AXION BIOSYSTEMS

Nanosymposium podium presentations

NOVEMBER 13, 2016, 1:45- 200 PM; ROOM SDCC 32B

201.04. Stem cell modeling of ALS identifies mTOR and mitochondria dysregulation associated to VAPB mutation

***H. C. MIRANDA**[1], J. MORESCO[2], J. M. WARD[1], M. MITNE, Neto[3], J. OKUBO[1], S. MOORE[1], M. ZATZ[4], J. YATES, III[2], A. R. LA SPADA[1], A. R. MUOTRI[1];
[1]UCSD, La Jolla, CA; [2]The Scripps Res. Inst., La Jolla, CA; [3]Grupo Fleury, Sao Paulo, Brazil; [4]Univ. of Sao Paulo, Sao Paulo, Brazil

NOVEMBER 13, 2016, 3:30 – 3:45 PM; ROOM SDCC 32B

201.11. iPSC disease modeling of the excitability phenotype of ALS patient derived motor neurons

***K. C. ROET**[1], O. WISKOW[2], S. LEE[1], X. HUANG[1], J. SANDOE[2], A. GRANTHAM[1], D. BAKER[2], L. BARRETT[1], K. EGGAN[2], C. J. WOOLF[1];
[1]Dept. of Neurobio., Boston Children's Hosp., Boston, MA; [2]Harvard Univ., Cambridge, MA

NOVEMBER 14, 2016, 8:30 – 8:45 AM; ROOM SDCC 23A

282.03. Modeling drug response in autism using pluripotent stem cells

***C. MARCHETTO**, Y. KIM, R. SANTOS, A. D. MENDES, S. LINKER, F. GAGE;
Salk Inst., La Jolla, CA

AXION BIOSYSTEMS

Poster Presentations

NOVEMBER 12, 2016, 1:00 PM

42.09. Phenotyping of human of ipsc-derived dopaminergic neurons containing the engineered a53t alpha-synuclein mutation
*B. W. JARECKI[1], K. MANGAN[2], K. KIM[2], N. AUMANN[2], L. LITTLE[2], C. CARLSON[2], S. DELAURA[2], E. JONES[2]; [1]Marketing/Sales/Business Develop., CDI, Madison, WI; [2]Cell. Dynamics, Madison, WI

NOVEMBER 13, 2016, 8:00 AM

134.07. Functional electrophysiological phenotyping of human iPSC-derived neurons grown on MEAs – a novel approach for *In vitro* disease modeling of neurodegenerative diseases
*B. M. BADER, K. JUEGELT, O. H.-U. SCHRÖDER; NeuroProof GmbH, Rostock, Germany

NOVEMBER 13, 2016, 1:00 PM

211.20. Astrocytes are necessary for synchronized bursting behavior of neuronal networks in culture
K. R. SANCHEZ[1], F. PERRY[1], M. A. HARRINGTON[1], *M. TEMBURNI[2]; [1]Biol. Sci., [2]Biol., Delaware State Univ., Dover, DE

227.10. Pharmacological profiling of human and mouse motor neurons on microelectrode arrays
*D. F. MOAKLEY[1], J. D. PEREIRA[1], J. S. GAL[1], A.-C. DEVLIN[1], Y. SAPIR[1], L. A. WILLIAMS[2], N. ATWATER[2], D. BAKER[2], O. WISKOW[2], S. LEE[3], K. ROET[3], K. EGGAN[2,4], C. J. WOOLF[3,4], B. J. WAINGER[1,4]; [1]Massachusetts Gen. Hosp., Charlestown, MA; [2]Harvard Univ., Cambridge, MA; [3]Boston Children's Hosp., Boston, MA; [4]Harvard Stem Cell Inst., Cambridge, MA

227.15. Development and functional applications of human iPSC-derived spinal motor neurons
E. JONES[1], C. CHAVEZ[1], B. MELINE[1], J. LIU[1], M. MCLACHLAN[1], T. BURKE[1], C. MCMAHON[1], *L. CHASE[2], W. WANG[1]; [1]Cell. Dynamics Intl., Madison, WI; [2]Cell. Dynamics Int'l, Inc., Madison, WI

NOVEMBER 14, 2016, 8:00 AM

301.16. Functional endpoint assays to assess neurotoxicity with human iPSC-derived neurons
S. DELAURA[1], *E. M. JONES[2], K. KIM[1], C. KANNEMEIER[1], R. LEWIS[1], K. MANGAN[1], B. SWANSON[1], C. CARLSON[1]; [1]Cell. Dynamics Intl., Madison, WI; [2]Gist Consulting, Middleton, WI

NOVEMBER 14, 2016, 1:00 PM

407.09. Using high-throughput screening to predict novel antiseizure interventions
*A. MOUSAVI NIK, S. HULSIZER, I. PESSAH; Univ. of California Davis, Davis, CA

423.18. Assessing drug neurotoxicity and functional mode of action using high-throughput MEA recording from human iPSC neurons combined with multivariate spike train analysis
*K. JÜGELT, A. STEDER, O. H. U. SCHROEDER, B. M. BADER; NeuroProof GmbH, Germany

NOVEMBER 15, 2016, 8:00 AM

495.11. BrainPhys™ Neuronal Medium supports the electrical activities of neurons derived from human pluripotent stem cells and primary CNS tissues in long-term cultures
C. K. H. MAK[1], *V. M. LEE[1], L. H. CHEW[1], K. MCCORMACK[1], S. LLOYD-BURTON[1], A. C. EAVES[1,2], T. THOMAS[1], S. A. LOUIS[1]; [1]STEMCELL Technologies Inc, Vancouver, BC, Canada; [2]Terry Fox Lab., BC Cancer Agency, Vancouver, BC, Canada

501.28. Pyrethroid insecticide effects on spontaneous electrical activity in neural networks are consistent with effects on voltage gated sodium channels (VGSCs) and dependent on time, concentration, and structure
J. D. STRICKLAND[1,2], C. GRANT[4], J. ROSS[1], *W. D. ATCHISON[3], T. J. SHAFER[4]; [1]Axion Biosystems, Atlanta, GA; [3]Dept Pharmacol & Toxicol, [2]Michigan State Univ., East Lansing, MI; [4]US Envrn. Protection Agency, Research Triangle Park, NC

523.17. Multielectrode array studies with culture models of motor neurons
*A. THARANEETHARAN[1], S. K. CUSTER[2], M. A. HARRINGTON[1]; [1]Delaware State Univ., Dover, DE; [2]Indiana Univ. Sch. of Med., Indianapolis, IN

558.05. Simultaneous multiwell optogenetic stimulation and microelectrode array recording for disease modeling and toxicological assays
I. P. CLEMENTS, *H. B. HAYES, A. M. NICOLINI, C. A. ARROWOOD, D. C. MILLARD, J. D. ROSS; Axion Biosystems, Atlanta, GA

561.02. Functional human neurons derived from iPS cells display a range of unique and "exciting" MEA phenotypes.
*K. P. MANGAN, C. KANNEMEIER, E. ENGHOFER, J. MA, S. DELAURA, C. CARLSON; Cell. Dynamics, Intl., Madison, WI

NOVEMBER 15, 2016, 1:00 PM

581.04. Multielectrode array platform to study long-term potentiation in human induced pluripotent stem cell-derived neuronal networks
*S. BIESMANS, S. HINCKLEY, A. BANG; CPCCG Screening Ctr., Sanford Burnham Prebys Med. Discovery Inst., LA Jolla, CA

581.11. C9orf72 als patient and control ipsc line-derived cortical neurons and astrocytes reveal diminished network activity when co-cultured with c9orf72 patient-derived astrocytes
*V. J. GARCIA, G. M. THOMSEN, D. RUSHTON, K. WU, R. H. BALOH, C. N. SVENDSEN; Cedars-Sinai, West Hollywood, CA

582.13. Dynamics of human neuronal network microcircuitry on high-throughput multielectrode arrays and application in drug screening
*S. HINCKLEY, S. BIESMANS, A. BANG; CPCCG, Sanford Burnham Prebys Med. Discovery Inst., La Jolla, CA

592.01. Leveraging iPSC-derived cortical neurons harboring known epilepsy mutations to advance personalized medicine
*C. B. CARLSON, M. MCLACHLAN, B. MELINE, C. MCMAHON, T. BURKE, S. DELAURA, E. JONES, K. MANGAN; Cell. Dynamics Intl., Madison, WI

NOVEMBER 16, 2016, 8:00 AM

689.22. Pathogenic aspects of SCN1A haploinsufficiency in human ipsc derived cortical neurons.
***D. SIMKIN**[1,2], G. L. ROBERTSON[2], E. KISKINIS[2], A. L. GEORGE, Jr.[1]; [1]Pharmacology, Feinberg Sch. of Med., [2]Neurology, Feinberg Sch. of Med., Northwestern Univ., Chicago, IL

691.12. Quantification of seizurogenic activity with multiwell microelectrode array technology for proconvulsant risk assessment and disease-in-a-dish epilepsy models
*D. C. MILLARD, H. B. HAYES, A. M. NICOLINI, C. A. ARROWOOD, J. D. ROSS; Axion Biosystems, Atlanta, GA

NOVEMBER 16, 2016, 1:00 PM

774.13. Functional assessment of *In vitro* neurotoxicity and network activity using human iPSC derived peripheral neurons on microelectrode arrays
***G. C. LUERMAN**[1], D. HESS[2], E. GUENTHER[3], H. BOHLEN[2]; [1]Axiogenesis Inc, Plymouth Meeting, PA; [2]Axiogenesis AG, Cologne, Germany; [3]NMI TT GmbH, Reutlingen, Germany