出國報告（出國類別：開會）

參加第七屆亞洲線粒體研究與醫學協會會議(The 7th Conference of Asian Society for Mitochondrial Research and Medicine)醫學報告

服務機關：生命科學研究所
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出國期間：20101215 至 20101219
報告日期：20110217

參加第七屆亞洲線粒體研究與醫學協會會議醫學報告

摘要:

亞洲粒腺體研究與醫學協會會議(Conference of Asian Society for Mitochondrial Research and Medicine)是亞洲地區主要針對粒腺體與醫學上的國際會議，於 2010 年 12 月 15 日至 18 日在日本福岡會議中心舉行，在這四天的會議中有來自全球在粒腺體研究上最頂尖的研究學者，演講與交流目前粒腺體在醫學上重要性與疾病關係，藉由學術交流與研討會促進粒腺體在醫學上相關研究及應用；誠摯感學校給予我公假與協助我辦理相關出國事宜，促使我在研究所求學過中有新的嘗試與學習並增廣國際見聞，提供我新的資訊在粒腺體在醫學中與疾病上所扮演色，激發我在學術上研究與新思維。我於會議中代表國防醫學院參加年輕學子海報比賽 (YIA：Young Investigator Award)，英文演講 Nodal 在腦瘤細胞中調控細胞代謝透過缺氧因子-1alpha 影響粒腺體的功能，這項研究目的是希望藉由改變腫瘤細胞代謝情形已達到提升腫瘤治療校果，雖然未能獲得比賽獎任何獎項，但不同國家的資深學者給予許多肯定與建議使我獲益良多。

本文:

一、 關於亞洲線粒體研究與醫學協會會議：

亞洲粒腺體醫學協會會議是主要目的是提升粒腺體與生物醫學之相關研究及發展，針對粒腺體在醫學上所扮演角色如(1)在演化、生態運動和適應性；(2)粒腺體與細胞死亡和自我凋亡；(3)粒腺體相關疾病；(4)粒腺體標靶性治療，並舉辦粒腺體生物醫學相關學術研討會，出版有關粒腺體生物醫學研究之專書期刊。

二、 YIA(Young Investigator Award)評審與篩選:

YIA 評選分式是針對 35 歲以下年輕學子的比賽獎項為二階段評選，第一階段於會議中 16、17 二天中下午進行海報甄選與評審，取其中十名於 18 日進行第二階段英文口頭報，前五名者各頒給五萬元日幣。

三、 參加目的:

此行參加第七屆亞洲粒腺體醫學協會會議，主要報告內容是這幾年研究生求學生涯在腦瘤相關研究成果，我們在腫瘤細胞發現腫瘤細胞特有的代謝現象，這與 1924 年諾貝爾生理醫學獎德國的 Otto Heinrich Warburg 所發現現象有一致性結果，而我們更進一步發現造成這現象主因可能是透過粒腺體來調控，因此我們在這會議發表這研究成果，透過此會議希望能聆聽不同專家意見及問題，並透過這會議結識各國青年研究生與學者，及增廣國際見聞。

四、 會議過程:

第一天主要是辦理報到手續，會議進行主要是在第二天(20101216)開始進行，由亞洲粒腺體醫學協會主席 Masashi Tanaka 教授主持開幕致詞，會議全程皆由英文演講，此次會議有來自歐亞美各國重量級學者來演講分享他們研究成果與心得，第一場開場演是由國際知名學者美國南加大大學 Douglas C. Wallace 教授演講，他提出一個新概念與新名詞”Energyomics &Energenomics：能量體學與能基

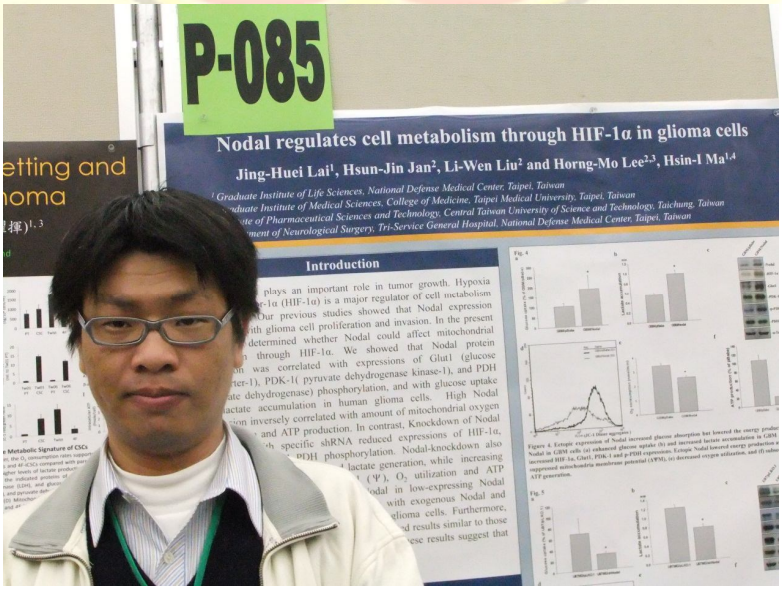
因體學”，他說人體許多相關疾病皆因粒腺體產生不正常代謝與功能異常的問題，人體能量來源主要是透過細胞中的發電廠”粒腺體”製造產生，而粒腺體也是造成許多疾病的主要原因，如：肌無力症、不孕症、早衰症、老人痴呆症、代謝性疾病、癌症等疾病，疾病的發生有部分主因是因粒腺體出現功能異常，也可能因其他基因或是代謝產物異常進而促使粒腺體功能也跟著失常，但是粒腺體沒辦法作為臨床上診斷指標，是因為它只是疾病上一個的共通現象缺乏專一性；這天會議內容主要是探討與演講關於粒腺體在細胞演化上、分化上、死亡及凋亡和癌化過程，古生物遺傳學家指出粒腺體可能是在原始時期，細菌與真核細胞共存演化成特定功能的胞器，在人類演化過程中經由受孕而繁衍後代過程中只有女性的粒腺體會遺傳給後代，因此可以做為遺傳學上人種與物種間的遺傳鑑定，針對不同動物和食品可被衛生機關列為稽查是否有掛羊頭賣狗肉的問題，替民眾在食用肉品和中草藥作為一個審查機制；在細胞分化過程中，分化成熟細胞比未分化細胞在能量使用上效率較高(ATP/AMP ratio)，而分化後細胞對於自由基(ROS)或是氧化壓力敏感度比較高且容易造粒線體損傷與細胞凋亡，這也是分化成熟的神經細胞影響最主要的一個因素，癌細胞與幹細胞具有某些相似性質，癌細胞是一群分化不良且快速增生的惡性細胞，在能量合成上會傾向無氧糖解作用(Glycolysis)，而無氧糖解會造成粒腺體功能低下，而癌細胞在無氧環境下會造成ROS 增加進一步促進癌細胞增生，因此，粒線體的代謝與基本功能低下時可能會促進癌細胞更惡化，因此，在我的研究中也發現有同樣結果，在增加的粒腺體功能與代謝後會減低癌細胞的侵襲與增生。

第三天會議內容主要的焦點及議題在粒腺體神經相關疾病、以粒腺體為治療標靶和粒腺體的 fusion(融合)和 fission(分離)所扮演角色；人體組成最基本單位是細胞是大家所熟知的，而每個細胞中都含有不同數量的粒腺體，這些粒腺體維持整個細胞正常能量來源與功能，當細胞因外在環境壓力或是本身為了對抗自由基都會造成粒腺體損傷時，粒腺體會透過 fusion(融合)和 fission(分離)方式來去除損傷粒腺體，已達成維持細胞生存，當細胞損傷過大或是 fusion(融合)和 fission(分

離)機制出現問題也會進一步使細胞死亡；我從事的研究為探討粒腺體在癌症中所扮演角色，以供細胞正常生理功能的運作，當粒腺體功能異常的時候，會引發能量供應不足及氧化壓力的反應，甚至誘導細胞走入凋亡或自噬作用。而中午為海報評選的時間，我在本次海報甄選中提出一篇口頭論文研究成果報告，關於Nodal 在腦瘤細胞中調控細胞代謝透過缺氧因子-1alpha 影響粒腺體的功能，雖然在第一次甄選過程中並未順利進入第二階段的口頭報告，但是有助於國防醫學院在國際學術會議曝光率，藉由國際學術交流以提升國內在學術研究領域，與醫學上探討、尋找有效治療策略及醫療水準。

五、 心得及建議:

這次是我求學以來第一次以學生身分申請出國參加學術研討會會議，許多事物對我都是新的嘗試與挑戰，如這次學術會議前從準備資料、海報製作和英文報告練習，在會議期間聆聽各國學者對於該領域研究與發展，及我所參加的青年學子海報英文口頭報告，在這短短四天的學術會議期間內，不僅強化了自己專知識與語文能力，也開拓自己國際視野及對外溝通能力，很感謝有這次機會與協助我的指導老師、實驗室相關夥伴和許多協助我的行政人員，雖然沒能幸運地參加第二階段上台報告演講及得獎，但這次經驗與過程對我獲益良多，並且針砭及砥礪自己仍須努力與精進，以求未來有不錯的研究成果、提升醫療水準及造福社會。



The 7th Conference of Asian Society for Mitochondrial Research and Medicine (ASMRM)
and
The 10th Conference of Japanese Society of Mitochondrial Research and Medicine (J-mit)

Program

Dec. 15. (Wed.)

18:00	**Registration**

Dec. 16. (Thu.)

8:00	**Registration**
8:30	**Opening Ceremony** (OC-1) Masashi Tanaka (Japan), ASMRM President (OC-2) Yasutoshi Koga (Japan), Chairperson
8:40	**Plenary Lecture 1 :** (Chair-1) Masashi Tanaka (Japan), ASMRM President (PL-1) Douglas C. Wallace (USA) "Energyomics - Energenomics : A Mitochondrial Etiology of Complex Diseases"
9:25	**Session 1 : Evolution, Migration and Adaptation 1** (Chair-2) Hsin-Chen Lee (Taiwan) (Chair-3) Masahiro Higuchi (USA) (S-1) Hong Kyu Lee (Korea) "Functional Differences in Mitochondrial haplotypes and its disease susceptibilities; need for a new methods " (S-2) Masahiro Higuchi (USA) "A novel metabolic pathway for the transduction of the mitochondrial DNA changes into cancer progression and Warburg's effect." (S-3) Hsin-Chen Lee (Taiwan) "Somatic mutations in mitochondrial genome and their potential roles in the progression of human cancers" (S-4) Min-Xin Guan (China) "Mitochondrial deafness"
10:45	**Coffee Break**
11:00	**Session 2 : Evolution, Migration and Adaptation 2** (Chair-4) Ian Holt (UK) (Chair-5) Takehiko Shibata (Japan) (S-5)Ian Holt (UK) "Mitochondrial DNA is Linked To The Mitochondrial Translation Apparatus And a 'mitoskeleton'" (S-6)Takehiro Yasukawa (UK) "Role of mitochondrial single-stranded DNA binding protein in the maintenance of mitochondrial DNA" (S-7)Takehiko Shibata (Japan) "Mitochondrial DNA homoplasmy as gene homogenization of repeated sequences by rolling circle replication." (S-8)Dongchon Kang (Japan) "TFAM-associated proteins that are involved in mitochondrial RNA metabolisms"
12:20	**Luncheon Seminar 1 : (Sponsored by Novo Nordisk Pharma Ltd.)** Chairperson : Akira Ohtake (Japan) Reiko Horikawa (Japan) "Growth hormone, IGF-I and mitochondrial function"
13:20	**Poster session I**
14:20	**Plenary Lecture 2 :** (Chair-6) Dongchon Kang (Japan) (PL-2) Yau-Huei Wei (Taiwan) "Mitochondrial Role in the Differentiation of Human Mesenchymal Stem Cells"
15:05	**Session 3 : Session 3: Cell Death, apoptosis, ROS and mitochondria 1** (Chair-7) Kiyoshi Kita (Japan) (Chair-8) Hideyuki Majima (Japan) (S-9) Hsiu-Chuan Yen (Taiwan) "Effect of mitochondrial dysfunction and oxidative stress on endogenous levels of coenzyme Q10 in human cells" (S-10) Hideyuki Majima (Japan) "Quercetin Induces Autophagy in Rat Normal Gastromucosal Cell Line, RGM1." (S-11) Youngmi Kim Pak (Korea) "Mitochondria: the secret chamber of therapeutic targets for age-associated degenerative diseases" (S-12) Takamasa Ishii (Japan) "Effects of mitochondrial oxidative stress by complex II SDHC V69E mutation on decreased fertility, pregnancy and delivery rates."
16:25	**Coffee Break**
16:40	**Special Lecture 1 :** (Chair-9) Yau-Huei Wei (Taiwan) (SL-1) Shigeo Ohta (Japan) "Molecular Hydrogen Is a Novel Antioxidant to Effeciently Reduce Oxidative Stress With Potential For the Improvement of Mitochondrial Diseases"
17:10	**Session 4 : Session 4: Cell Death, apoptosis, ROS and mitochondria 2** (Chair-10) Yusaku Nakabeppu (Japan) (Chair-11) Nobutaka Hattori (Japan) (S-13) Yusaku Nakabeppu (Japan) "Molecular mechanism for oxidative DNA damage-induced neurodegeneration" (S-14) Norbert A Dencher (Germany) "Role of mitochondria and OxPhos-supercomplexes in ageing, neurodegenerative diseases and CR-induced prolongation in healthy lifespan" (S-15) Nobutaka Hattori (Japan) "A common pathway of pathogenesis of familial and sporadic forms of Parkinson's disease: Is mitochondrial dysfunction of dopaminergic neurons a common pathway?" (S-16) Yong ZHANG (China) "Exercise-induced Mitochondrial Dynamic Model"
18:30	**Special Lecture 2 :** (Chair-12) Shigeo Ohta (Japan) (SL-2) Shu-Sen LIU (China) "Evolutional aspect of Q cycle and its derived ROS cycle in electron transfer pathway branch of mitochondrial respiration in different animal species"
19:00	

Dec. 17. (Fri.)

8:00	**Registration**
8:40	**Plenary Lecture 3 :** (Chair-13) Yasutoshi Koga (Japan), Chairperson (PL-3) Salvatore DiMauro (USA) "mtDNA Related Disease: Unfinished Business"
9:25	**Session 5 : Mitochondria-Fusion and Fission** (Chair-14) Koji Okamoto (Japan) (Chair-15) Quan CHEN (China) (S-17) Koji Okamoto (Japan) "Regulation of Mitochondria-Specific Degradation In Yeast" (S-18) Quan CHEN (China) "Molecular regulation of mitochondrial dymanics and its implication in Parkinson disease" (S-19) Naotada Ishihara (Japan) "Regulation and Physiological Roles of Mitochondrial Fission In Mammalian Cells" (S-20) Takumi Koshiba (Japan) "Mitochondrial dynamics in mammalian cells and an insight for antiviral immunity"
10:45	**Coffee Break**
11:00	**Session 6 : Animal model** (Chair-16) Anu Wartiovaara (Suomalainen) (Finland) (Chair-17) Kazuto Nakada (Japan) (S-21) Anu Wartiovaara (Suomalainen) (Finland) "Physiological Consequences of Respiratory Chain Deficiency." (S-22) Carl A. Pinkert (USA) "From transmitochondrial animal models to in vivo modeling of human mitochondrial disease pathogenesis" (S-23) Emi Ogasawara (Japan) "A model mouse study: involment of lactic acidemia in the pathogenesis of mitochondrial disease phenotypes" (S-24) Myung-Shik Lee (Korea) "Role of the sceletal muscle autophagy in the regulation of energy metabolism" (S-25) Tomomi Ide (Japan) "The role of transcriptional factor A in mtDNA and in mice"
12:40	**Luncheon Seminar 2 : (Sponsored by Pfizer Japan Inc.)** Chairperson : Dongchon Kang (Japan) Kenji Ihara (Japan) "Growth hormone receptor and STAT5B genes contribute to lipid metabolism in the children with growth hormone deficiency"
13:40	**Poster session II**
14:40	**Special Lecture 3 :** (Chair-18) Ikuya Nonaka (Japan) (SL-3) Yasutoshi Koga (Japan) "Molecular pathology of MELAS and L-arginine therapy"
15:05	**Session 7 : Mitochondria-related diseases 1** (Chair-19) Eric A. Schon (USA) (S-26) Eric A. Schon (Columbia University, USA) "Mitochondrial Connections in Alzheimer Disease." (S-27) Inhee Mook-Jung (Korea) "The role of beta amyloid-induced mitochondrial damage in Alzheimer's disease pathogenesis" (S-28) Jongkyeong Chung (Korea) "Regulation of mitochondrial dynamics by Parkinson's disease genes, PINK1 and Parkin"
16:05	**Coffee Break**
16:20	**Session 8 : Therapeutics and treatments targeting mitochondria** (Chair-20) Michio Hirano (USA) (Chair-21) Makoto Yoneda (Japan) (S-29) Michio Hirano (USA) "CoQ10 deficiencies and MNGIE: Two Treatable Mitochondrial Disorders" (S-30) Masashi Tanaka (Japan) "Mitopenia contributes to sarcopenia, osteopenia, diabetes, and metabolic syndrome: Practical approaches to verify this hypothesis" (S-31) Takahiro Iizuka (Japan) "Pathogenesis of Stroke-Like Episodes in MELAS: A Role of Neuron-Astrocyte Uncoupling in Neuronal Hyperexcitability" (S-32) Makoto Yoneda (Japan) "In vivo functional brain imaging and therapeutic trial by L-arginine in patients with MELAS syndrome."
17:40	**Special Lecture 4 :** (Chair-22) Chii-Ruey Tzeng (Taiwan) (SL-4) Kita Kiyoshi (Japan) "Mitochondria as a target of chemotherapy - from parasites to cancer cells -"
18:10	**Intermission**
18:30	**Banquet**
20:30	

Dec. 18. (Sat.)

8:00	**Registration**
8:30	**Plenary Lecture 4 :** (Chair-23) Hong Kyu Lee (Korea) (PL-4) Chii-Ruey Tzeng (Taiwan) "The role of mitochondria in human reproduction: mitochondria in endometriosis"
9:00	**Special Lecture 5 and 6 :** (Chair-24) Yasutoshi Koga (Japan) (SL-5) Sho-ichi Yamagishi (Japan) "Role of Advanced Glication End Products And Oxidative Stress In Vascular Complications in Diabetes" (SL-6) Minho Shong (Korea) "Roles of mitochondrial oxidative phosphorylation in adipose tissues and systemic insulin resistances"
10:00	**Session 9 : Mitochondria-related diseases 2** (Chair-25) Yu-Ichi Goto (Japan) (Chair-26) Jiankang Liu (China) (S-33) Jiankang Liu (China) "Targeting mitochondrial biogenesis and mitophagy for preventing and treating insulin resistance in diabetes and obesity" (S-34) Young-Mock Lee (Korea) "Mitochondrial disease and epilepsy" (S-35) Yutaka Nishigaki (Japan) "Modern techniques to detect mitochondrial DNA mutations" (S-36) Yu-Ichi Goto (Japan) "Whole mitochondrial DNA sequencing as a screening method of mitochondrial diseases"
11:20	**Coffee Break**
11:35	**Young Investigator Award & Closing Ceremony** (Chair-27) Yasutoshi Koga (Japan), Chairperson (Chair-28) Masashi Tanaka (Japan), ASMRM President Five recipients will present as a brief oral presentation
12:45	**Luncheon Seminar 3 : (Sponsored by KANEKA Corporation)** Chairperson : Yasutoshi Koga (Japan) Yorihiro Yamamoto "Saposin B and its precursor protein prosaposin play key roles in absorption and transfer of CoQ10"
14:00	***Open college: disease update*** **Joint program with the Japanese Association of Patients with Mitochondrial Diseases and Their Family** City College "Mitochondria and Life" 「市民公開講座：生命を紡ぐミトコンドリア」 1）Presentation 講演 1 ／ Mitochondria is an essential organella for life ・講演：「生命を紡ぐミトコンドリア」Shigeo Ohta (Japan) ・演者：日本医科大学老人研究所　教授　太田成男 2 ／ Mitochondria and disorders : Genome research ・講演：「ゲノム研究からみたミトコンドリアと疾患」Masashi Tanaka (Japan) ・演者：東京都老人総合研究所　ゲノム医療部　部長　田中雅嗣 3 ／ Therapy for mitochondrial disorders ・講演：「ミトコンドリア病を取り巻く治療環境」Yasutoshi Koga (Japan) ・演者：久留米大学医学部小児科　教授　古賀靖敏 4 ／ Social support by Government ・講演：「特定疾患研究事業に加わったミトコンドリア病の現状と問題点」Katsumi Nakata (Japan) ・演者：厚生労働省健康局疾病対策課　課長補佐　中田勝己 5 ／ Mitochondrial disorders in Hong Kong ・講演：「ミトコンドリア病を取り巻く環境」香港の現状　Christina Hellmann-Ipsaryaris (Hong Kong) ・演者：Christina Hellmann-Ipsaryaris　Joshua Hellman Foundation President 2）Panel Discussion　パネルディスカッション
17:00	

Poster Presentations

Thursday December 16th 13:20-14:20

Poster Number	First author	Title	Country
P-001	Satoh Naha	Functional analysis of splicing variants of succinate dehydrogenase subunit C	Japan
P-002	Watanabe Nobuko	Succinate dehydrogenase subunit C alternative splicing variant induces up-regulation of gamma-glutamylcysteine synthetase.	Japan
P-003	Schäfer Eva	3D-Architecture of active respiratory chain supercomplexes from bovine heart mitochondria.	Germany
P-004	Ogata Makiko	Regulation of mitochondrial matrix pH by the activity and balance of complexes in the mitochondrial electron transport system in cultured living β cells: evaluation using a new modified system	Japan
P-005	Lan Yueh-Wen	Analysis of the Relationship between Bioenergetic Signatures and Differentiation Potentials of Human Mesenchymal Stem Cells from Different Origins.	Taiwan
P-006	Guo Han Wen	The increase of NADH fluorescence lifetime is associated with the metabolic change during osteogenic differentiation of human mesenchymal stem cells (hMSCs)	Taiwan
P-007	Sakai Chika	Biochemical analysis of flavoprotein (Fp) subunit isoforms in human mitochondrial respiratory Complex II (succinate-ubiquinone reductase).	Japan
P-008	Byun Hae-Ok	Potential Involvement of Mitochondrial GSK3 in TGF β1-Induced Mitochondrial Dysfunction.	South Korea
P-009	Miyazawa Masaki	Mitochondrial A-RAF drives neuronal differentiation via superoxide production and PDC activation in mitochondria.	Japan
P-010	Pretorius Marianne	The investigation of metallothionein involvement in mitochondrial function and disease.	South Africa
P-011	David A. Ferrick	Advanced bioenergetic tools drive new discoveries in age-related diseases.	USA
P-012	Yoshizawa Takahiro	Adrenomedullin-RAMP2 system is essential for cardiac mitochondrial functio	Japan
P-013	Sugiura Ayumu	A role of MITOL in the regulation of ER-mitochondria junction via Mfn2	Japan
P-014	Yeh Yi-Ling	OPA1 in the maintenance of mitochondrial bioenergetics and structural netwo	Taiwan
P-015	Lee Jee Suk	Induction of mitochondrial fusion by histone deacetylase inhibitors	South Korea
P-016	Kobashigawa Shinko	Radiation induces mitochondrial morphological change related to delayed mitochondrial dysfunction in normal human fibroblast cells.	Japan
P-017	Frenzel Monika	Effect of radiation on the mitochondrial proteome, ROS generation and physiology in senescenct human cells.	Germany
P-018	Handa Yoshihiro	Solution structure of the catalytic domain of the mitochondrial protein ICT1 that is essential for cell vitality.	Japan
P-019	Lo Mei-Chen	Advanced glycation end products cause mitochondrial fragmentation and mitoautophagy in RIN-m5F cells	Taiwan
P-020	Kim Jun-Hyung	Autophagy-mediated functional loss of mitochondria in oncogenic K-Ras-induced transformation.	South Korea
P-021	Fukuoh Atsushi	Defective mitochondrial transcription termination impairs mtDNA maintenanc	Japan
P-022	Yoon Young Geol	Mitochondrial genome-organizing activity of mouse mitochondrial transcription factor A and its transcript isoform in *Saccharomyces cerevisiae*.	South Korea
P-023	Kasashima Katsumi	Human TFAM is required for the symmetric segregation of mitochondrial DNA in cultured cells.	Japan
P-024	Imanishi Hirotake	The innate immune system in host mice targets cells with allogenic mitochondrial DNA	Japan
P-025	Mikami Eri	Analysis of entire mitochondrial genome in elite Japanese athletes.	Japan
P-026	Fuku Noriyuki	Mitochondrial haplogroup associated with muscle power in healthy Japanese adults	Japan
P-027	Nishimura Takayuki	Effect of Mitochondrial Haplogroup on Cold Adaptability of Japanese Populat	Japan
P-028	Clarke James S.W.	Evolutionary Geometry and the Human Mitochondrial Genome.	Australia
P-029	Tokunaga Shinji	The Wallerian degeneration slow (Wld^S) protein is protective against neuronal cell death induced by hypoxia/reoxygenation and inhibition of mitochondrial respiratory chain in primary cultured mouse cortical neurons	Japan
P-030	Kim Hyoung Kyu	Tetrahydrobiopterin is an essential cofactor for mitochondria biogenesis and function	South Korea

P-031	Fujino Takeo	Recombinant TFAM attenuates pathological hypertrophy of cardiac myocytes via inhibiting NFAT signaling.	Japan
P-032	Higashi Kyoichiro	Proteomic analysis of mitochondrial fragmentation by dominant-active HtrA2.	Japan
P-033	Nishiyama Satoshi	Mitochondrial Disease Therapy by *Tfam* Over-expression in a Mouse Model System	Japan
P-034	Carroll Christopher J	Mitochondrial myopathy induces a starvation-like response.	Finland
P-035	Hirata Koji	Dysfunction of mitochondrial energy metabolism in *Klotho* KO mice	Japan
P-036	Fuke Satoshi	Enhanced accumulation of mitochondrial DNA deletions in the brain and altered behavioral rhythm in heterozygous mitochondrial mutator mice.	Japan
P-037	Nikkanen Joni	Cis-regulatory elements of POLG1 expression with putative tissue-specificity.	Finland
P-038	Mitsuhashi Satomi	Mitochondrial dysfunction and mitophagy in muscle choline kinase beta defect.	Japan
P-039	Chen Yi-Fan	Cisd2 deficiency leads to abnormality in energy metabolism and thermo-regulation in the accelerated aging knockout mice	Taiwan
P-040	Wu Chia-Yu	Phenotypic effects of Cisd2 deficiency on cardiac and skeletal muscles in tissue-specific knockout mice	Taiwan
P-041	Wang Chih-Hao	The Role of Cisd2, a Mitochondrial Protein, in Adipogenesis of the Mouse	Taiwan
P-042	Thilmany Sandra	Ageing and calorie restriction effect the mitochondrial proteome and lipidome of rat brain and heart.	Germany
P-043	Dani Diksha	Anti-ageing mechanism of calorie restriction: Modulation of the mitoproteome and of ROS generation.	Germany
P-044	Frenzel Monika	Supramolecular organisation of OxPhos complexes changes during ageing in various brain regions to a different extent.	Germany
P-045	Kinouchi Tadatoshi	Quality control of damaged mitochondrial proteins by D-aspartyl endopeptidase.	Japan
P-046	Kawajiri Sumihiro	Analysis of whether MITOL associates with the PINK1/parkin-mediated mitophagy.	Japan
P-047	Morimoto Nobutoshi	Induction of alpha-synuclein, PINK1, DJ-1 in the spinal motor neurons of transgenic mouse carrying a mutant SOD1 gene	Japan
P-048	Amo Taku	Mitochondrial membrane potential decrease caused by loss of PINK1 is not due to proton leak, but to respiratory chain defects.	Japan
P-049	Nishimaki Kiyomi	Consumption of hydrogen water prevents the age-dependent impairment in learning and memory tasks in Alzheimer model mice	Japan
P-050	Kamimura Naomi	Molecular hydrogen improves obesity and diabetes by inducing FGF21 through reducing oxidative stress in *db/db* mice.	Japan
P-051	Oharazawa Hideaki	Rapid diffusion of hydrogen molecule from hydrogen-containing eye drops reduces retinal ischemia-reperfusion injury	Japan
P-052	Wolf Alexander M.	Transgenic mice expressing redox-sensitive fluorescent protein in cytosol and mitochondria.	Japan
P-053	Minamiyama Yukiko	Generation of reactive oxygen species from the sperm mitochondria of rats is an excellent marker for the biological toxicity of endocrine-disrupting chemicals	Japan
P-054	Shibuya Toshiharu	Study of cell death induced by mitochondrial ROS generated by mtKillerRed protein.	Japan
P-055	Yasuda Kayo	Energy metabolism abnormality of ultraviolet irradiation sensitive mutant *rad-8* in *C.elegans*	Japan
P-056	Ho Yun-Lung	Suberoylanilide hydroxamic acid (SAHA), a histone deacetylase inhibitor induces human neurtrophil apoptosis via mitochondrial dysfunction	Taiwan
P-057	Thu V.T.	Glutathione peroxidase 1 protects mitochondria against hypoxia-reoxygenation damage in mouse hearts	South Korea
P-058	Nakamura Naoko	Tissue-specific involvements of mitochondrial electron transport chain in the hyperglycemia-induced superoxide overproduction in human vascular endothelial cells.	Japan
P-059	Ryu Min Jeong	Impaired mitochondrial oxidative phosphorylation in adipose tissue causes systemic insulin resistance	South Korea
P-060	Huang Hsin-Chang	Role of Mitochondria in the Response of C_2C_{12} Myotube Cells to Insulin and Adipokines Secreted by Adipocytes	Taiwan

Poster Presentations

Friday December 17th 13:40-14:40

P-061	Fukasawa Hiroko	Spindle replacement of oocyte by metaphase II spindle injection (MESI).	Japan
P-062	Kagawa Noriko	Assisted Reproductive Technology (ART) for Mitochondrial disease patients -II. -Safe and Successful Cryopreservation of GV oocyte before Whole Ooplasmic Transfer (WOT) in mitochondrial disease patients-	Japan
P-063	Yabuuchi Akiko	Whole ooplasmic transfer by direct injection method using Piezo drive system for prevention of mutated mitochondrial DNA transmission: Assisted Reproductive Technology for Mitochondrial Disease Patients	Japan
P-064	Hansikova Hana	Mitochondrial DNA content and expression of genes involved in mtDNA transcription and maintenance during human fetal development	Czech Republic
P-065	Saito Keiko	Pyruvate therapy for a patient with mitochondrial DNA depletion syndrome.	Japan
P-066	Nakano Kazutoshi	Attempt of Assessing Mitochondrial Function for Six Patients with Mitochondrial Disease using Non- Invasive Breath Tests with ^{13}C-labled Pyruvate and Acetate	Japan
P-067	Kaji Shunsaku	Efficacy of dietary and pharmaceutical treatments targeting respiratory chain complex II for mitochondrial DNA depletion syndrome with MPV17 mutations.	Japan
P-068	Chang Jui-Chih	Peptide-mediated mitochondrial transfer can rescue mitochondrial respiratory functions in cybrids harboring MERRF A8344G mutation	Taiwan
P-069	Malhi Saradeep Singh	Subcellular targeting of redox cycler: Doxorubicin to the mitochondria of cancer cell using mitocancerotropic liposomes.	India
P-070	Ikawa Masamichi	*In vivo* functional imaging of energy states and a therapeutic potential of L-arginine for patients with mitochondrial cardiomyopathy.	Japan
P-071	Kuroda Yusei	Cu-ATSM is a novel indicator of intercellular over-reduced states in mitochondrial dysfunction: fundamental evaluation using mitochondrial DNA-less (ρ^0) cells and cybrids carrying causal mitochondrial DNA mutation of MELAS syndrome	Japan
P-072	Kikuchi Kiyoshi	Effect of minocycline on HMGB1 in PC12 under ischemic conditions	Japan
P-073	Phuagphong Patamawan	*Sonneratia caseolaris* Linn extraction prevent Ca^{2+}-reperfusion induced astrocytic cells injury	Thailand
P-074	Fukui Akifumi	Protective effect of polaprezinc on aspirin-induced apoptosis of small intestinal epithelial cell.	Japan
P-075	Lin Ta-Tsung	Reduction of oxidative stress in Machado-Joseph disease under lamotrigine therapy	Taiwan
P-076	Hsu Wei-Chien	Disagreement among results of temperature-based denaturing HPLC, Surveyor nuclease method, and pyrosequencing on confirmation of novel somatic mtDNA mutations in human astrocytoma identified by direct sequencing.	Taiwan
P-077	Liu Chin-San	Modification of mitochondrial DNA in breast cancer	Taiwan
P-078	Uchiumi Takeshi	Mitochondrial p32 is highly expressed in prostate cancer and is associated with shorter PSA relapse time after prostatectomy	Japan
P-079	Lee Young-Kyoung	Importance of decreased expression of mitochondrial 8-oxoguanine DNA glycosylase in hepatocellular carcinoma	South Korea
P-080	Chang Lihong	Mitochondrial D150T increases cervical cancer and HPV infection risk	China
P-081	Liao Tien-Ling	Mitochondrial Estrogen Receptor β in the Modulation of Mitochondrial Transcription in Endometriosis	Taiwan
P-082	Chiba Mayumi	mRNA expression status of the mitochondrial gene in gastric carcinoma.	Japan
P-083	Liu Li-Tzu	Role of Mitochondrial Dysfunction in the Invasion and Progression of Human Colorectal Cancer Cells.	Taiwan
P-084	Shen Yao-An	Cancer Stem Cells Undergo Mitochondrial Resetting and Metabolic Shift in Nasopharyngeal Carcinoma	Taiwan
P-085	Lai Jing-Huei	Nodal regulates cell metabolism through HIF-1α in glioma cells	Taiwan
P-086	Tomitsuka Eriko	A novel mitochondrial energy metabolism and its association of quinone biosynthesis in tumor microenvironment	Japan
P-087	Kim Hye-Ran	Frequent mitochondrial DNA genomic aberration with profound length heteroplasmic instability from primary AML cells: impaired mitochondrial biogenesis and evidence of 'vicious cycle' pathophysiology	South Korea
P-088	Hsu Jia-Chi	Effect of mitochondrial stress on HIF-1α translation in human hepatoma cells	Taiwan
P-089	Hung Wen-Yi	Mitochondrial dysfunction promotes cell migration and chemo-resistant ability of human gastric cancer SC-M1 cells	Taiwan
P-090	Iwasaki Hironori	Tumor cytotoxicity of Nitidine is associated with intracellular accumulation into mitochondria.	Japan

P-091	Jheng Huei-Fen	Mitochondrial Fission Induced by Palmitic Acid Causes Mitochondrial Dysfunction in the Muscle in Obesity	Taiwan
P-092	Hsu Yi-Hao	The Effect of Eicosapentaenoic acid on Peroxisome Proliferator Activated Receptor gamma and Mitochondrial Biogenesis.	Taiwan
P-093	Chen Ya-Hui	The effect of caveolin-1 peptide in cardiovascular risk as alternation of mitochondrial DNA copy number, cyPA expression, and dyslipidemia	Taiwan
P-094	Chen Chia-Wen	A rice bran oil diet improves insulin resistance and affects the expressions of the hepatic mitochondrial electron transfer complexes in streptozotocin / nicotinamide - induced type 2 diabetic rats.	Taiwan
P-095	Kurashige Yoshiko	The Japanese siblings with hepatic type of mitochondrial DNA depletion syndrome caused by novel mutation of Deoxyguanosine kinase (*DGUOK)*	Japan
P-096	Tesarova Marketa	MNGIE caused by heterozygous 150kb-deletion spanning *TYMP* and *SCO2* genes in combination with c.261G>T mutation in *TYMP*.	Czech Republic
P-097	Loo Jun-Hun	Mitochondrial Dysfunction and Oxidative Stress in Leukocytes of Patients with Type 2 Diabetes in Southeast Taiwan Aborigines	Taiwan
P-098	Higasayama Ayaka	Three sisters with congenital hydrocephalus caused by mitochondrial respiratory chain complex I deficiency: Usefulness of blue native polyacrylamide gel electrophoresis.	Japan
P-099	Ichimoto Keiko	Liver disease with mitochondrial respiratory chain disorder in Japan	Japan
P-100	Ajima Masami	Neonatal-onset Mitochondrial Respiratory Chain Disorders in Japan.	Japan
P-101	Yoshimura Noriaki	Brain degeneration in Menkes disease in humans and mice	Japan
P-102	Yatsuga Shuichi	Suggestion of the New MELAS Classification on Nationwide Cohort Study in Japan.	Finland
P-103	Kuo Yung-Ting	Alpha-Lipoic Acid Induces Adipose Triglyceride Lipase Expression and Decreases Intracellular Lipid Accumulation in HepG2 Cells	Taiwan
P-104	Cheng Yu-Chi	Effects of oils on nonalcoholic fatty liver disease in rats and its mitochondrial function.	Taiwan
P-105	Chua Shian-Wei	Effect of low concentration of mitochondrial inhibitor on nonalcoholic fatty liver disease.	Taiwan
P-106	Korenaga Masaaki	Hepatic steatosis induced by hepatitis C virus and iron, and its attenuation by glycyrrhizin	Japan
P-107	Teng Yuan-Chi	Overexpression of the Hepatitis B Virus Pre-S2 Mutant Antigen Leads to Hepatomegaly, Fibrosis and Carcinogenesis in Transgenic Mouse Liver	Taiwan
P-108	Lin Hsiu-Ching	Resveratrol Recovers Fatty Liver and Protects Against Hepatocellular Carcinoma Development in the HBx Transgenic Mice	Taiwan
P-109	Kato Tomofumi	Extensive and rapid screening for major mitochondrial DNA point mutations in patients with hereditary hearing loss	Japan
P-110	van der Walt Elizna Magdalena	The molecular genetic characterization of mitochondrial DNA in a cohort of South African patients with mitochondrial disorders using next-generation DNA sequencing.	South Africa
P-111	Morota Saori	Rapid diagnosis of mitochondrial respiratory dysfunction via blood sampling	Sweden
P-112	Murayama Kei	Diagnoses and molecular bases of mitochondrial respiratory chain disorders in Japan	Japan
P-113	Yamazaki Taro	Mitochondrial hepatoencephalopathies caused by mutations in DGUOK, MPV17, POLG and C10orf2 genes.	Japan

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