Wired for innovative tools in Neuroscience Research
BIO-TECHNE

Ongoing research continues to challenge our understanding of neurobiological processes and the mechanisms and etiologies that underlie various neuro-pathologies. Bridging the gaps demands both reproducible results and the ability to generate more data points often from very limited available sample. We empower you to confidently do more with less by taking advantage of products and reagents that are built for both reproducibility and compatibility, while harnessing the power of state-of-the-art technology to advance your research.

OUR MISSION IS SIMPLE

We strive to support neuroscience researchers with excellence in product quality, the highest standard of services, and innovative solutions in order to facilitate the next scientific breakthroughs and therapeutic discoveries.

TABLE OF CONTENTS

GROW ....................................................................................................................................... 3
Cell Culture and Viability

VISUALIZE ................................................................................................................................. 4
ICC/IF, RNA-ISH and IHC, Live Cell Imaging

MODULATE ............................................................................................................................. 5
Electrophysiology, In Vivo Tools

ANALYZE ................................................................................................................................6–7
Gene Expression, Single-Cell Analysis, Western Blot, Single & Multi-Analyte Immunoassays

FIND PRODUCTS:
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cellculture

GROWING NEURAL STEM
CELLS?
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WE'LL DO IT CUSTOM.
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culture

GROW

More and more, the experimental accessibility of cell culture is becoming a valuable tool for neuroscientists. To truly correlate results generated from various techniques, you’ll need a consistent culture and reliable raw materials to support it. Our products are stringently screened for lot-to-lot consistency, optimized for specific cell type growth, and available in published protocols.

CELL CULTURE AND VIABILITY

- Advance your neural cell culture workflow with cell-type specific media and supplements for culturing progenitor cells, differentiated derivatives, insulin-sensitive cells, long-term culture of neurons, and more
- Choose from a wide selection of buffers, solvents, and antibiotics to optimize cell health
- Monitor cell viability using pSIVA, an advanced apoptosis detection probe
- Maintain and expand neural stem cells using high-quality serum-free neural media supplements, growth factors, and small molecules
- Create neural stem cell and differentiated populations using selective inducer, enhancer, activator, and inhibitor compounds, an all-in-one differentiation kits
- Streamline neuron cell culture and maturation with NeuroXVivo™ kits for embryonic rat neurons
**VISUALIZE**

We understand that clearly navigating organizational complexity, cell-type heterogeneity and cell interactions, as well as unique gene and protein expression profiles is essential for your ability to make physiological conclusions. Whether you’re assessing cellular morphology or components, target localization, or expression of RNA or protein, we offer a versatile and innovative set of tools for visualization in live cells, fixed cells, or tissue.

**ICC/IF**
- Define cellular morphology and intracellular components with a wide selection of dyes and stains, including DAPI, Hoechst, Hematoxylin and Eosin
- Selectively characterize cell types and individual structures with specific antibodies that are also validated for other techniques, such as IHC, Western blot, and IP
- Precisely visualize target protein and organelle co-localization by multiplexing with directly dye-conjugated primary antibodies, including Alexa Fluor®, DyLight®, and Janelia Fluor®

**RNA-ISH AND IHC**
- Investigate mRNA and protein co-localization using RNAscope™ ISH probes and ISH-compatible/IHC-validated antibodies
- Examine cell type-specific and conditional genetic modifications using RNAscope™ assay
- Multiplex protein targets directly using dye-conjugated IHC primary antibodies or conjugatable Janelia Fluor® dyes

**LIVE CELL IMAGING**
- Precisely label biomolecules with photostable and cell-permeable Janelia Fluor® dyes suitable for confocal microscopy and SIM techniques, including dSTORM and PALM
- Closely monitor cell viability using pSIVA, a novel, next-generation Annexin probe

**MODULATE**

A small molecule toolbox is essential for neuroscientists to investigate and control neuronal function, enabling you to analyze and understand the role of specific targets in neurological systems and/or associated disorders and disease states. We have a long and successful history of providing neuroscientists with a reliable source of chemical probes, including for the study of neurotransmission, signaling pathways, and chemogenetic approaches.

**ELECTROPHYSIOLOGY**
- Functionally characterize neuronal receptors and ion channels using a wide selection of potent and selective neurotransmitter receptor agonists, antagonists, modulators, and blockers
- Manipulate and control neuronal activity using potent and selective neuropeptides
- Overcome diffusion barriers and enable high temporal and spatial control of target manipulation with caged neurotransmitters and photoswitchable ligands

**IN VIVO TOOLS**
- Retain temporal control and multiplex manipulations of neuronal activity using minimally-invasive engineered receptors or ion channels and inert ligands, including DREADD ligands and PSEMs
- Choose from an innovative catalog of small molecules and peptides selective for targets related to neurodegenerative diseases and neuropsychological disorders
Neuroscientists everywhere are tired of tedious workflows with low reproducibility and sensitivity. We recognize that working with limited and hard-to-get samples places tall orders on the analytical approach you choose. Our combined decades of experience have produced both scientific gold standards and market-leading innovations to support your detection and analysis goals, and at unprecedented speeds.

**GENE EXPRESSION**

- Detect single RNA molecules using RNAscope™ to quantitate per-cell copy number
- Choose from a library of gene knockout-validated antibodies, custom cell lines, and cell lysates generated using CRISPR/Cas9
- Localize long non-coding RNA expression to specific cell types and sub-cellular structures using highly sensitive RNAscope™ technology
- Use Laverne, a bioinformatics tool, to facilitate scientific exploration of related genes, diseases, and pathways based on co-citations

**SINGLE-CELL ANALYSIS**

- Validate single-cell RNA sequencing data using RNAscope™ technology, then on a protein level via Single-Cell Westerns on Milo™ and conventional Western blot antibodies
- Characterize FACS-sorted, highly enriched cell populations using Milo™
- Acquire the spatial signature of single-cell transcriptomes in tissue using RNAscope™
- Conjugate an assortment of fluorescent dyes to flow cytometry-validated antibodies or molecular targets

**WESTERN BLOT**

- Choose from thousands of antibodies validated for Simple Western™ assays, Western blot, IP, and ChIP
- Use just 3 µL of sample for picogram-level sensitivity and get quantitative data in just 3 hours using Simple Western™ assays on Jess™ and Wes™ and Compass for Simple Western software
- Measure protein expression heterogeneity in just ~1,000 cells using Single-Cell Westerns on Milo™ and Scout software
- Detect faint and bright bands at once using FluorChem™ imagers that span a 5-log dynamic range followed by complete analysis using AlphaView® software

**SINGLE & MULTI-ANALYTE IMMUNOASSAYS**

- Detect changes in up to 119 analytes in one sample using Proteome Profiler™ Antibody Arrays, then analyze results using FluorChem™ imagers and AlphaView® software
- Multiplex up to 50 analytes using bead-based Luminex® assays
- Measure single- or multi-analyte levels in just 1 hour using highly sensitive Simple Plex™ assays on Ella that have a 3 to 5 log dynamic range and single-digit inter- and intra-assay CV values
- Use the industry gold-standard, Quantikine™ ELISA Kits for single-analyte confirmation
- Choose from over 800 flexible, single-analyte DuoSet™ ELISA Development Systems