structures when cultured as a monolayer. Additionally, they can generate cortical neurons that are electrically active and have the ability to form functional synapses and neural circuits *in vitro*.

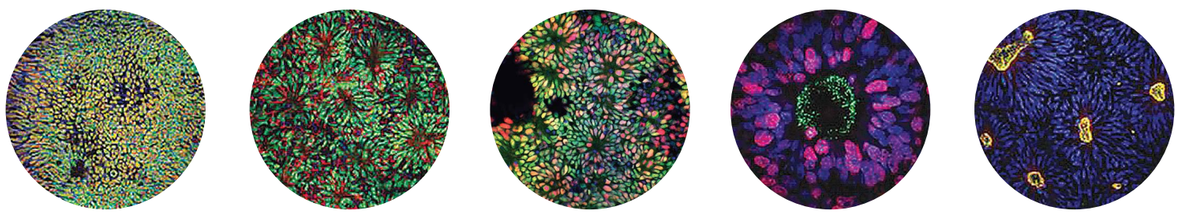
Human iPSC-Derived Cortical Neurons

CATALOG NUMBER & PRODUCT NAME	DONOR	STARTING MATERIAL
ax0015 - Human iPSC-Derived Neural Stem Cells	Male, newborn	Cord blood CD34+ cells
ax0016 - Human iPSC-Derived Neural Stem Cells	Female, newborn	Cord blood CD34+ cells
ax0011 kit - Human iPSC-Derived Neural Stem Cells	Male, newborn	Cord blood CD34+ cells
ax0018 kit - Human iPSC-Derived Neural Stem Cells	Male, 74 yrs.	Fibroblasts
ax0019 kit - Human iPSC-Derived Neural Stem Cells	Female, 64 yrs.	Fibroblasts

Human iPSC-Derived Neural Stem Cells from Patient Donors

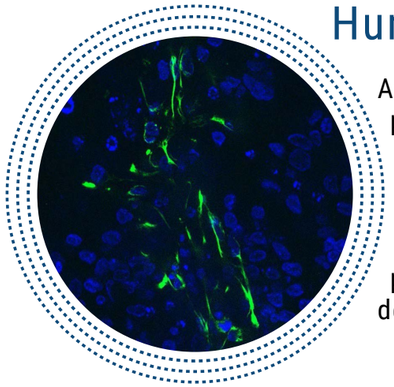
CATALOG NUMBER & PRODUCT NAME	DONOR	STARTING MATERIAL
ax0111 - Human iPSC-Derived Neural Stem Cells	Alzheimer's Disease Patient (APOE4 HOM)	Fibroblasts (87 yr Female)
ax0112 - Human iPSC-Derived Neural Stem Cells	Alzheimer's Disease Patient (PSEN1 L286V)	Fibroblasts (38 yr Female)
ax0113 - Human iPSC-Derived Neural Stem Cells	Alzheimer's Disease Patient (PSEN1 M146L)	Fibroblasts (53 yr Male)
ax0114 - Human iPSC-Derived Neural Stem Cells	Alzheimer's Disease Patient (PSEN1 A246E)	Fibroblasts (31 yr Female)
ax0211 - Human iPSC-Derived Neural Stem Cells	Huntington's Disease Patient	Fibroblasts (48 yr Female)
ax0411 - Human iPSC-Derived Neural Stem Cells	Epilepsy Patient	Fibroblasts (5 mo Female)
ax1001 - Human iPSC-Derived Neural Stem Cells	Trisomy X Patient	Fibroblasts (74 yr Female)

Axol iPSC-Derived Neural Stem Cells Express Key Cortical Neuron Markers



FOXG1/SOX2/nestin | PAX6/vimentin/nestin | OTX/Ki67/DAPI | ASPM/ Ki67/DAPI | ZO1/NCAD/DAPI

Human iPSC-Derived Motor Neurons



Axol has developed human iPSC-derived motor neuron progenitors from both healthy and patient donors.

Our human iPSC-derived motor neuron progenitors can be cultured *in vitro* to provide a physiologically relevant alternative to conventional animal derived models for use in proof-of-principle drug-screening assays and for modeling motor neuron degeneration.

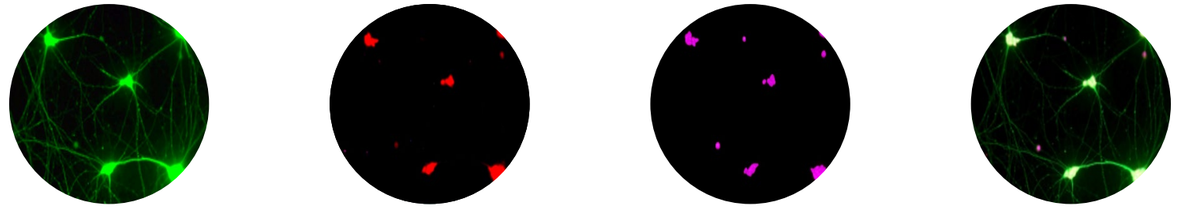
Human iPSC-Derived Motor Neurons

CATALOG NUMBER & PRODUCT NAME	DONOR	STARTING MATERIAL
ax0078 - Motor Neuron Progenitors (Healthy)	Male	Fibroblasts (74 yr. male)
ax0073 - Motor Neuron Progenitors (Healthy - sibling (C9ORF72 extension))	Male	Fibroblasts (62 yr. Male)
ax0074 - Motor Neuron Progenitors (ALS (C9ORF72 extension))	Female	Fibroblasts (64 yr. Female)

Motor Neuron Culture Media and Reagents

CATALOG NUMBER & PRODUCT NAME
ax0044 - Unlock - fully defined & gentle detachment buffer

Mature iPSC-Derived Motor Neurons Express Relevant Markers



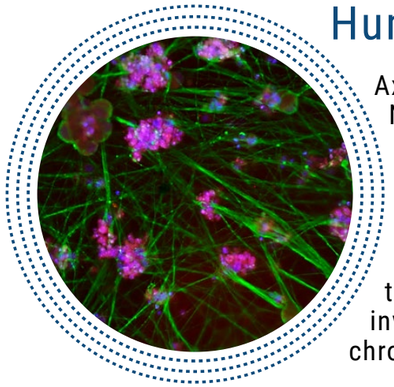
MAP2 | HB9 | HOECHST | MERGED

Our Motor Neurons express HB9 and MAP2 (see image), as well as LIM3 and ChAT2. These markers are indicative of Motor Neurons and expression is seen after 14 days of maturation.

Do you require custom made-to-order differentiated human iPSC neuronal products from a suite of cell lines derived from **ALS disease-affected patients?**

See page 18

Human iPSC-Derived Sensory Neurons



Axol iPSC-derived sensory neurons express sodium ion channels Nav1.7 and the DRG-specific, TTX-resistant channels, Nav1.8 and Nav1.9 as well as the temperature-sensitive, TRPV1 and TRPM8, and TRPA1, a sensor of pungency, bitterness and cold.

Axol iPSC-Derived Sensory Neuron Progenitors are available in large batch sizes for reliable and consistent results in high-throughput screening assays. The cells are also suitable for investigating disorders of the peripheral nervous system and chronic pain.

Human iPSC-Derived Sensory Neurons

CATALOG NUMBER & PRODUCT NAME	DONOR	STARTING MATERIAL
ax0055 - Human iPSC-Derived Sensory Neuron Progenitors	Male, newborn	Cord blood CD34+ cells

Sensory Neuron Culture Media and Reagents

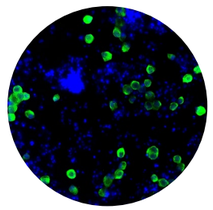
CATALOG NUMBER & PRODUCT NAME
ax0044 - Unlock - Fully Defined & Gentle Detachment Buffer
ax0058 - Sensory Neuron Maturation Maximizer Supplement
ax0060 - Sensory Neuron Maintenance Medium

Accelerated Maturation with our Maximizer Supplement

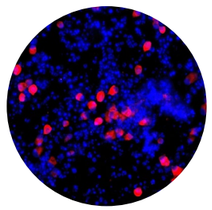
Our Maturation Maximizer media supplement ensures our iPSC-derived sensory neurons mature faster than those cultured in our traditional maintenance media.

It works by mimicking in vivo signals between sensory neurons and their supporting cells. The supplement contains signaling factors present in the peripheral nervous system and in particular the native environment of sensory neurons.

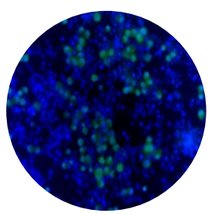
Utilizing this supplement accelerates the maturation of iPSC-derived sensory neurons in vitro ensuring mature, functional neurons in three weeks.



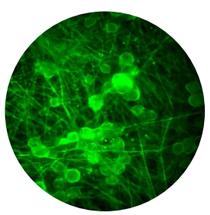
Nav1.7 Expression With Maturation Maximizer



Nav1.8 Expression With Maturation Maximizer

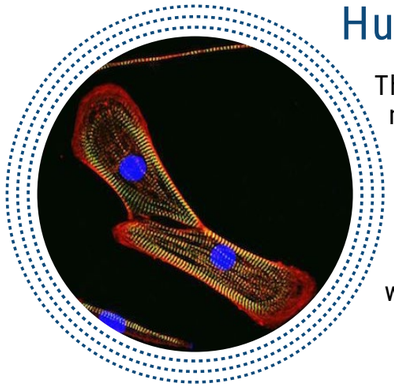


VR1 Expression With Maturation Maximizer



Tuj1 Expression With Maturation Maximizer

Human iPSC-Derived Cardiomyocytes



The use of iPSC-derived cardiomyocytes as an in vitro research model has a major advantage over primary cells in that they provide a continuous source of cardiomyocytes from the same genetic background for use in multiple experiments.

Our human cardiomyocytes derived from iPSCs are ideal for use in cardiotoxicity testing, drug screening, drug validation as well as metabolism studies and electrophysiology applications.

Human iPSC-Derived Ventricular Cardiomyocytes

CATALOG NUMBER & PRODUCT NAME	DONOR	STARTING MATERIAL
ax2508 - Human iPSC-Derived Ventricular Cardiomyocytes (Male)	Male, newborn	Fibroblasts
ax2500 - Human iPSC-Derived Ventricular Cardiomyocyte Kit (Male)	1 kit (1 million cells)	

Human iPSC-Derived Atrial Cardiomyocytes

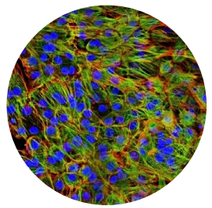
CATALOG NUMBER & PRODUCT NAME
ax2518 - Human iPSC-Derived Atrial Cardiomyocytes (Male)

Human iPSC-Derived Ventricular Cardiomyocytes Culture Media and Reagents

CATALOG NUMBER & PRODUCT NAME
ax2530-500 - Cardiomyocyte Maintenance Medium
ax0049 - Fibronectin Coating Solution

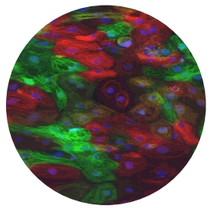
Cardiomyocytes Express Relevant Markers

Ventricular Cardiomyocytes



Beta-myosin heavy chain, actin and DAPI

Atrial Cardiomyocytes

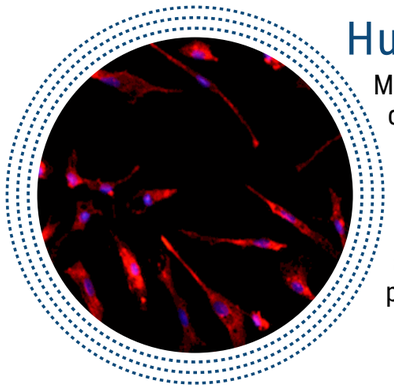


MCL2v, MCL2a and DAPI

Once thawed, our cardiomyocytes will soon begin to spontaneously beat *in vitro* and are characterized by the expression of cardiac-specific markers (see image).

We also provide a fully-defined culture medium and coating reagents optimized for use with the cardiomyocytes for maximal recovery and viability for experiment assays.

Perform electrophysiological assays on our cardiomyocytes using our **Axion Pro MEA System** on page 27



Human iPSC-Derived Microglia

Microglia are the immune cells of the brain, with key roles in brain development, neurogenesis, synaptic plasticity and homeostatic maintenance.

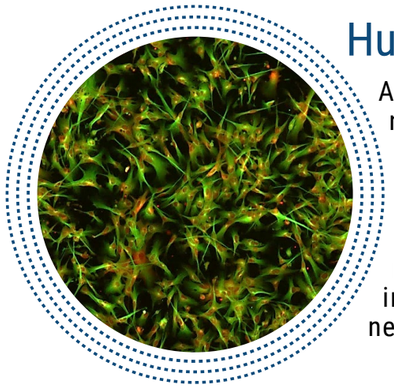
Axol's method for generating iPSC-derived microglia mimics the *in vivo* pathway of development for brain resident macrophages and produces microglia that are functionally representative of primary human microglia *in vitro*.

Human iPSC-Derived Microglia

CATALOG NUMBER & PRODUCT NAME	DONOR	STARTING MATERIAL
ax0668 - Human iPSC-Derived Microglia: Cryopreserved	Male, newborn	Cord blood CD34+ cells

Microglia Culture Media and Reagents

CATALOG NUMBER & PRODUCT NAME
ax0660 - Microglia Maintenance Medium Kit



Human iPSC-Derived Astrocytes

Astrocyte dysfunction has been implicated in several neurological conditions such as Alzheimer's and Parkinson's disease, amyotrophic lateral sclerosis (ALS), Rett syndrome and schizophrenia.

Our Human iPSC-derived astrocyte kits offer a physiologically relevant tool to study these cells as an isolated population or in co-culture with neurons for complex analysis of the central nervous system.

Human iPSC-Derived Astrocytes

CATALOG NUMBER & PRODUCT NAME	DONOR	STARTING MATERIAL
ax0665 - Human iPSC-Derived Astrocytes	Male, newborn	Cord blood CD34+ cells

Microglia Culture Media and Reagents

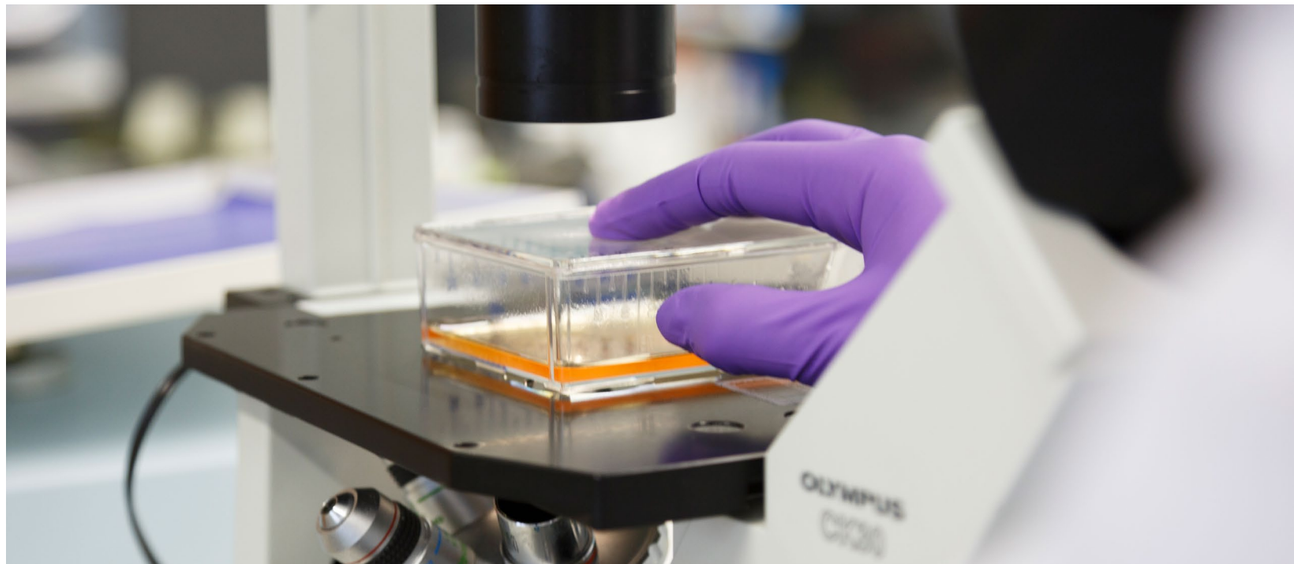
CATALOG NUMBER & PRODUCT NAME	QUANTITY
ax0053 - SureBond-XF (Coating Substrate)	1 mL (200x solution)

Culture Media and Reagents

Axol supplies a broad range of human cell culture media that are optimized for the culture of specific human cell types.

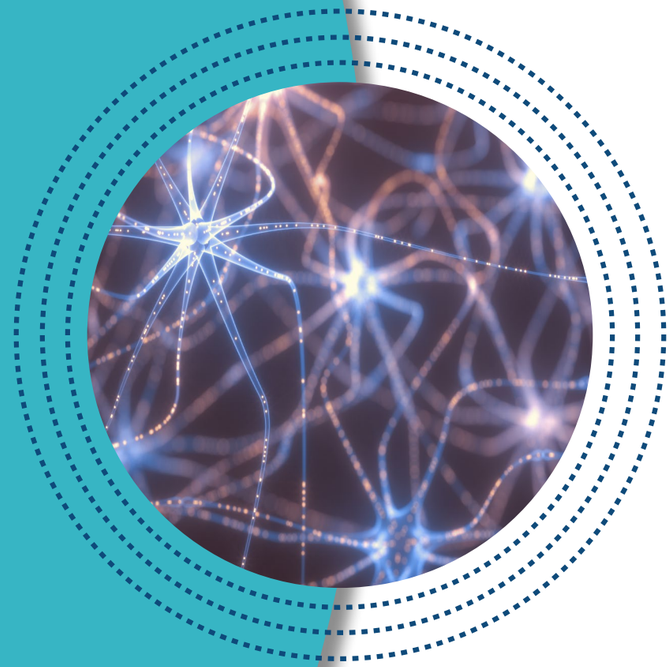
Cell culture requirements and protocols for all our iPSC products are available for download from our website.

CATALOG NUMBER & PRODUCT NAME	PRODUCT DESCRIPTION
ax0104 - Neural Stem Cell Media & Reagent Bundle - Spontaneous Differentiation (System D)	Contains all the neural media and reagents required to spontaneously differentiate Axol neural stem cells and maintain the differentiated neurons and glial cells
ax0105 - Neural Stem Cell Media and Reagent Bundle - Enriched Cortical Neuron Differentiation (NeurOne)	Contains all the neural media and reagents + NeurOne supplements A and B required to spontaneously differentiate Axol neural stem cells
ax0031 - Neural Maintenance Media Kit	Fully defined serum free medium for culturing of human cerebral cortical neural stem cells and neurons
ax0032-500 - Neural Maintenance-XF Medium	Xeno-free medium for maintenance of NSCs and neurons
ax0033 - Neural Plating Medium	Medium for plating NSCs after thawing and passaging
ax0041 kit - SureBond	Coating reagent needed when passaging of NSCs is required
ax0044 - Unlock	Gentle cell detachment solution to be used with SureBond
ax0053 - Surebond-XF	Xeno-free coating reagent needed for endpoint assays on plastic
ax0054 - Unlock-XF	Xeno-free cell detachment solution to be used with SureBond-XF
ax0047 - Recombinant Human FGF2	Required for supplementation of Neural Expansion-XF Medium
ax0048 - Recombinant Human EGF	Required for supplementation of Neural Expansion-XF Medium



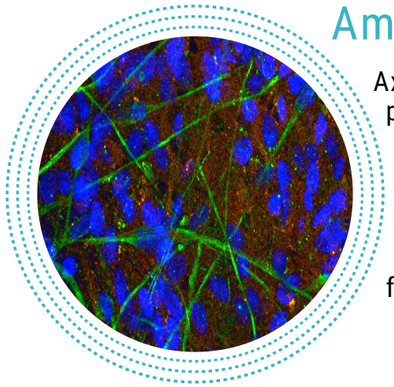
DISEASE MODELS

Differentiated cells from our disease lines are developed on request. Our patient lines enable you to successfully model diseases in a dish. Our hope is that using our cells in mono and co-culture will help our customers develop better understanding, assays and therapies, for these diseases. As we continue to develop our disease model offering, new lines will quickly be added to this list.



Amyotrophic Lateral Sclerosis
Friedreich's Ataxia
Huntington's Disease
Alzheimer's Disease & Neuroinflammation
Parkinson's Disease
Tauopathy

Amyotrophic Lateral Sclerosis



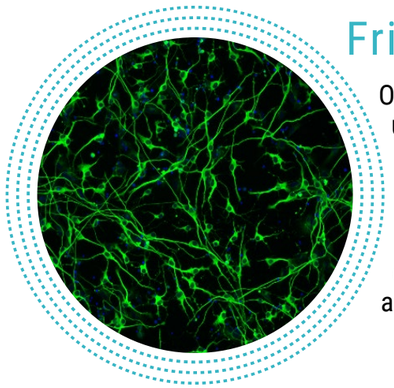
Axol currently has six cell lines representing three genotypic profiles associated with motor neuron disease (ALS) for custom product orders.

Co-culturing our iPSC-derived motor neurons and astrocytes from control and patient samples is a great model for investigating ALS with human cells. Use our disease cell lines for easy comparison and screening.

Differentiated cell types available in 10 vial minimums. Ready for shipment at 8 weeks.

DISEASE LINE	STATUS	SEX	AGE	GENE	CONFIRMED GENETIC MUTATION
Amyotrophic Lateral Sclerosis, FTD	Affected	F	62	A382T	TARDBP:A382T
Amyotrophic Lateral Sclerosis	Asymptomatic	F	44	C90RF72	Heterozygous >100 expanded GGGGCC
Amyotrophic Lateral Sclerosis	Affected	F	61	SOD1	Heterozygous D109Y (G>T) mutation
Amyotrophic Lateral Sclerosis	Affected	F	61	SOD1	Heterozygous D109Y (G>T) mutation
Healthy Sibling	Unaffected	M	62	C90RF72	Hexanucleotide expansion confirmed present but number of repeats not confirmed
Amyotrophic Lateral Sclerosis	Affected	F	64	C90RF72	Hexanucleotide expansion confirmed present with greater than 145 GGGGCC repeats

Friedreich's Ataxia



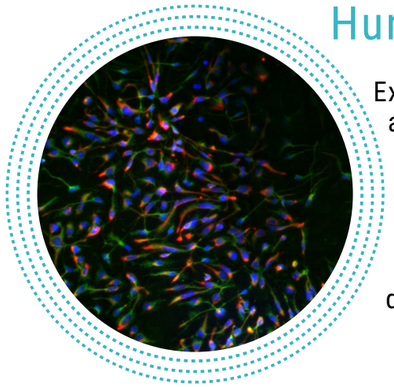
Our cell lines derived from Friedrich's Ataxia patients and familial and unaffected controls are excellent models for investigating this rare inherited disease that causes progressive nervous system damage and movement problems.

If you are developing assays to test therapies to treat this condition, our human iPSC-derived sensory neurons could be perfect for your assays.

Differentiated cell types available in 10 vial minimums. Ready for shipment at 8 weeks.

DISEASE LINE	STATUS	SEX	AGE	GENE	CONFIRMED GENETIC MUTATION
Friedreich's Ataxia	Affected	M	21	Homozygous repeat expansion	>75GAA repeats
Friedreich's Ataxia	Familial control	F	-	Heterozygous repeat expansion	>75GAA repeats
Friedreich's Ataxia	Unaffected	M	44	Homozygous	8+1 GAA repeats
Friedreich's Ataxia	Affected	F	44	Repeat expansion in the FXN gene	>75GAA repeats
Friedreich's Ataxia	Affected	M	23	2 pathogenic expanded alleles in FXN Gene	(>66 GAA repeats)
Friedreich's Ataxia	Affected	M	34	Homozygous repeat expansion	(>75GAA repeats)

Huntington's Disease



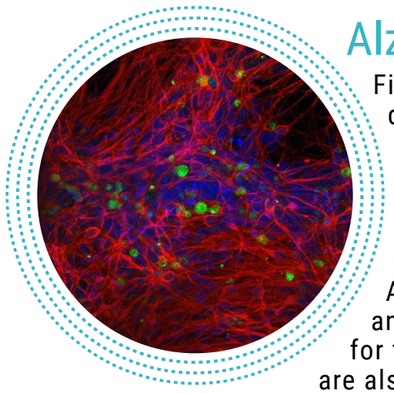
Expansion of CAG repeats in the Huntingtin gene (HTT) produces a mutant version of the huntingtin protein whose presence becomes toxic to brain cells, leading to cell death and underlies the progressive pathology of Huntington's Disease.

We have six lines derived from Huntington Disease patients. They are excellent models for investigating the disease and developing assays to screen potential therapies.

Differentiated cell types available in 10 vial minimums. Ready for shipment at 8 weeks.

DISEASE LINE	STATUS	SEX	AGE	GENE	CONFIRMED GENETIC MUTATION
Huntington's	Affected	F	51	One HTT Allele with CAG repeats in normal range	One HTT allele carrying approximately 42 CAG repeats
Huntington's	Affected	F	62	One HTT Allele with CAG repeats in normal range	One HTT allele carrying approximately 127 CAG repeats
Huntington's	Affected	M	16	One allele within the intermediate range (approximately 28 repeats)	One allele with the expanded range (approximately 66 repeats)
Huntington's	Asymptomatic	M	64	One Allele in normal range (approximately 17 CAG repeats)	One expanded allele in affected range (approximately 38 CAG repeats)
Huntington's	Affected	F	40-50	One CAG repeat, allele within normal range approximately 18 repeats	One allele within the Huntington disease affected range (approximately 40 repeats) in the HTT gene. Heterozygous variant chromosome location 4p16.3 NM 0021117:c52CAG(40)

Alzheimer's Disease & Neuroinflammation

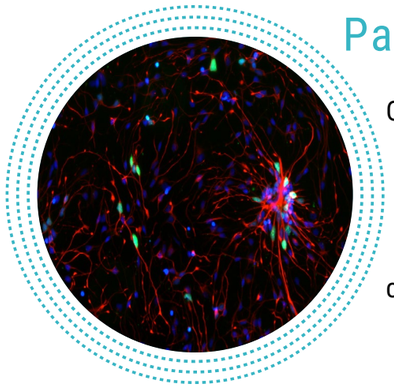


Fibroblasts from patients clinically diagnosed with Alzheimer's disease are reprogrammed to iPSCs using our footprint-free episomal reprogramming method. We then differentiate these to neural stem cells using our chemically defined cortical neural induction method.

Our made-to-order neural stem cells are available from Alzheimer's patients with mutations in the presenilin-1 (PSEN1) and presenilin-2 (PSEN2) genes as well as a patient homozygous for the APOE4 allele. Neural stem cells from healthy donor iPSCs are also available as suitable controls.

Differentiated cell types available in 10 vial minimums. Ready for shipment at 8 weeks.

DISEASE LINE	STATUS	SEX	AGE	GENE	CONFIRMED GENETIC MUTATION
Alzheimer's	Affected	F	87	APOE4	Homozygous APOE4
Alzheimer's	Affected	F	38	PSEN1	L286V
Alzheimer's	Affected	M	53	PSEN1	M146L
Alzheimer's	Affected	F	31	PSEN1	A246E



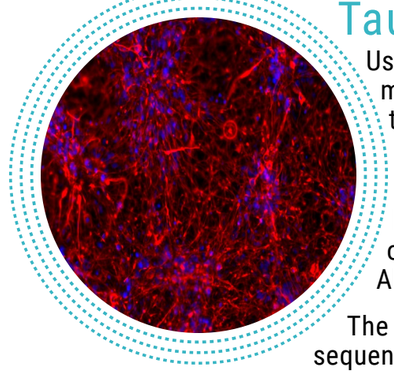
Parkinson's Disease

Our genetically edited model of Parkinson's Disease lines are Neural Stem Cells that have been genetically edited using CRISPR-Cas9 technology to introduce the G2019S mutation (GGC>AGC) in the LRRK2 gene.

These HET and HOM cell lines are complemented by an isogenic control line.

Differentiated cell types available in 10 vial minimums. Ready for shipment at 8 weeks.

PRODUCT NAME	STARTING MATERIAL
Human iPSC-Derived Neural Stem Cells (Female) Isogenic Control	Fibroblasts (64 yr. Donor)
AxolGEM iPSC-Derived Neural Stem Cells LRRK2 G2019S HOM	Fibroblasts (64 yr. Donor)
AxolGEM iPSC-Derived Neural Stem Cells LRRK2 G2019S HET	Fibroblasts (64 yr. Donor)



Tauopathy

Using CRISPR-Cas9 gene editing technology, disease-associated mutations were introduced into iPSCs that were then differentiated to neural stem cells using our fully defined cortical neural induction method.

Isogenic control neural stem cells are also available, permitting highly targeted experiments and screening studies into the effects of pathogenic tau associated with frontotemporal dementia and Alzheimer's disease.

The mutations introduced into the MAPT(tau) gene alter the amino acid sequence of the protein (R406W, V337M, P301L), which can accelerate tau aggregation or affect the phosphorylation or binding affinity of tau.

All cells are available as a minimum of 10 vials and will be ready for shipping after 8+ weeks.

CATALOG NUMBER & PRODUCT NAME	STARTING MATERIAL
AxolGEM iPSC-Derived Neural Stem Cells MAPT R406W HET	Fibroblasts (64 yr. Donor)
AxolGEM iPSC-Derived Neural Stem Cells MAPT V337M HOM	Fibroblasts (64 yr. Donor)
AxolGEM iPSC-Derived Neural Stem Cells MAPT V337M HET	Fibroblasts (64 yr. Donor)
AxolGEM iPSC-Derived Neural Stem Cells MAPT P301L HOM	Fibroblasts (64 yr. Donor)
AxolGEM iPSC-Derived Neural Stem Cells MAPT P301L HET	Fibroblasts (64 yr. Donor)

CUSTOM SERVICES

Axol offers custom research services. Our expert scientists and project managers have exceptional skills in complex cell biology, specializing in human neurodegenerative, neuroinflammatory and inflammatory disease models and assay development projects.

Reprogramming
Differentiation
Gene Editing
Assay Services

Reprogramming

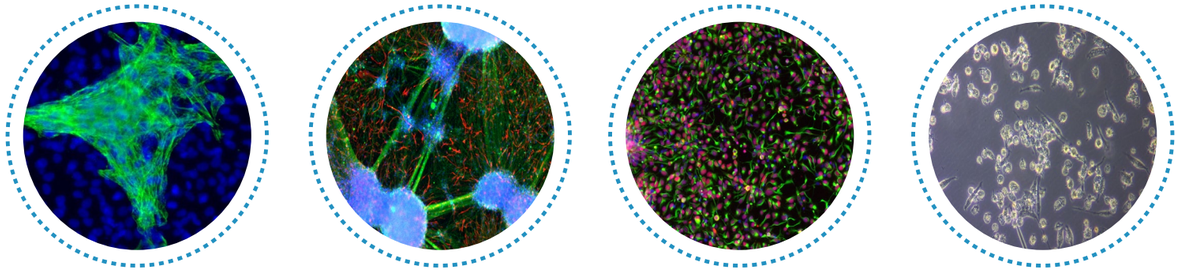
Our iPSCs are generated from primary human cellular material using reprogramming technologies that direct the differentiated primary cell into a pluripotent state.

The process is carefully executed and controlled to ensure that the resulting iPSC line is viable and properly characterized. These iPSCs can be developed into relevant disease models because:

- They have a human genetic background
- They can be differentiated into multiple cell types for further study
- The production process allows for extensive expansion to ensure sufficient, consistent study material.

AXOL CAN HELP YOUR TEAM WITH ANY REPROGRAMMING REQUEST AND DISEASE MODEL DEVELOPMENT

Differentiation



iPSC technology provides unprecedented possibilities to model human diseases creating physiologically relevant models in a culture dish.

At Axol, we can differentiate these cells to disease-relevant cell types generating an unlimited source of human tissue containing complex genetic signatures.

These models offer the advantage of being able to limit donor-to-donor variability in a cost-effective manner. Most importantly, we can generate cells that are difficult or impossible to obtain such as neurons or tissue resident macrophages, at scale.

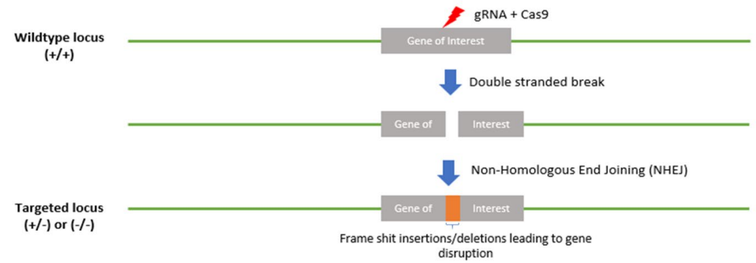
Gene Editing

We use gene editing technologies together with our stem cells to generate highly specific and precise genetically engineered stem cells. Our in-house CRISPR experts can accurately create disease models or generate isogenic controls for your R&D, providing excellent models for drug discovery.

In addition, you can take advantage of our custom research services to explore mutation specific differences between cell lines on your behalf.

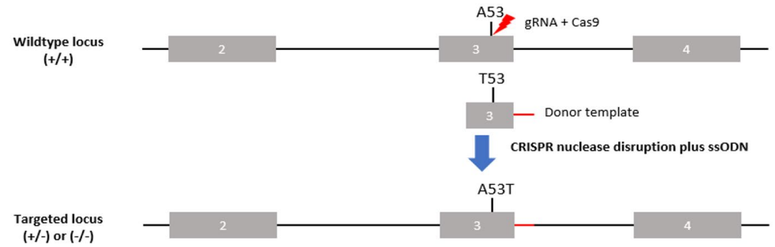
KNOCK-OUTS
(Homozygous/Heterozygous)

- In Frame
- Out of Frame
- Large Deletions

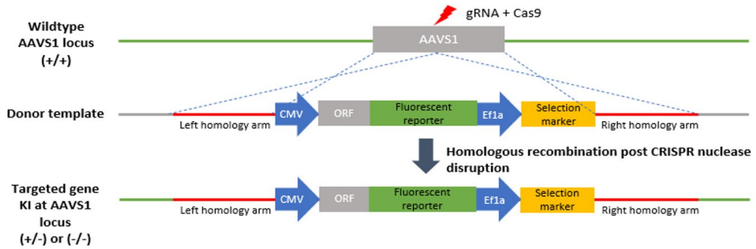


KNOCK-INS
(Homozygous/Heterozygous)

- Scarless SNPs
- Smaller Tag Insertions
- Fluorescent Reporters
- Over Expression cassette at safe harbour locus or by random integration



INDUCIBLE / CONDITIONAL KNOCK-OUTS



AXOL PROVIDE GENE KNOCK-OUT, KNOCK-IN AND INDUCIBLE/ CONDITIONAL KNOCK-OUT DESIGN AND EXECUTION SERVICES

Assay Services

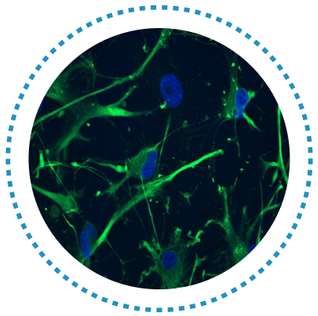
Use our cells in your assays or let us design and implement your assays for you.

At Axol we have the expertise to recapitulate diseases in a dish, and the capabilities to screen compounds and validate therapeutic targets in these models.

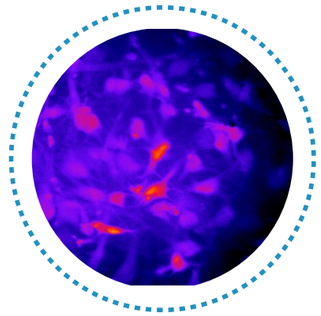
Get in touch today to discuss your assay needs with our team.

Cellular Imaging

We can perform real time cellular imaging across multiple wells to track phagocytosis, chemotaxis, synaptic activity and formation, as well as cell viability and cell death of our iPSC lines. This is in addition to off-line standard microscopy and imaging techniques such as immunocytochemistry to monitor protein expression.



Immunocytochemistry image shows 7 weeks old Astrocytes + motor neurons in co-culture GFAP (green) & DAPI (blue)

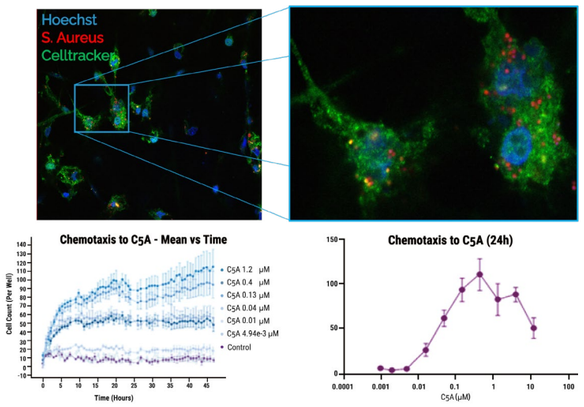


Calcium imaging using Fura-2 Calcium Dye in 7 week old Astrocytes

Functional Assays

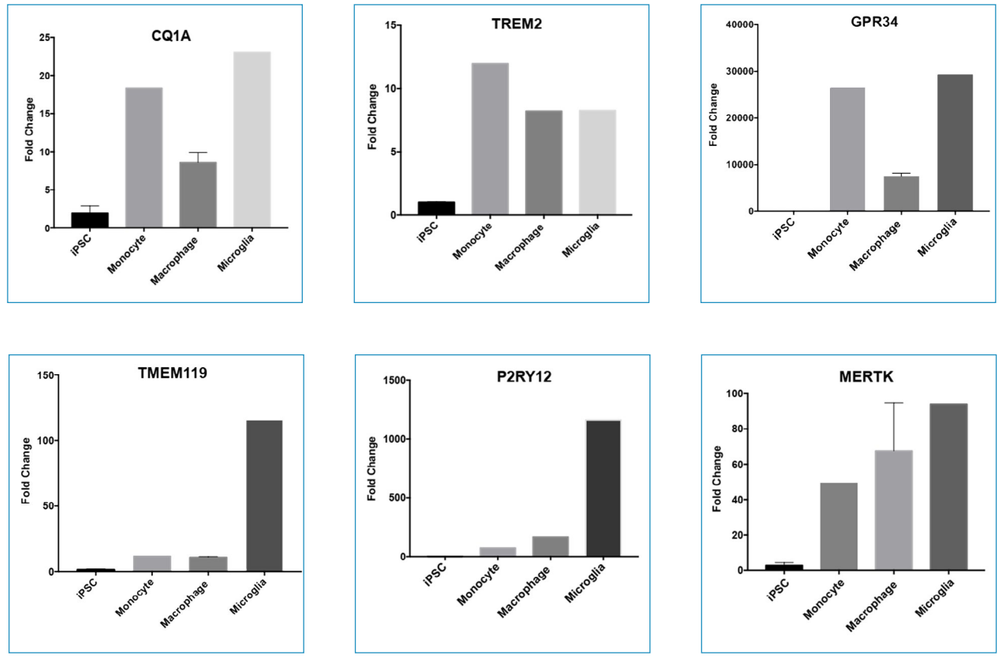
Our custom approach to working with our clients means we can tailor and develop functional assays to meet their needs, such as:

- Immunocytochemistry
- Phagocytosis
- Chemotaxis
- Synaptic activity
- Viability/Cell death
- Neurite tracing
- Protein monitoring



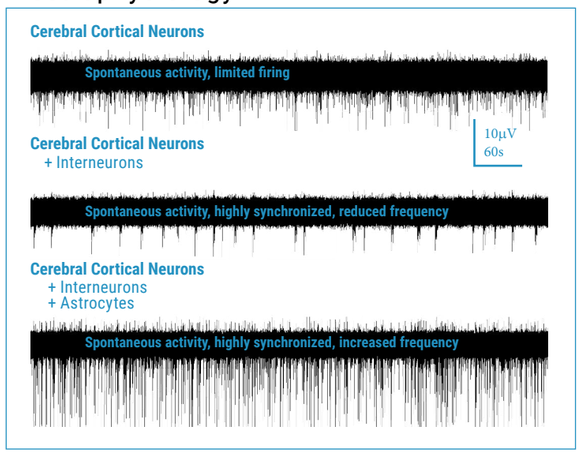
Cell Line & Target Validation

Our robust protein and cell line validation capabilities mean you can have complete confidence in your data. From q-RT-PCR to Flow Cytometry to RNAseq we can ensure the validity of your cell line and the data generated.



q-RT-PCR analysis of mRNA expression of 6 key microglia-specific genes. q-RT-PCR was performed on iPSCs, iPSC-monocytes, iPSC-macrophages and iPSC-microglia. CQ1A, MERTK, P2RY12, GPR34, and TMEM119 are all differentially up-regulated in microglia. Fold change was calculated using the ΔΔCT method, with PDGB as an endogenous control and normalized to iPSC.

Electrophysiology - MEA



MEA electrophysiological analysis of mono and co-cultures made with cerebral cortical neurons, inhibitory interneurons and astrocytes

Using the best-in-class Maestro Pro Multi-Electrode Array system from Axion BioSystems we have the capability to perform hundreds of non-invasive and label-free *in vitro* electrophysiological assays on all cell types.

This means we can functionally probe monocultures and co-cultures of iPSCs in real time, providing valuable insight from your assays from multiple wells in parallel.

Looking Ahead

R&D

Our experienced scientists are at the forefront of iPSC R&D and are constantly developing and extending our iPSC product listing, culture design and disease modeling capabilities.

Our goal is to provide the best quality iPSCs and custom research services to support and drive global discovery, research and development forward. In 2022, we will primarily be focusing on:

- Saving our customers time through expanding our “Maximizer” media that drives faster maturation times in our sensory neurons and motor neurons
- Expanding our capabilities in developing physiologically relevant co-culture techniques and models
- Making more of our disease cell lines available to customers for custom differentiation
- Adding complementary products to our inventory, particularly isogenic controls for our current disease line offering

We publish our findings publicly in scientific journals and present at global conferences and symposia. Contact us to find out more about our latest R&D findings and follow us on social media to stay up to date with our latest news and product launches. We invite you to collaborate or recommend new product ideas.

PARTNERSHIPS

At Axol, we take seriously our role in partnering across academia and commercial sectors alike to drive forward the access, utility, and understanding of iPSC-based products and services.

We work with groups across the world to aid in the supply, implementation, and commercialization of their research and development programs through long term provider partnerships.

We are also open to collaborative relationships. Whether partnering to develop new products, producing or sharing data to drive understanding, or business development relationships for supply, distribution, or marketing, we invite you to contact us to discuss.

Please reach out to our team at: *info@axolbio.com*

GET IN TOUCH

OUR LOCATIONS

Axol is based in the UK and US. Our R&D and manufacturing hubs are situated at sites of biotechnological excellence and innovation within the United Kingdom.

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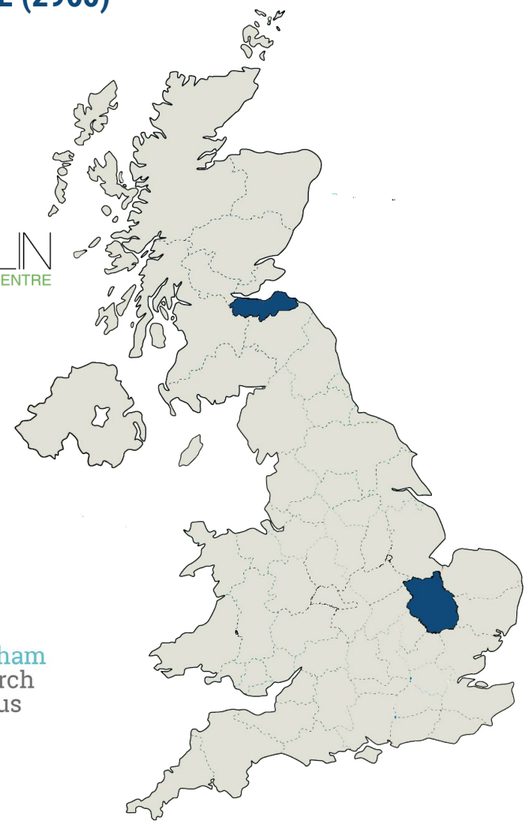
Email: info@axolbio.com

Headquarters

ROSLIN INNOVATION CENTRE



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