LW(II) 1

BioPro Pharmaceutical, Inc.

Fluorescence Guide Surgery with 5-ALA for Brain Tumor Resection

時間(Time):2020/9/13 (日) 12:30-13:45
地點(Location): 南港 中研院生醫所 (IBMS) B1D
講者:林口長庚醫院林子欽醫師

Orexin antagonist for insomnia: New mechanism and new concept

Speaker: Chau-Shoun Lee (李朝雄)
Department of Psychiatry, Mackay Memorial Hospital, Taipei, Taiwan
Department of Medicine, Mackay Medical College, New Taipei City, Taiwan

Time: Sep. 13, 13:00-14:00

Location: Institute of Biomedical Sciences (IBMS) B1B room

Abstract:

The sleep phenotypes include REM (rapid eye movement) and non-REM stages. Its sleep-wake cycle is regulated by an anatomical pacemaker, suprachiasmatic nucleus, which may be influenced by the sunlight and inhibit the secretion of melatonin in pineal gland. Another area for sleep regulation is the thalamus, functioning via thalamic oscillation and sensorimotor gating. Several neurotransmitters are associated with sleep and arousal. The GABA system, particularly central GABA-A receptor, is of essence to sleep. The arousal neurophysiology involves central Histamine 1, Alpha 1-adrenergic, Serotonergic 2A, and Orexin receptors etc.. Combined with those neurobiological mechanisms, the final sleep phenotypes are controlled by two pathways, circadian and homeostatic. The circadian pathway makes sleep structure synchronize with the complex biological functions and psychosocial activities, such as sunrise, sunset, body temperature, emotion, and cognition. Therefore, we may walk or eat when awaking, and cortisol or temperature lowers at sleep. The cycle of sleep and wake also synchronizes with the intracellular molecular rhythm, for instance, waking when the Period protein elevated in the morning. At another hand, the homeostatic pathway mainly works as the switching between sleep and wake under the influence of Adenosine 2 A receptor.

At traditional clinical practice for drug treatment of insomnia, we usually prescribed benzodiazepines (BZDs) or Z-drugs, which act at GABA-A system with a rapid effect on Chloride channel and sleep-wake switching. In the future, new medications for insomnia focus on the regulation on circadian pathway, which effects are slower than the BZDs. Those drugs, such as orexin antagonists, act on G-protein couple receptors and may involve in the entrainment of sleep physiology. Therefore, the sleep drug therapy with orexin antagonist, will emphasize the synchronization with bio-psycho-social situations instead of merely sleep-wake exchange.


MSD
INVENTING FOR LIFE
我們為何致力於研發
在默沙東，我們致力為更多生命而研發
我們的使命是解決世界上許多最具挑戰性的疾病，因為這個世界仍然需要治療方法來對抗癌症、阿茲海默症、愛滋病，以其許多人類和動物面臨的流行傳染疾病。
我們透過研發，致力於幫助人們繼續前進、解除疾病負擔、體驗甚至創造他們最好的生活。
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TW-NON-00002 28/11/2020

Whole Tissue Imaging and Its Applications (三維大組織影像服務教學)

時間(Time):2020/9/13 (日) 12:30-13:45
地點(Location): 南港 中研院生醫所 (IBMS) B1A

演講摘要 (Abstract):
In this workshop, we will first talk about the current development in the field of 3D whole tissue imaging and further dive into the technical details on how 3D tissue imaging is achieved and its applications. We will share our experience in developing technologies in tissue clearing, whole tissue immunolabeling, tissue expansion, lightsheet microscopy, and imaging data processing.

在過去，組織病理學依賴著二維傳統石蠟包埋切片來觀察生物檢體內的構造，細胞，蛋白質，和核酸等影像資訊。然而，不論是組織構造或蛋白質分佈，皆為三維之資訊，以傳統二維切片不但只能擷取片面資訊，還會因為物理切片和脫水等因素造成組織形變和毀損導致病理誤判。傳統切片樣品和少量的細胞研究已無法滿足研究者的需求，對應的傳統成像方法像是共軛焦顯微技術對三維組織造影已不再適用。生命科學與臨床醫療的研究，如中樞神經疾病實驗老鼠隻鼠腦中的神經和蛋白定量，或是腫瘤為環境中癌症標靶和血管分佈等，，都需要更先進的造影技術才能快速且有效地取得三維空間的訊息，以進行更全面且準確的研究。
諾倫科技以組織透明化，大組織免疫螢光標記，完整組織三維成像，到圖像分析等技術提供一條龍式的全組織三維造影技術服務。此次workshop將針對諾倫科技研發和採用之大組織澄清染色技術，膨脹技術，和超高速且不失真的層光顯微鏡等跨領域技術之發展做介紹，並且將其適合應用之研究，譬如小鼠全腦，腎臟，肝臟，肺，以及腫瘤等完整器官三維結構與量化，做一個詳盡的說明，將最先進的生物影像技術解決方案帶給各位。