• 計畫中文名稱	雌激素基因多形性與年輕型中風之相關性研究(I)		
• 計畫英文名稱	Genetic Polymorphisms of Estrogen Genes in Young Ischemic Stroke (I)		
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• 中文關鍵字	年輕型缺血性中風；雌激素；生長；代謝；接受器		
• 英文關鍵字	young ischemic stroke；estrogen receptor；estrogen biosynthesis；estrogen metabolism；polymorphism		
• 中文摘要	腦中風疾病在台灣是列爲第二大死因。同時它也是成年人失能的最主要的原因。許多研究指出雌激素與心血管疾病的危險性有相關，且扮演著抗發炎的角色。而雌激素生成、代謝與接受器的相關基因多形性會影響雌激素的表現，且雌激素是進一步透過 NF-κB 轉錄因子影響發炎基因表現，進而與缺血性中風有關。本計畫將著手進行一大規模的病例對照研究來探討關於雌激素生成、代謝、雌激素接受器與 NF-κB 基因與年輕型缺血性中風的關係。 本計畫預計收取 1000 位年齡小於 55 歲之第一次年輕型缺血性中風的病患與 1000 位年齡及性別配對且未有腦血管及心臟血管疾病史之對照者。所有的參與者均藉由結構式問卷收集生活環境中的危險因子與疾病史，同時亦收集血液檢體，包括血漿與 DNA。 本計畫預期可以獲得雌激素生成(CYP17 -34C/T 和 CYP19 G→A at Val80)]、雌激素代謝(CYP1A1 3801T/C、CYP1A2 -2964G/A、CYP1B1 Leu432Val、CYP3A4 -392A/G、COMT Val158Met、SULT1A1 638G/A 和 SULT1E1 -64G/A)、雌激素接受體α (IVS1-397T/C、IVS1-351A/G、-416G/C 和 Ex8+1988C/A)和β(1082G/A 和 1730G/A)及 NFKB1（-94ins/delATTG 和 CA repeat）相關基因多形性對年輕型缺血性中風發病危險性的基因-基因交互作用。進一步探討傳統危險因子與上述基因多形性之間對於年輕型缺血性中風發病危險性之獨立與交互作用的關係。		
• 英文摘要	Cerebrovascular diseases are the third leading cause of death in Taiwan in 2007. It is also the most important reason for disability among elderly adults. Sex hormones are well reported to be associated with cardiovascular disease risk. Several studies showed that estrogens have been shown to have beneficial effects on the cardiovascular system via favorable effects on anti-inflammatory effects. Genetic polymorphisms of estrogen related genes are speculated to influence estrogen level and will count for human susceptible to risk of stroke in young adults. In addition, several studies showed that the decrease in estrogen-induced		

	vascular inflammatory markers including adhesion molecules and chemokines might be the mechanism for vascular protection. Recently, a novel and unique mechanisms for 17β-Estradiol (E2) anti-inflammatory activity which is E2 prevents inflammatory gene transcription induced by inflammatory agents by inhibiting NF-κB intracellular transport was found. Therefore, we proposed a study to explore the association between the genetic polymorphisms of estrogen-related genes, including estrogen synthesis, metabolizing, receptor genes, and NF-κB and ischemic stroke in young adults. A total of 1000 incident ischemic stroke in young adults aged 55 years old≦ and 1000 age- and sex-matched participants without cerebrovascular and cardiovascular diseases will be recruited in the program project. Life style, environmental risk factors and disease histories of study subject will be collected. Peripheral blood samples including plasma and buffy coat were also collected. All biospecimens will be stored in biobank supported by the subproject. We will measure the gene-gene interaction of genetic polymorphisms of estrogen biosynthesis [(CYP17 -34C/T and CYP19 G→A at Val80)], estrogen metabolism [(CYP1A1 3801T/C, CYP1A2 -2964G/A, CYP1B1 Leu432Val, CYP3A4 -392A/G, COMT Val158Met, SULT1A1 638G/A and SULT1E1 -64G/A)], estrogen receptor α[(IVS1-397T/C, IVS1-351A/G, -416G/C, and Ex8+1988C/A)] and β (1082G/A and 1730G/A)], and NFKB1(-94ins/delATTG and CA repeat) on ischemic stroke in young patients and age-sex-matched healthy controls. Furthermore, the independent and joint effect between traditional risk factors and genotypes of estrogen related genes on risk of ischemic stroke in young adults will also be examined.