

【International Session】

Keynote Lecture (S369)

June 3 8:20-9:20 Room 1

Chair Makiko Osawa (Emeritus Professor, Tokyo Women's Medical University)

KL Infantile spasms syndrome —past, present and future—

Solomon L. Moshé (Department Neuroscience and Department of Pediatrics, Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, New York USA)

Invited Lecture (S370)

Invited Lecture 1

June 3 9:30-10:30 Room 1

Chair Takao Takahashi (Department of Pediatrics, Keio University School of Medicine)

IL1 Novel insights into epilepsy genetics

Ingrid E. Scheffer (University of Melbourne, Austin and Royal Children's Hospital, Florey Institute and Murdoch Children's Research Institute, Melbourne, Australia)

Invited Lecture 2

June 3 10:40-11:40 Room 1

Chair Masakazu Mimaki (Department of Pediatrics, Teikyo University School of Medicine)

IL2 Leigh Syndrome Seventy Years on —A Reappraisal with a focus on *NDUFV1* mutation—

Asuri N. Prasad (Division of Pediatric Neurology, Division of Medical Genetics, Department of Pediatrics, Faculty of Medicine, Western University and London Health Sciences Centre, London, ON, Canada)

Invited Lecture 3

June 3 13:00-14:00 Room 1

Chair Hideo Yamanouchi

(Department of Pediatrics, Comprehensive Epilepsy Center, Saitama Medical University Hospital)

IL3 Developmental and epileptic encephalopathies —what we know and what we don't know—

Nicola Specchio (Bambino Gesù Children's Hospital, IRCCS, Rome, Italy)

Invited Lecture 4

June 3 14:10-15:10 Room 1

Chair Yukitoshi Takahashi (National epilepsy center)

IL4 Anti-NMDA receptor encephalitis —experience at the Philippine Children's Medical Center (2011-2021)—

Marilyn H. Ortiz (Child Neuroscience Division Philippine Children's Medical Center)

Invited Lecture 5

June 3 15:20-16:20 Room 1

Chair Akira Oka (Saitama Children's Medical Center)

IL5 Unravelling the spectrum of malformations of cortical development

Ahmad Rithaiddin Mohamed

(Paediatric Neurologist, Paediatric Institute & Hospital Tunku Azizah Kuala Lumpur, Malaysia)

Invited Lecture 6

June 3 16:30-17:30 Room 1

Chair Akihisa Okumura (Department of Pediatrics, Aichi Medical University)

IL6 Diagnostic challenges and genetic roles in children with neurodevelopmental disorders

Wang-Tso Lee (Department of Pediatric Neurology, National Taiwan University Children's Hospital, and Graduate Institute of Brain and Mind Sciences, National Taiwan University College of Medicine, Taipei, Taiwan)

Invited Lecture 7

June 4 10:40-11:40 Room 1

Chair Katsuhiko Kobayashi (Department of Child Neurology, Okayama University)

IL7 Improving the Quality of Life among children with epilepsy —the Malaysian experience—

Choong Yi Fong (Consultant Paediatric Neurologist University Malaya, Kuala Lumpur, Malaysia)

International Symposium (S375)

International Symposium 1 : Cutting Edge —Treatment of Autoimmune Encephalitis—

June 3 15:20-17:20 Room 3

Chair Kazuhiro Muramatsu (Department of Pediatrics, Jichi Medical University)
Hiroshi Sakuma (Department of Brain & Neural Science, Tokyo Metropolitan Institute of Medical Science)

- IS1-1 **Overview : Immune therapy for autoimmune encephalitis**
Hiroshi Sakuma (Department of Brain and Neural Science, Tokyo Metropolitan Institute of Medical Science)
- IS1-2 **How to improve treatment and prognosis of anti-NMDA receptor encephalitis?**
Yoshitaka Mizobe (The Department of Pediatrics, Jichi Medical University, Tochigi, Japan)
- IS1-3 **The clinical courses of three cases of MOG antibody-associated demyelinating diseases (MOGAD)**
Naomi Hino-Fukuyo (Tohoku Medical and Pharmaceutical University, Sendai, Japan)
- IS1-4 **Treatment of Paediatric Anti-NMDAR Encephalitis**
Margherita Nosadini (Paediatric Neurology and Neurophysiology Unit, Department of Women's and Children's Health, University Hospital of Padova, Padova, Italy., Neuroimmunology group, Paediatric Research Institute 'Città della Speranza', Padova, Italy)
- IS1-5 **Treatment of Paediatric MOG-Ab-Associated Diseases**
Yael Hacohen (Department of Neuroinflammation, Queen Square MS Centre, UCL Institute of Neurology)

International Symposium 2 : Classification & Management of Epilepsy Syndromes in Neonate, Infancy and Childhood

June 4 8:30-10:30 Room 1

Chair Hideo Yamanouchi (Saitama Medical University)
Wang-Tso Lee (National Taiwan University)

- IS2-1 **Basic Mechanisms of Epilepsies in Neonate, Infancy, and Childhood**
Solomon L. Moshé (Department Neuroscience and Department of Pediatrics, Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, New York USA)
- IS2-2 **Classification and Management of Epilepsy Syndromes in Neonate and Infancy**
Ingrid E. Scheffer (University of Melbourne, Austin and Royal Children's Hospital, Florey Institute and Murdoch Children's Research Institute, Melbourne, Australia)
- IS2-3 **Classification & Management of Epilepsy Syndromes in Childhood**
Nicola Specchio (Bambino Gesù Children's Hospital, IRCCS, Rome, Italy)

International Symposium 3 : Tourette syndrome in Asia

June 4 13:00-14:30 Room 2

Chair Yoshiko Nomura (Yoshiko Nomura Neurological Clinic for Children)
Lillian V. Lee (Philippine Children's Medical Center)

- IS3-1 **Introduction : Clinical features and managements of Tourette syndrome**
Huei-Shyong Wang (Division of Pediatric Neurology, Chang Gung Children's Hospital, Taoyuan, Taiwan)
- IS3-2 **Clinical Profile of Pediatric Patients with Tics and Tourette's Disorder Seen at the Philippine Children's Medical Center from 2011-2021 (A Single Center Study)**
Marilyn H. Ortiz, Lillian V. Lee (Child Neuroscience Division, Philippine Children's Medical Center)
- IS3-3 **Tourette syndrome —The Histories and Neurosciences—**
Yoshiko Nomura (Yoshiko Nomura Neurological Clinic for Children)

International Symposium 4 : Medical Care and Support for Developmental Disorders in the 'With-/Post-COVID-19' Era —Approaches in Asia, USA, and Japan—

June 4 14:50-16:50 Room 2

Chair Masaya Tachibana (United Graduate School of Child Development, Osaka University)
Yoshifumi Mizuno (Research Center for Child Mental Development, University of Fukui)

- IS4-1 **Outpatient care and intervention for children with developmental disorders under COVID-19 pandemic**
Mariko Nakanishi (United Graduate School of Child Development, Osaka University, Suita, Japan, Department of Pediatrics, Osaka University School of Medicine, Suita, Japan, Nakanishi Kids Clinic, Osaka, Japan)
- IS4-2 **A Malaysian Perspective —Life Post-pandemic for Children with Developmental Disorders—**
Subhashini Jayanath (Consultant Developmental Paediatrician & Senior Lecturer, Department of Paediatrics, University of Malaya, Kuala Lumpur, Malaysia)

- IS4-3 Telemedicine in Thailand during the COVID-19 pandemics —benefits and limitations—**
 Jariya Chuthapisith, Lunliya Thampratankul (Department of Pediatrics, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand)
- IS4-4 Continuity of Care for Children with Neurodevelopmental Disabilities Amidst The Covid-19 Pandemic —The Philippine Experience—**
 Ermenilda L. Avendaño (Child Neuroscience Division, Philippine Children's Medical Center, Philippines)
- IS4-5 Learning to Dance in the Rain: Overcoming Challenges in Pediatric Neurology and Neurodevelopmental Disorders during the COVID-19 Pandemic in Indonesia**
 Hardiono D. Pusponegoro (Pediatric Neurology Consultant, Department of Child Health, Cipto Mangunkusumo Hospital, Universitas Indonesia Faculty of Medicine and Anakku Clinic)
 Amanda Soebadi (Pediatric Neurology Consultant, Department of Child Health, Cipto Mangunkusumo Hospital, Universitas Indonesia Faculty of Medicine)
- IS4-6 Pandemic and Care for the Children with Developmental Needs in Boston United States**
 Tomo Tarui (Fetal Neonatal Neurology, Neurogenetics Program, Pediatrics and Neurology, Pediatric Neurology, Department of Pediatrics, Tufts Children's Hospital, Boston, MA, USA, Principal Investigator, Mother Infant Research Institute, Tufts Medical Center, Boston, MA, USA)

Platform Session 01 : Neuromuscular Disorders 1

June 2 10:50-11:50 Room 6

Chair Ahmad Rithaudin Mohamed (Women and Children Hospital Kuala Lumpur)
 Hirofumi Komaki (National Center of Neurology and Psychiatry)

EO-001	Yoshihiko Saito	Department of Neuromuscular Research, National Institute of Neuroscience, National Center of Neurology and Psychiatry, Tokyo, Japan	Neuromuscular junction abnormalities in patients with centronuclear myopathy
EO-002	Hideyuki Iwayama	Department of Pediatrics, Aichi Medical University, Nagakute, Japan	Sibling cases of Duchenne muscular dystrophy with improvement after six months of Viltolarsen
EO-003	Yuko Motohashi	Department of Child Neurology, National Center of Neurology and Psychiatry, Tokyo, Japan	Urine miRNA in patients with Duchenne muscular dystrophy
EO-004	Satomi Ohtaki	Departments of Pediatrics, Saitama Medical University, Saitama, Japan	An exon skipping therapy by Viltolarsen on a presymptomatic patient with Duchenne muscular dystrophy
EO-005	Mariko Taniguchi-Ikeda	Department of Clinical Genetics, Fujita Health University Hospital, Aichi, Japan	Restoration of cortical plate organization in a brainorganoid model of Fukuyama muscular dystrophy
EO-006	Kaori Sassa	Departments of Pediatrics, Saitama Medical University Hospital, Saitama, Japan	Could Nusinersen from the neonatal period prevent the development of spinal muscular atrophy?

Platform Session 02 : Neuromuscular Disorders 2

June 2 13:10-14:20 Room 6

Chair Choong Yi Fong (Department of Paediatrics, Faculty of Medicine, University of Malaya)
 Takahiro Yonekawa (Department of Pediatrics, Mie University Graduate School of Medicine)

EO-007	Yukimune Okubo	Department of Pediatric Neurology, Miyagi Children Hospital, Sendai, Japan	Treatment with OA after Nusinersen in a patient with prenatally diagnosed spinal muscular atrophy
EO-008	Saki Uneoka	Department of Pediatrics, University of Tohoku, Miyagi, Japan	Spinal muscular atrophy-like features in a child with heterozygous MYBPC1 mutations
EO-009	Mujgan Arslan	Suleyman Demirel University Faculty of Medicine, Department of Pediatrics, Division of Pediatric Neurology, Isparta, Turkey.	Congenital insensitivity to pain with anhidrosis : A case report
EO-010	Limin Li	Department of Paediatrics, University of Malaya, Kuala Lumpur, Malaysia	Presentation and outcome of two paediatric patients with critical illness polyneuropathy
EO-011	Hideyuki Iwayama	Department of Pediatrics, Aichi Medical University School of Medicine, Nagakute, Aichi, Japan	Early immunologic responses to the mRNA SARS-CoV-2 vaccine in patients with neuromuscular disorders
EO-012	Yusma Lyana Mdysuf	Department of Paediatrics, Universiti Teknologi MARA (UiTM), Selangor, Malaysia	Chronic inflammatory demyelinating polyneuropathy in Malaysian children, a single centre experience
EO-013	Kristy Iskandar	Department of Child Health, Universitas Gadjah Mada, Yogyakarta, Indonesia	Exome sequencing identify FKTN mutation in Indonesian patient with congenital muscular dystrophy

Platform Session 03 : Neurometabolic Disorders 1**June 2 14:40-15:20 Room 6**

Chair Wang-Tso Lee (Department of Pediatric Neurology, National Taiwan)

Norikazu Shimizu (Department of Pediatrics, Toho University School of Medicine, Ohashi Medical Center)

EO-014	Shin Nabatame	Department of Pediatrics, Osaka University Graduate School of Medicine, Suita, Japan	Ketogenic diet introduction and modification in an adulthood patient with Glut1 deficiency syndrome
EO-015	Tugce Aksu Uzunhan	Department of Pediatric Neurology, Prof. Dr. Cemil Tascioglu City Hospital, Istanbul, Turkey	Childhood-onset glucose transporter 1 deficiency syndrome 2 in three generations in a family
EO-016	Tatsuro Izumi	Department of Pediatrics and Child Neurology, Nanao National Hospital, Nanao, Japan	A novel bronchoscopic finding of cluster cholesteatoma in a case with end-stage I-cell disease
EO-017	Sachie Nakamura	Department of Pediatrics, Jichi Medical University, Tochigi, Japan	Establishment of a flow cytometry screening method for Glucose transporter 1 deficiency syndrome

Platform Session 04 : Development**June 2 15:40-16:20 Room 6**

Chair Ahmad Rithauddin Mohamed (Women and Children Hospital Kuala Lumpur)

Tomoki Maeda (Department of Pediatrics Oita University)

EO-018	Anna Shiraki	Department of Pediatrics, Nagoya University Graduate School of Medicine, Nagoya, Japan	Sleep-state-dependent functional connectivity networks in preterm infants at term
EO-019	Yuji Ito	Department of Pediatrics, Aichi Prefecture Mikawa Aotiori Medical and Rehabilitation Center for Developmental Disabilities, Aichi, Japan	Gait performance and dual-task cost in school-aged children with Down syndrome
EO-020	Sho Narahara	Department of Pediatrics, Aichi Prefecture Mikawa Aotiori Medical and Rehabilitation Center for Developmental Disabilities, Okazaki, Japan	Effects of COVID-19-related refraining from going out on physical function in preadolescent children
EO-021	Tomoki Maeda	Department of pediatrics Oita University/ Yufu Oita, Japan	The correlation between general movements and developmental quotient at 3 years of age

Platform Session 05 : Neurodevelopmental Disorders**June 2 16:40-17:40 Room 6**

Chair Marilyn H. Ortiz (Head and Consultant, Child Neurology Section, Child Neuroscience Division Philippine Children's Medical Center)

Tatsuya Koeda (National Center for Child Health and Development)

EO-022	Lee Chin Wong	Department of Pediatrics, National Taiwan University Children Hospital, Taipei, Taiwan	Clinical characteristics and sleep disturbances in FOXG1 syndrome
EO-023	Yinghan Lee	Department of Post Baccalaureate Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan	Objective Diagnosis of ADHD Children by Using Pixel Subtraction
EO-024	Toshihiro Jogamoto	Department of Pediatrics, Ehime University Graduate School of Medicine, Ehime, Japan	Lister hooded rats as a suitable animal model of attention-deficit hyperactivity disorder
EO-025	演題取り下げ		
EO-026	Kiyoshi Egawa	Department of Pediatrics, Hokkaido University Graduate School of Medicine	Therapeutic effects of bumetanide on neurological dysfunction in a mouse model of Angelman syndrome
EO-027	Kai Makita	Research Centre for Child Mental Development, University of Fukui, Fukui, Japan	Parent training effects on emotion recognition in mothers rearing ADHD children : an fMRI study

Platform Session 06 : Mitochondrial Diseases**June 3 8:20-9:00 Room 6**

Chair Asuri N. Prasad (Department of Pediatrics Faculty of Medicine Western University and Schulich School of Medicine and Dentistry)

Akira Ohtake (Saitama Medical University)

EO-028	Yuji Nakamura	Department of Pediatrics and Neonatology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan	Biallelic variants in PNPLA8 disrupt cortical gyrification through aberrant mitochondrial dynamics
EO-029	Mariko Ikeda	Department of Clinical Genetics, Fujita Health University Hospital, Aichi, Japan	Biallelic variants in LIG3 cause a novel mitochondrial neurogastrointestinal encephalomyopathy

Platform Session 06 : Mitochondrial Diseases つづき

EO-030	Yurika Numata-Uematsu	Department of Pediatrics, Tohoku University School of Medicine, Sendai, Japan	Leigh syndrome-like MRI lesions in a case with biallelic HPDL variants treated with ketogenic diet
EO-031	Mizuki Kobayashi	Department of Pediatrics, Jichi Medical University	Apomorphine as a new therapeutic drug for Leigh syndrome

Platform Session 07 : Neurogenetic Disorders**June 3 9:20-10:20 Room 6**

Chair Wang-Tso Lee (Department of Pediatric Neurology, National Taiwan)

Shinji Saitoh (Department of Pediatrics and Neonatology, Nagoya City University Graduate School of Medical Sciences)

EO-032	Vanessa Wan Mun Lee	Department of Paediatrics, Hospital Tunku Azizah, Kuala Lumpur, Malaysia	Atypical presentation of Primary HLH : Unlocking diagnosis through the brain, eye and genetics
EO-033	Takako Takano	Department of Child Health, Tokyo Kasei University, Tokyo, Japan	Acampomelic campomelic dysplasia due to a translocation involving chromosome 17q upstream of SOX9
EO-034	Weikang Lim	Department of Paediatrics, University of Malaya, Kuala Lumpur, Malaysia	Novel mutations in two cases of complicated hereditary spastic paraplegia (HSP) in children
EO-035	Sayaka Aji-hara	Departments of Pediatrics, Saitama Medical University, Saitama, Japan	A boy of Cornelia de Lange syndrome 2 originally suspected to have MOPD
EO-036	Malini Mahalingam	Paediatric Neurology Unit, Department of Paediatrics, Penang General Hospital, Penang, Malaysia.	Early infantile stroke as a manifestation of Deficiency of Adenosine Deaminase 2 (DADA2)
EO-037	Asuri N. Prasad	Division of Pediatric Neurosciences, Department of Pediatrics, London Health Sciences Centre, London, Ontario, Canada	Long-term follow-up of primary neurotransmitter disorders- single centre experience (2004-2021)

Platform Session 08 : Epilepsy 1**June 3 10:40-11:30 Room 6**

Chair Solomon L. Moshé (Albert Einstein College of Medicine and Montefiore)

Shinichi Nijima (Juntendo University Faculty of Medicine)

EO-038	Marina Hashiguchi	Department of Pediatrics, Jichi Medical University, Shimotsuke, Tochigi, Japan	Severe developmental and epileptic encephalopathy due to SCN8A A1491V variant with citrin deficiency
EO-039	Tugce Aksu Uzunhan	Department of Medical Genetics, Prof. Dr. Cemil Tascioglu City Hospital, Istanbul, Turkey	A homozygous novel variant in SCN1A gene associated with genetic epilepsy with febrile seizures plus
EO-040	Kazuki Nishioka	Department of Neurosurgery, Epilepsy Center, Juntendo University, Tokyo, Japan	Extent of leptomeningeal capillary malformation causes severity of epilepsy in Sturge-Weber syndrome
EO-041	Tomonori Ono	Epilepsy Center, National Nagasaki Medical Center	Developmental rate is highly accelerated within the first year after epilepsy surgery in children
EO-042	Harshuti Shah	Department of pediatric neurology, Rajvee Hospital, Ahmedabad, Gujarat, India	Utility of Oxcarbazepine for Neonatal Seizures

Platform Session 09 : Epilepsy 2**June 3 13:00-14:00 Room 6**

Chair Ingrid E. Scheffer (Austin Health, Florey Institute of Neuroscience and Mental Health Senior Fellow, Murdoch Children's Research Institute)

Hitoshi Yamamoto (St. Marianna University School of Medicine)

EO-043	Muhamad Azamin Anuar	Department of Paediatrics, International Islamic University Malaysia	The predicting factors in infantile-onset epilepsies : a single center study
EO-044	Yuki Ueda	Department of Pediatrics, Hokkaido University Hospital, Sapporo, Japan	Adrenal function during long-term ACTH therapy for developmental and epileptic encephalopathy
EO-045	Hiroo Omatsu	National epilepsy center, NHO Shizuoka Institute of Epilepsy and Neurological Disorders, Shizuoka, Japan	Effects of perampanel on mental health in pediatric patients with focal-onset seizures in study 311
EO-046	Ahmad R. Mohamed	Department of Paediatrics, Hospital Tunku Azizah Kuala Lumpur, Malaysia	Late-stage pontosubicular neuron necrosis in a term infant operated for refractory epilepsy

Platform Session 09 : Epilepsy 2 つづき

EO-047	Reiko Nishiguchi	Department of Medical Affairs, Invitae Corp., California, USA	Genetic testing and epilepsy Management : An int'l study of clinical practice and patient outcomes
EO-048	Hong Syuanyu	Division of Pediatrics Neurology, China Medical University, Children's Hospital, Taichung, Taiwan	Association Between Kawasaki Disease and Childhood Epilepsy : A Nationwide Cohort Study in Taiwan

Platform Session 10 : Neuroimage**June 3 14:20-15:10 Room 6**

Chair Asuri N. Prasad (Department of Pediatrics Faculty of Medicine Western University and Schulich School of Medicine and Dentistry)

Masayuki Sasaki (The Department of Child Neurology, National Center of Neurology and Psychiatry)

EO-049	Gen Furukawa	Department of Pediatrics, Fujita Health University School of Medicine, Toyoake, Japan	A whole-brain quantitative susceptibility mapping analysis for children with febrile seizures
EO-050	Mayu Tahara	Department of Pediatrics, The Jikei University School of Medicine, Tokyo, Japan	Developmental changes in brain activity of heterozygous Scn1a knockout rats
EO-051	Hideyuki Iwayama	Department of Pediatrics, Aichi Medical University, Nagakute, Japan	Regional Difference in Myelination in Monocarboxylate Transporter 8 Deficiency
EO-052	Hsin-Pei Wang	Department of pediatrics, national Taiwan university hospital Yun-Lin branch, Yun-Lin, Taiwan	Iron deposition in the brain of Rett syndrome patients
EO-053	Makoto Nabetani	Department of Pediatrics, Yodogawa Christian Hospital, Osaka, Japan	Molecular imaging (PET and SPECT) for children with HIE and cerebral palsy —a review—

Platform Session 11 : Neurometabolic Disorders 2**June 3 15:30-16:10 Room 6**

Chair Nicola Specchio (Department of Neuroscience Bambino Gesù Children's Hospital, IRCCS, Rome, Italy)

Hitoshi Osaka (Jichi Medical University, Department of Pediatrics)

EO-054	Kiwako Tsukida	Jichi Medical University	Iron Metabolism in SENDA/BPAN, an Autophagy Disease Due to WDR45 Variants
EO-055	Yoshikatsu Eto	Southern Tohoku Institute of Neuroscience, Kawasaki, Japan	Neuronal cell pathology from induced pluripotent stem cells of Fabry disease and Niemann Pick C
EO-056	Karin Kojima	Department of Pediatrics, Jichi Medical University, Shimotsuke, Tochigi, Japan	Long-term efficacy of gene therapy for AADC deficiency using AAV2-AADC vector
EO-057	Noboru Yoshida	Juntendo University Nerima Hospital	The effect of valproate for carnitine serum concentration in epilepsy patients

Platform Session 12 : Other Neurological Disorders**June 3 16:30-17:10 Room 6**

Chair Marilyn H. Ortiz (Head and Consultant, Child Neurology Section, Child Neuroscience Division Philippine Children's Medical Center)

Kenjiro Kikuchi (Division of Neurology, Saitama Children's Medical Center)

EO-058	Arslan Mujgan	Suleyman Demirel University Medical Faculty, Department of Pediatrics, Division of Pediatric Neurology Isparta, Turkey	Vertigo in childhood : how to evaluate vertiginous children?
EO-059	Anna Dominique Castro	Section of Child Neurology and Developmental Medicine, University of Santo Tomas Hospital, Manila, Philippines	SARS-CoV-2 neurotropism in a 12-year-old Filipino boy with focal encephalitis
EO-060	Azusa Matsubara	Department of Pediatric Neurology, Bobath Memorial Hospital, Osaka, Japan	Relationship between brain MRI findings and long-term outcomes in patients with AESD
EO-061	Lipyuen Teng	Hospital Tunku Azizah, Kuala Lumpur, Malaysia	Geniospasm : Like grandfather, like father, like son

Poster Session : (No Theme)

EP-001	Su Ching Hu	Department of Pediatrics, Cathay General Hospital, Taipei, Taiwan	Investigating CASK gene knockout on neuronal differentiation and survival
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