Jabbar Campbell

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PROFESSIONAL OVERVIEW

Molecular Biologist with Neurodegenerative Disease and Cancer Biology.
Fluency in R studio and Python with experience in Linux

CORE COMPETENCIES

Cloud based Computing
Performed RNA seq analysis using Bioconductor packages such as “QuasR” and “DESEQ2” on AWS

Data Analysis
Gene Set Enrichment analysis, Multivariate analysis i.e. Pearson correlation, ANOVA and PCA,

Automation
Echo, Tempest, BRAVO, VPREP Velocity 11, and Multidrop liquid handlers

Cell biology
Aseptic Cell culture, Stable and Transient Transfection, Immunocytochemistry,
Electrophysiology, Flow Cytometry, Histology

Biochemistry
Protein tagged purification, Western Blotting, Yeast 2 Hybrid,
Enzymology/Enzyme Kinetics

Molecular
DNA Subcloning, Restriction Enzyme digestion,
DNA Purification/Modification, PCR, Gel Electrophoresis,
Southern blotting, DNA sequence analysis, Mobility Shift assays

Instrumentation
Barracuda, Qube, Envision, MSD, Phoenix, Operetta,
Confocal Microscopy, Automated Western blotting

Microscopy
Quantitative Analysis using Bioqant, High Content Imaging,
Time Lapse Cinematography

PROFESSIONAL RESEARCH EXPERIENCE

Caraway Therapeutics Cambridge · MA,
Associate Scientist- Neuroscience 2/1/2020-Present

Advanced projects in Lysosomal storage as they pertain to Neurodegeneration thru assay development across multiple modalities, high content imaging, and cell-based assays. Contributed to a small molecule campaign to triage potent and selective ion Channel activators

- Performed Various treatment paradigms for in house chemical matter followed by down stream Lipidomic analysis.
- Used PCA to visualize Lipidomics data across treatments
- Designed a pipeline for Analysis and Visualization of RNA-seq data followed by Gene Set Enrichment Analysis.
- Quantitated Protein levels following treatment with lead molecules
- Increased turn around time for High Content Imaging Data with customized scripts in R
- Established plate based QC metrics to Facilitate Go no Go Decisions

Amgen Cambridge · MA,
Associate Scientist- Neuroscience 9/13/2015-2/1/2020

Advanced projects in Analgesia and Neurodegeneration thru assay development across multiple modalities, including electrophysiology, high content imaging, biochemical and cell-based assays. Spear headed a small molecule campaign using both biochemical and cell-based systems and identified potent and specific enzyme inhibitors.

- Optimized conditions for imaging Fluorogen activated peptides to improve signal to background signal window for High content imaging.
- Characterized a proteopathy aggregation model for ALS in SH-SY5Y cells using High Content Imaging.
- Screened natural and designed compound libraries to drive Structure Activity relationships (SAR) for ligand and Ion gated Channels.
- Confirmed and prioritized IC50 data across platforms to validate next generation instrumentation.
- Thru Current/Voltage characterization, designed protocols for the prosecution of Voltage and Ligand Gated Ion channels using High Throughput Electrophysiology.
- Confirmed and prioritized hits across technology platforms to validate next generation instrumentation.
- Recorded field potentials from spinal cord slices to elucidate mechanism of action for a novel pain target.
- Measured enzymatic activity and calculated kinetic constants such as Km and Kd to advance project to “Early Optimization Phase” in under 6 months.
- Established a Nanobret Luciferase assay to provide target engagement data instrumental for triage of chemical matter.

continued

- Drove technology transfer to external CRO's and within house to increase throughput and reduce cost using R.
- Quantitated protein from lysate in a 384 plate-based sandwich ELISA system via MSD.
- Performed MSD pulldown of proteins associated with RISC loading of RNA to establish PKPD relationships.
- Built a SHINY web application for the Visualization of Pharmacological relationships.
- Achieved departmental and companywide visibility thru hosting guest speakers and poster Presentation.
- Strengthened community relationships thru Community Outreach.
- Mentored Junior Associates in the lab and thru weekly "Neuroinformatics" meetings.

Nathan Kline Research Foundation · Orangeburg, NY
Department of Dementia Research
08/2001 - 10/2015

Constructed and characterized models for studying the dynamics of axonal transport in neurons leading to publication of multiple peer reviewed articles in High Impact journals.

- Created transgenic models via cell type specific promoters.
- Used Western blot analysis and histology for studying Neurofilament colocalization.
- Examined protein-protein interaction between Myosin Va and Neurofilament light chain.
- Conducted behavioral experiments using varied paradigms.
- Implemented and maintained a tissue sample database.
- Trained junior level staff.
- Coursework in Financial Statement Analysis

Columbia University · New York, NY
Department of Molecular Medicine

Albert Einstein College of Medicine · Bronx, NY
Department of Developmental and Molecular Biology

Synaptic Pharmaceutical Corporation · Paramus, NJ
Department of Cellular Biology

Mount Sinai Medical Center · New York, NY
Department of Psychiatry

EDUCATION

Tufts University · Medford, MA, Bachelor of Science in Biology, May 1996
New York University · New York, NY, Master of Science in Biology, May 1998

PUBLICATIONS

Sara. C. Humphreys,[1*] Mai B. Thayer,[1] **Jabbar Campbell**, [3] Kelly Chen, [2] Dan Adams, [2] Julie M. Lade,[1] and Brooke M. Rock[1] siRNA biotransformation: Fragmented knowledge and ADME implications. Manuscript in Progress

Rao MV, **Campbell J**, Palaniappan A, Kumar A, Nixon RA., Calpastatin inhibits motor neuron death and increases survival of hSOD1(G93A) mice. J Neurochem. 2016 Apr;137(2):253-65

Rao MV, McBrayer MK, **Campbell J,** Kumar A, Hashim A, Sershen H, Stavrides PH, Ohno M, Hutton M, Nixon RA. Specific calpain inhibition by calpastatin prevents tauopathy and neurodegeneration and restores normal lifespan in tau P301L mice. J Neurosci. 2014 Jul 9;34(28):9222-34.

Rao MV, Yuan A, **Campbell J**, Kumar A, Nixon RA., The myosin Va head domain binds to the neurofilament-L rod and modulates endoplasmic reticulum (ER) content and distribution within axons. PLoS One. 2011 Feb 16;6(2)

Rao MV, Mohan PS, Kumar A, Yuan A, Montagna L, **Campbell J**, Veeranna, Espreafico EM, Julien JP, Nixon RA.The myosin Va head domain binds to the neurofilament-L rod and modulates endoplasmic reticulum (ER) content and distribution within axons. PLoS One. 2011 Feb 16;6(2)

Rao MV, Mohan PS, Peterhoff CM, Yang DS, Schmidt SD, Stavrides PH, **Campbell J**, Chen Y, Jiang Y, Paskevich PA, Cataldo AM, Haroutunian V, Nixon RA., Marked calpastatin (CAST) depletion in Alzheimer's disease accelerates cytoskeleton disruption and neurodegeneration: neuroprotection by CAST overexpression. J Neurosci. 2008 Nov 19;28(47):12241-54.

Rao MV, **Campbell J,** Yuan A, Kumar A, Gotow T, Uchiyama Y, Nixon RA., The neurofilament middle molecular mass subunit carboxyl-terminal tail domains is essential for the radial growth and cytoskeletal architecture of axons but not for regulating neurofilament transport rate. J Cell Biol. 2003 Dec 8;163(5):1021-31.