

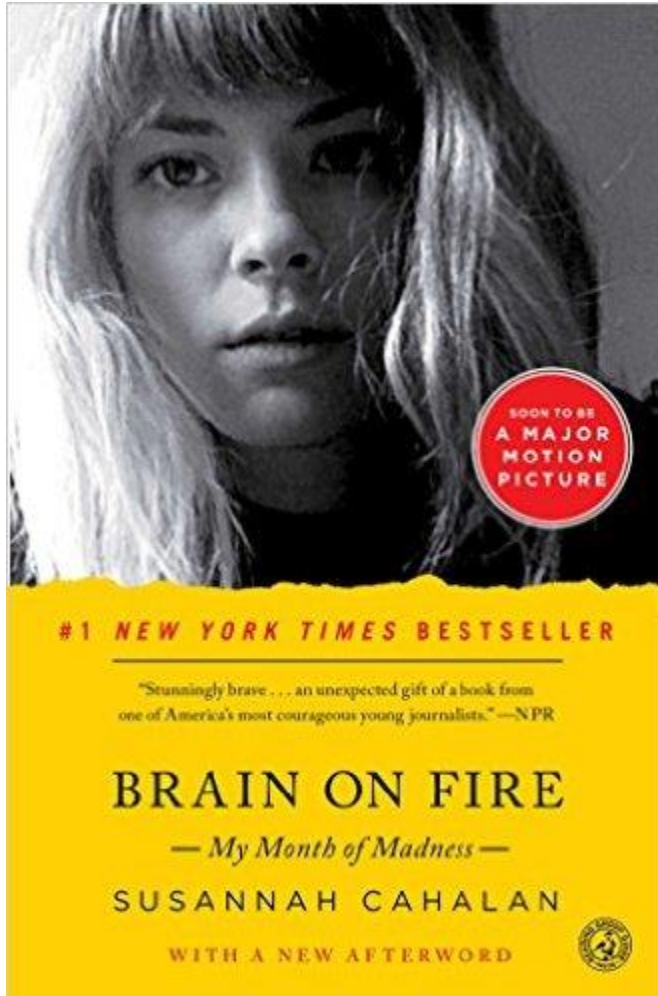


Anti-NMDAR Encephalitis

抗NMDA受體腦炎



Overview



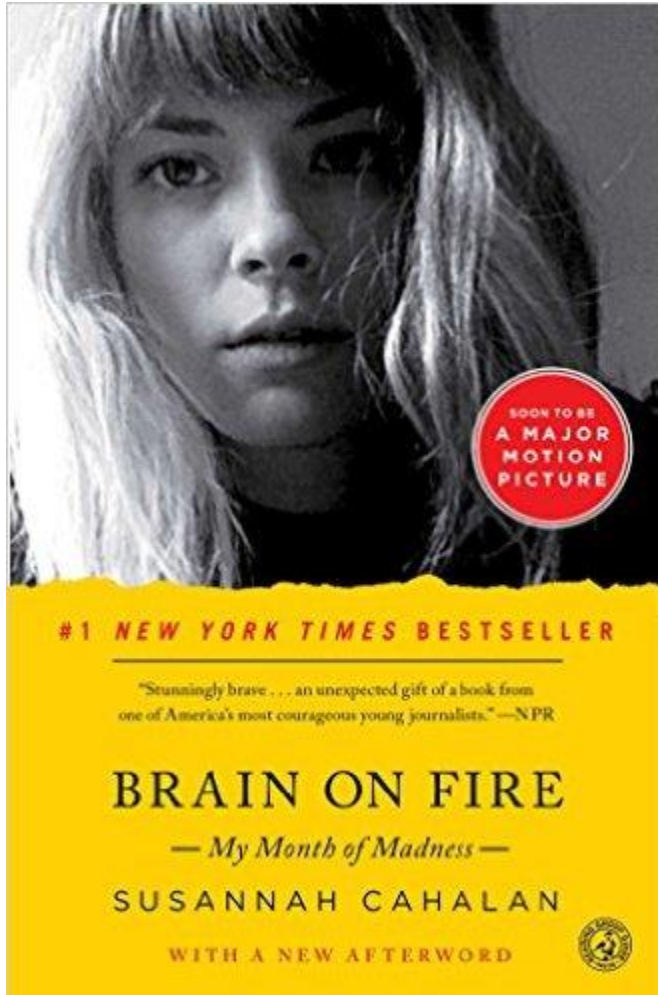
- **Anti-NMDAR Encephalitis**

(抗NMDA受體腦炎)

- Paraneoplastic encephalitis
(附腫瘤神經性腦炎)
- Immune-mediated encephalitis
(免疫性腦炎)
- Encephalopathic autoimmune disease
(腦炎性自體免疫性疾病)

抗NMDA受體腦炎是一種急性腦炎，症狀嚴重是有可能會致命

Overview

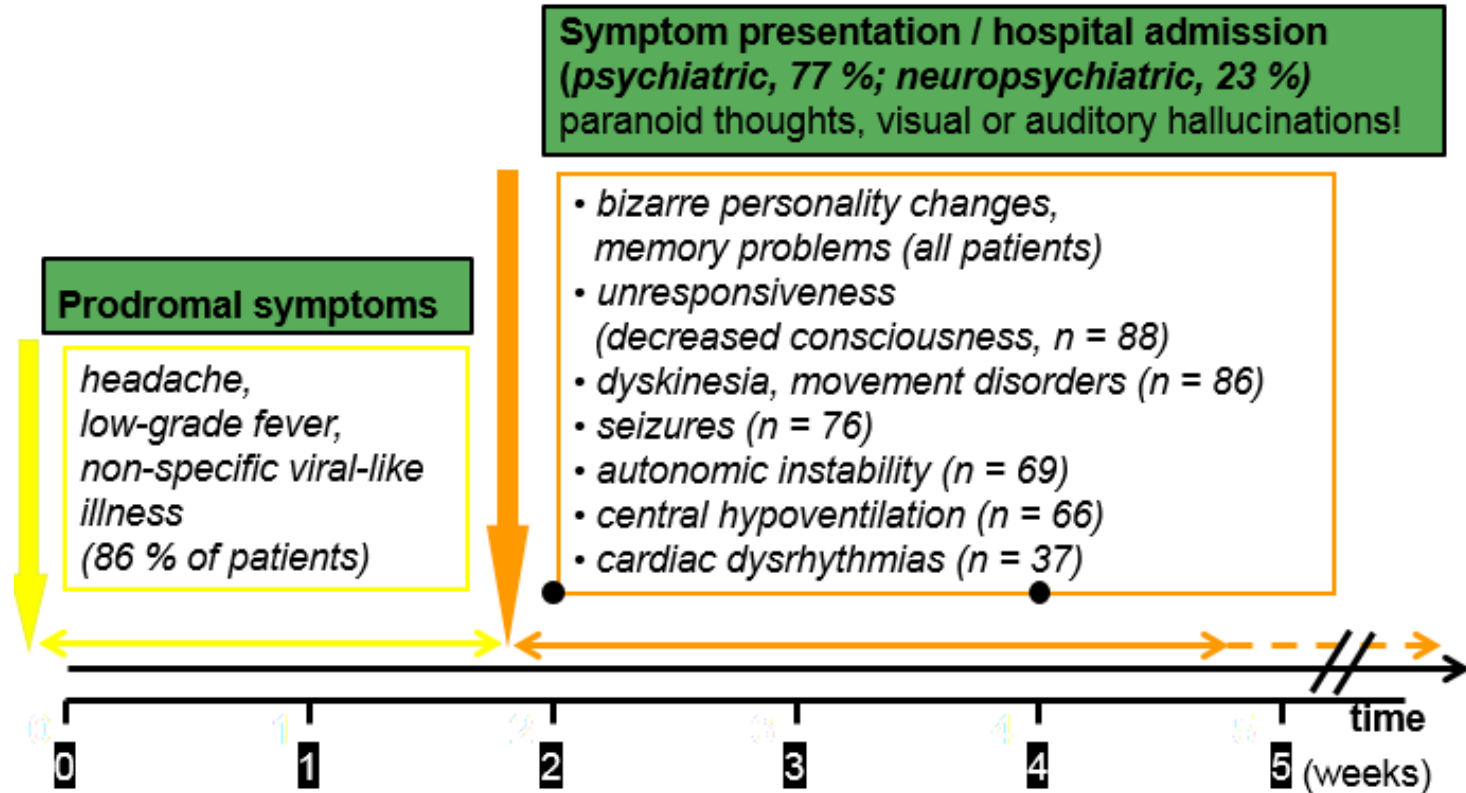


- **Anti-NMDAR Encephalitis**

- (抗NMDA受體腦炎)

- 起初於2007年被報導出來，有廣泛症狀被診斷為該疾病
- 好發於年輕女性 (20 - 50 歲)
- 早期病毒性感染症狀盛行
症狀有點像是病毒性感冒
- 中期異常發生精神性疾病等症狀
- 疾病的發生可能伴隨著卵巢畸胎瘤

臨床症狀

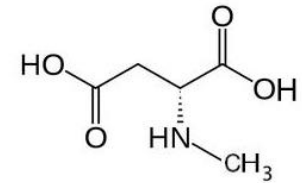


- Psychiatric (精神性疾病)
- Seizures (癲癇)
- Decrease level of consciousness (意識水平低下)
- Autonomic instability (自律神經失調)
- Central hypoventilation (中樞性換氣不足症候群)

Mechanism and Pathophysiology

- NMDAR

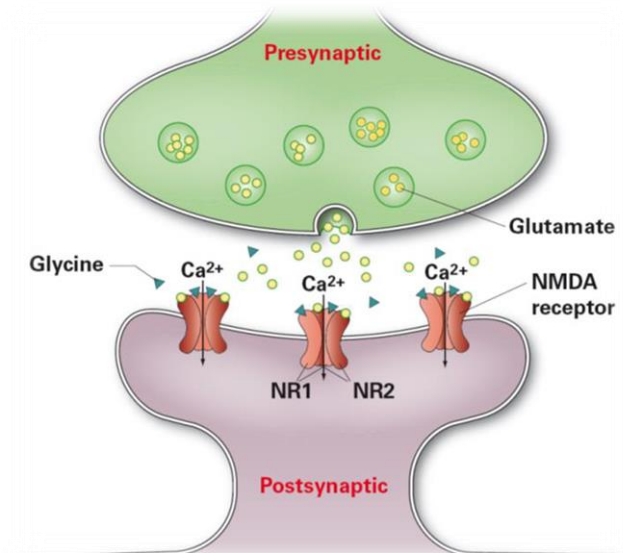
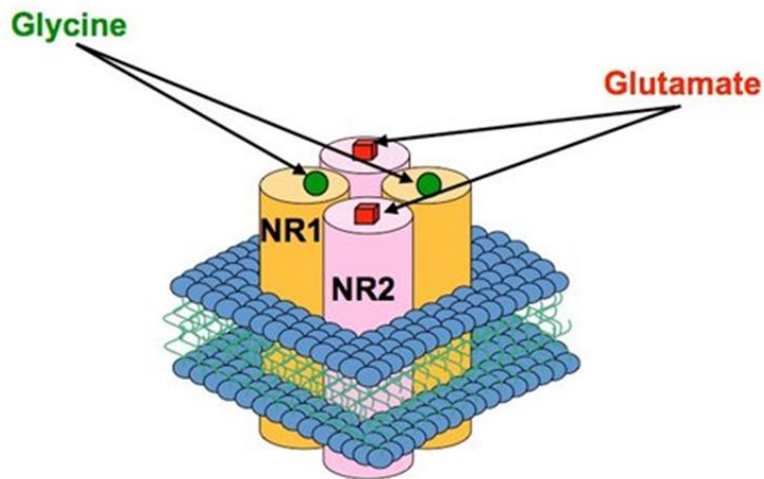
- N-methyl-D-aspartate receptor (N-甲基-D-天冬氨酸)



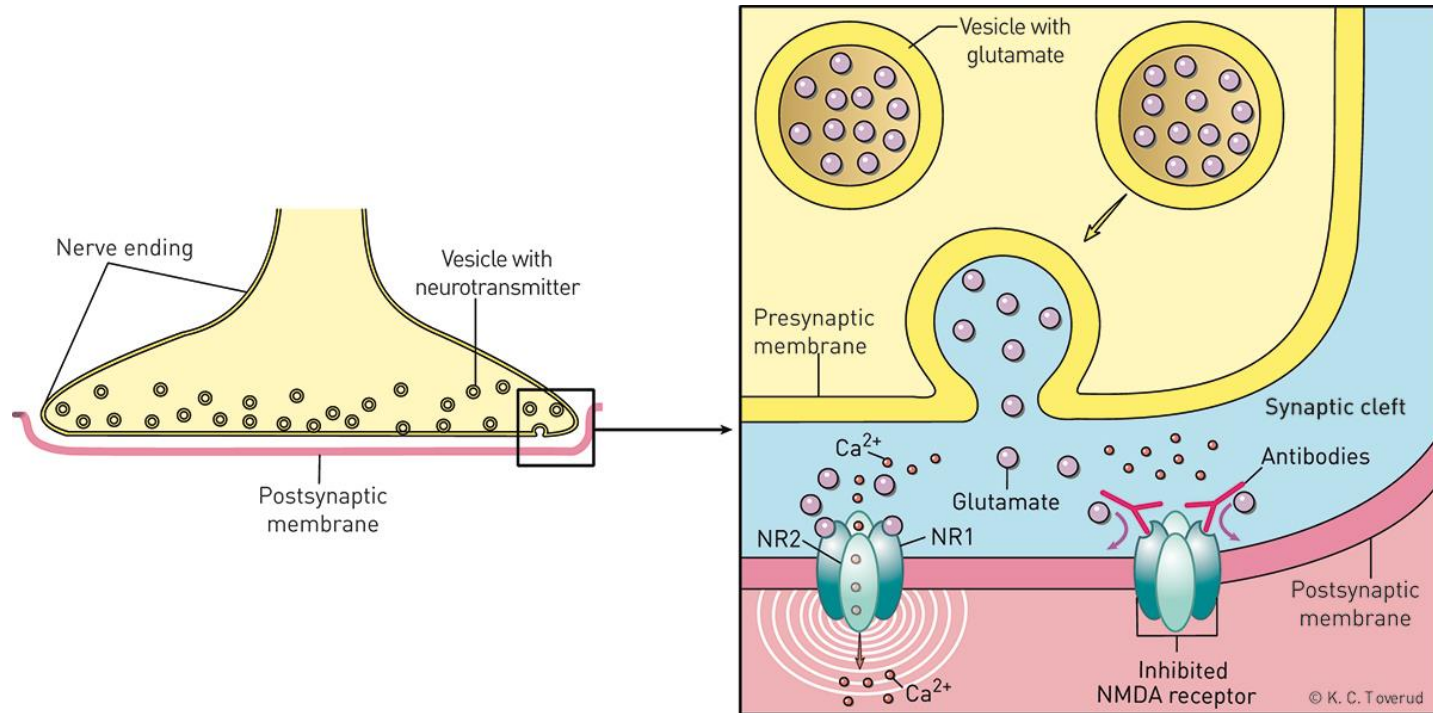
N-Methyl-D-Aspartate (NMDA)

- NR1(bind glycine)以及NR2 (bind glutamate)的異構物

- 突觸的訊息傳遞, 神經細胞的重塑, 樹突的拓展, 海馬迴長期記憶區的調控, 記憶的生成及學習能力



Mechanism and Pathophysiology

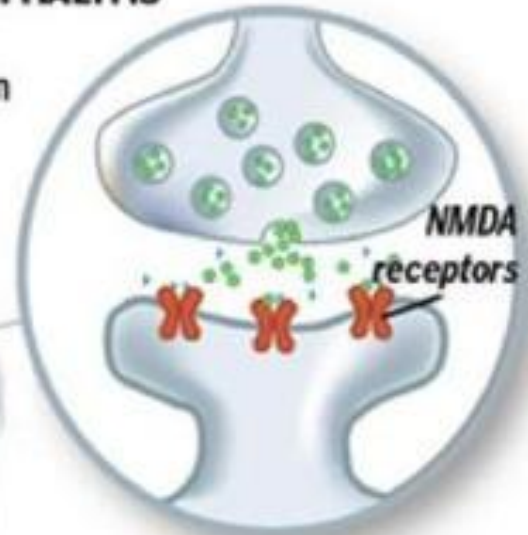
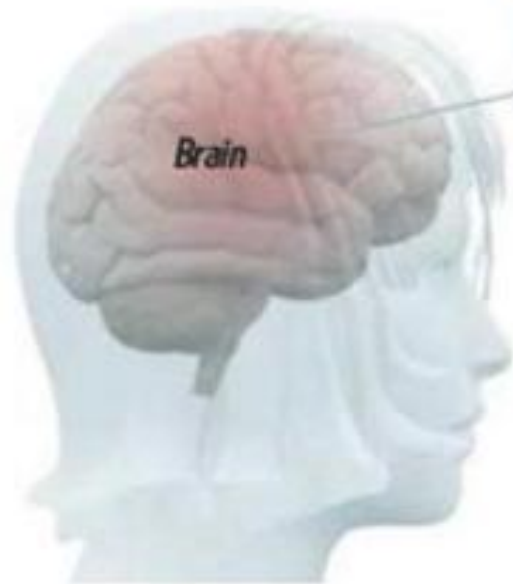


- 抗NMDA受體抗體 (抗谷氨酸受體抗體)
- 抗NMDA受體腦炎跟自體抗體攻擊NMDA受體的**NR1 subunit**有關

Mechanism and Pathophysiology

ANTI-NMDA RECEPTOR ENCEPHALITIS

The disease typically affects young women, causing acute inflammation of the brain, fever, headache, confusion, and seizures.

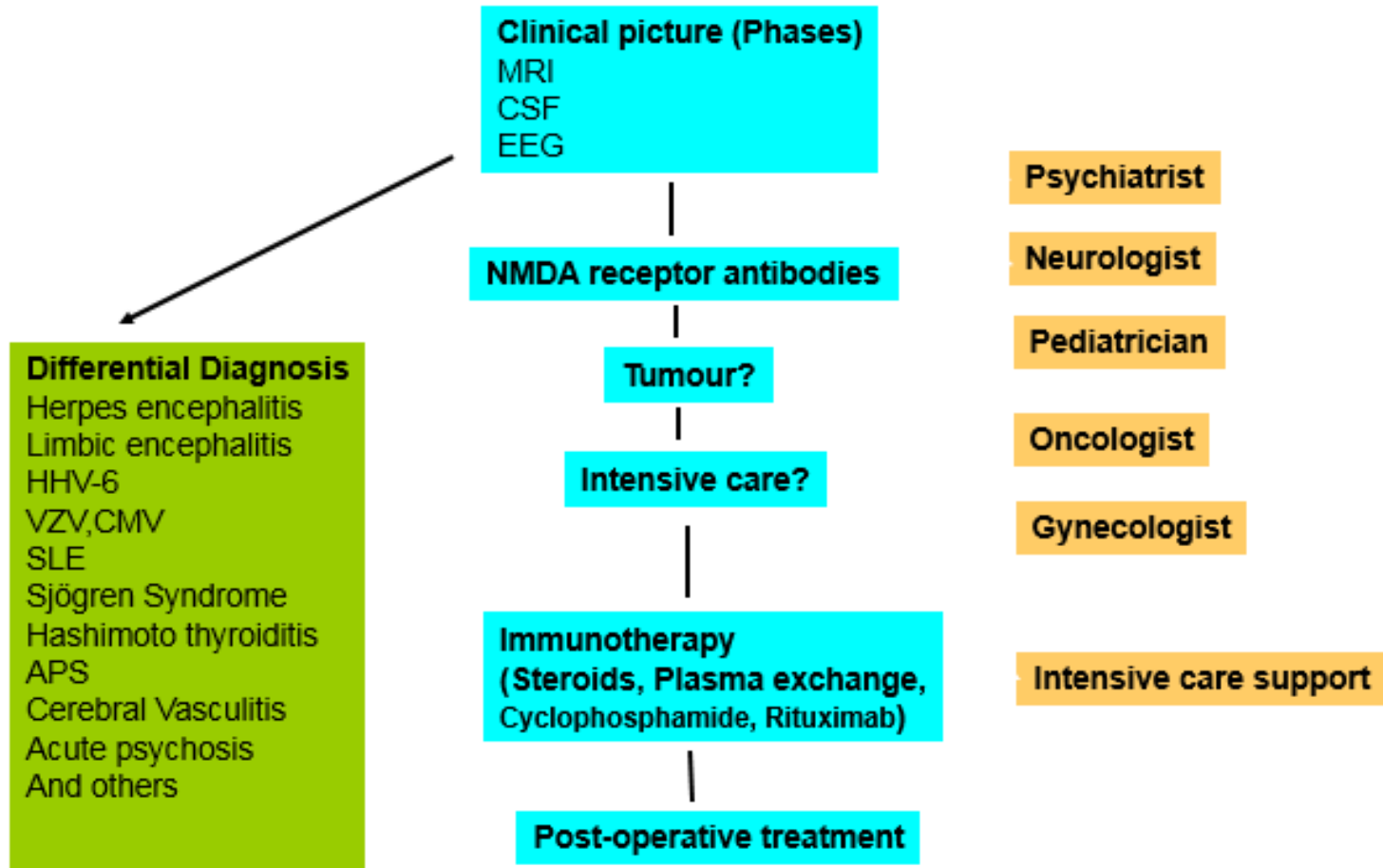


The condition is caused by an autoimmune reaction against NMDA receptors in the brain where nerve cells connect.

JAVIER ZARRACINA/GLOBE STAFF

- 在抗NMDA受體腦炎中自體免疫能影響行為情緒記憶以及意識形態

診斷和治療



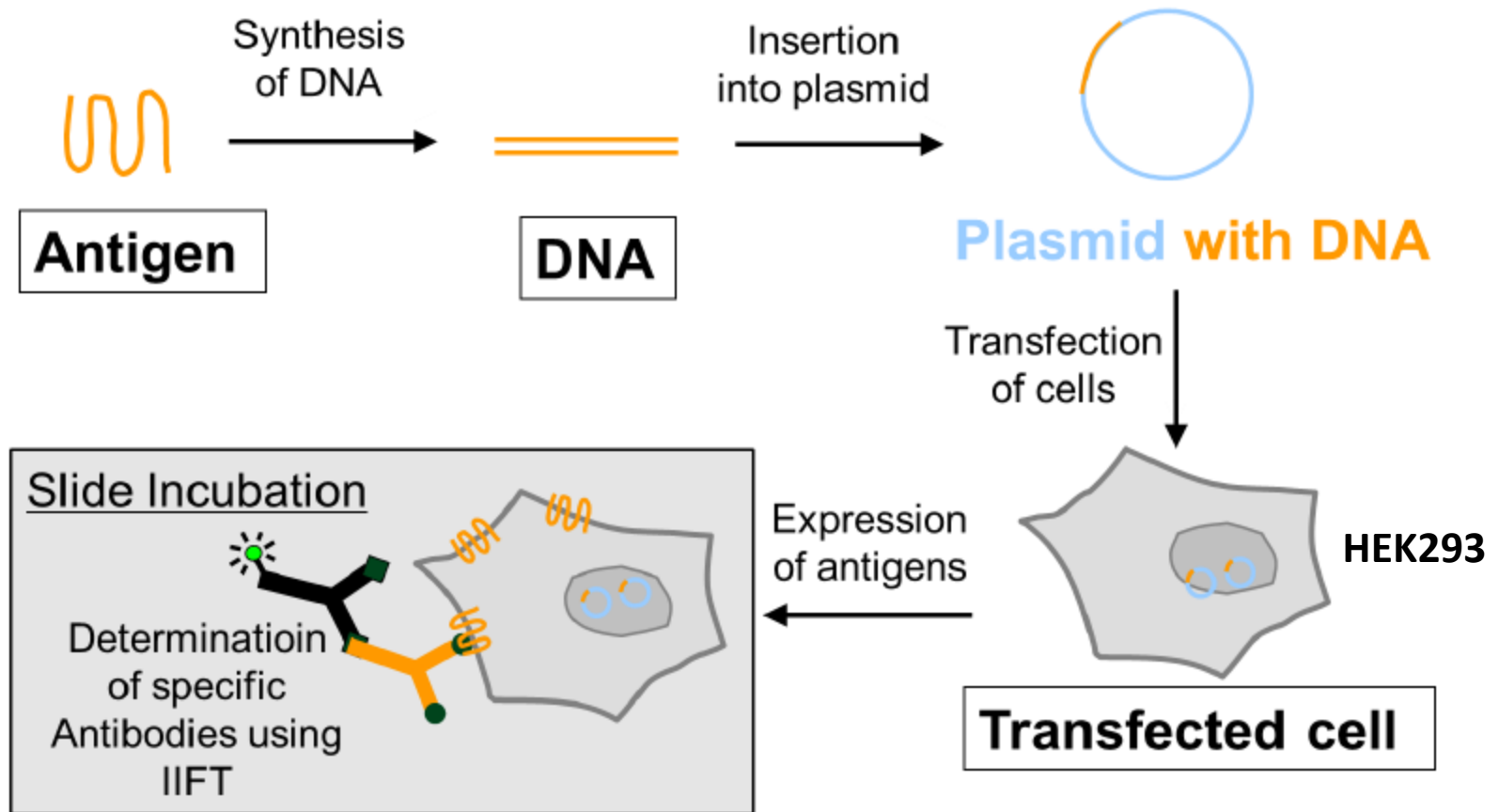
Source: H. Prüß, J. Dalmau, V. Arolt, KP. Wandinger , Nervenarzt 2010

Laboratory Feature

- **The gold standard for neuronal surface Ab detection**
 - Method : Indirect Immunofluorescence Test (IIFT)
 - Specimen : Serum or CSF
 - Dilution factor : Serum at dilution of 10X or greater
CSF at original titer to 10X
 - Incubated with recombinant HEK cells

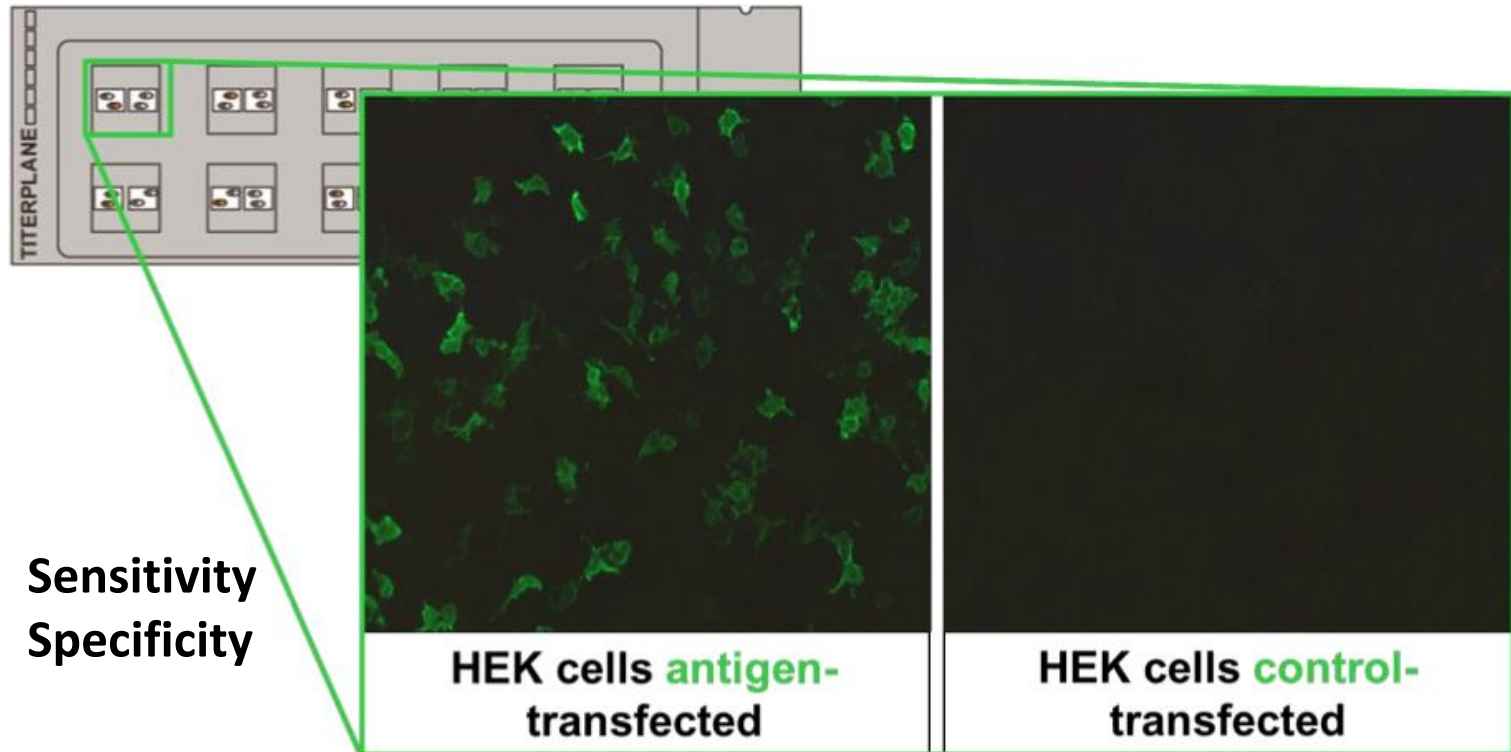
Laboratory Feature

- The gold standard for neuronal surface Ab detection



Laboratory Feature

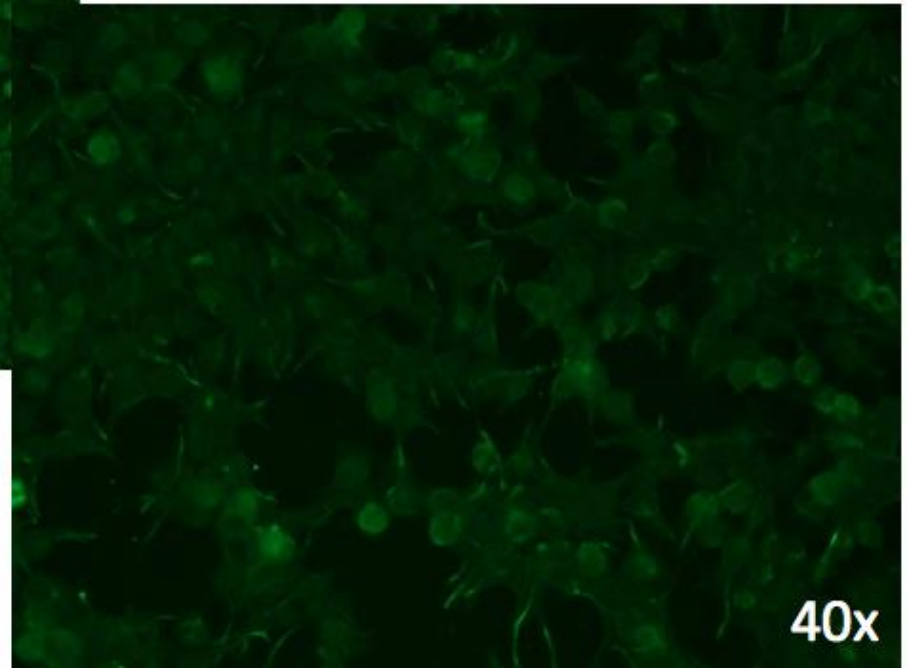
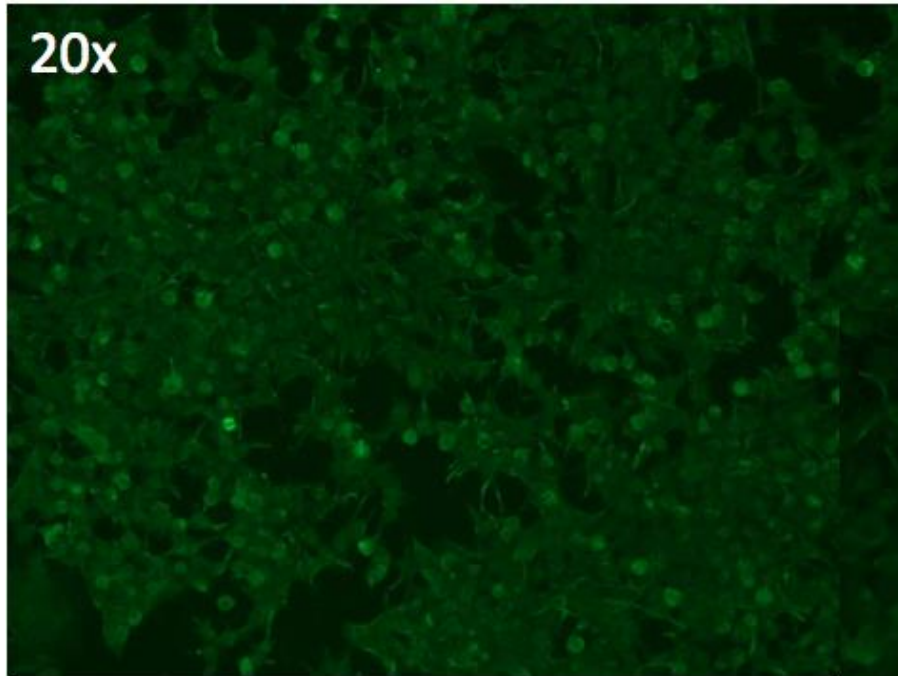
- Evaluation of recombinant cells (HEK)



Recombinant Cell IFT (RC-IFT)

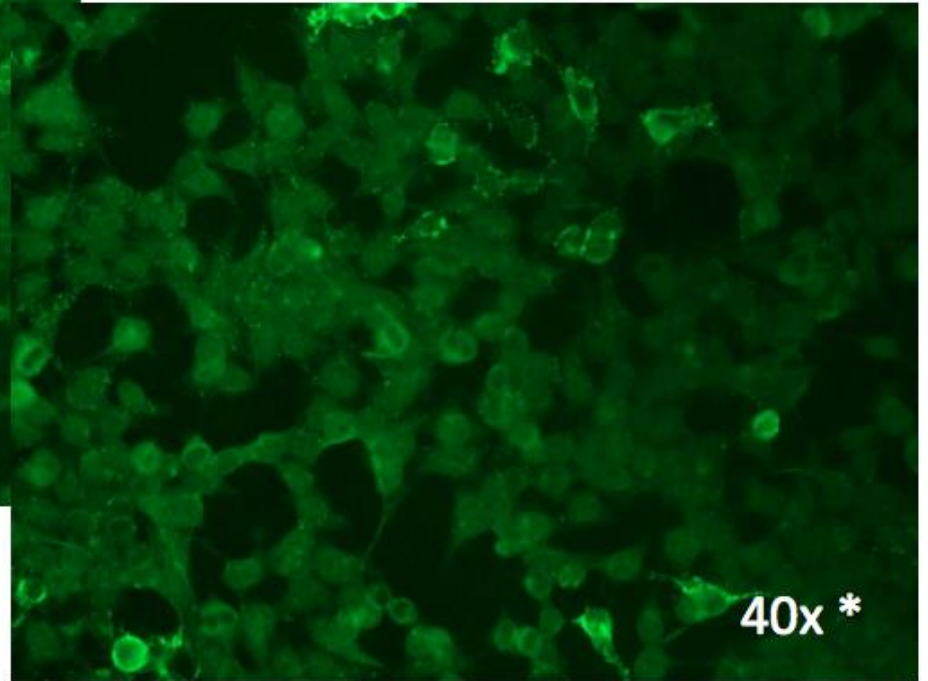
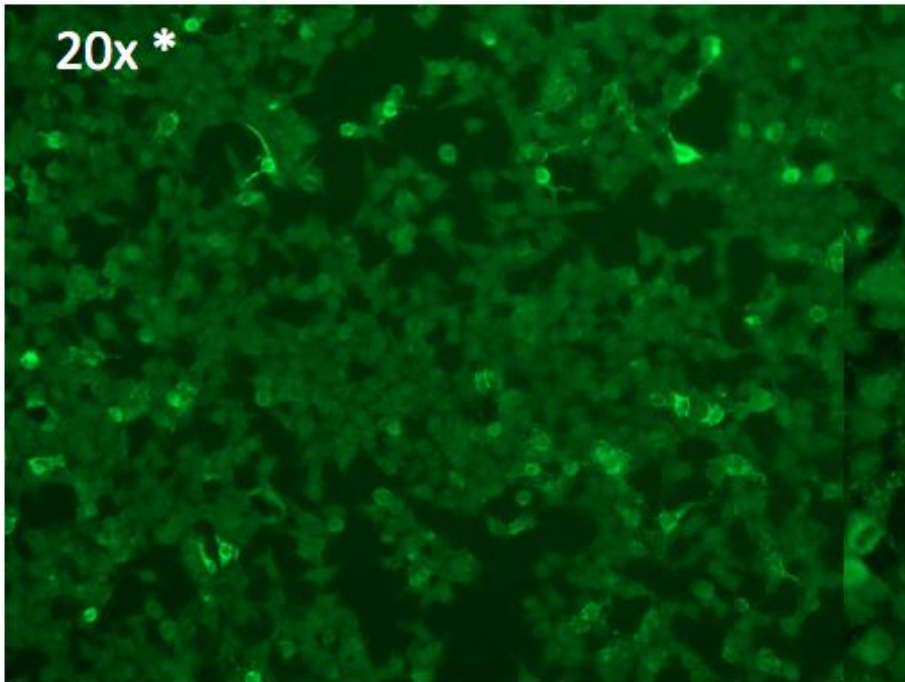
Laboratory Feature

Anti-NMDAR Negative pattern



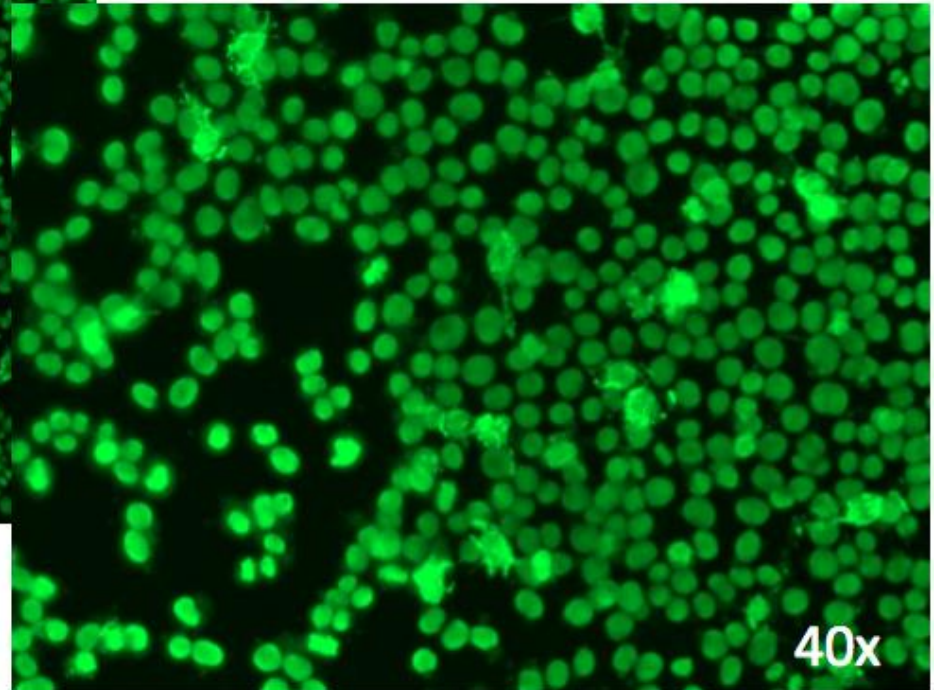
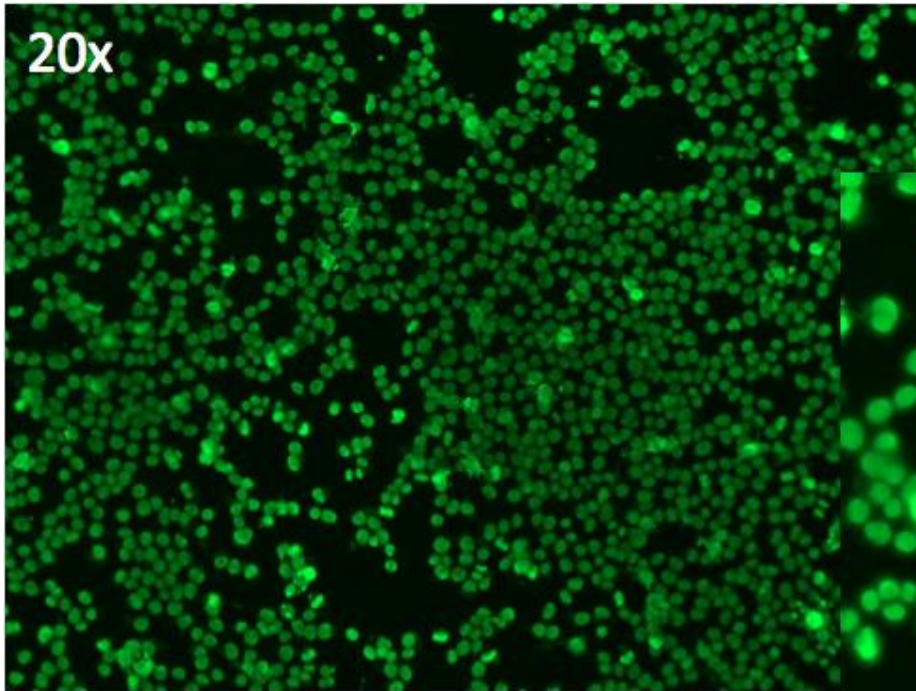
Laboratory Feature

Anti-NMDAR Positive pattern



Laboratory Feature

Anti-NMDAR and ANA positive



Treatment

- 治療抗NMDA受體腦炎的方法針對病患的病程有不同的醫療處置
- 第一線醫療處置：
 - 腫瘤的切除 (若其存在)
 - 類固醇藥物
 - 血漿置換 (血液透析)
 - 靜脈注射免疫球蛋白(IVIG)
- 第二線醫療處置：
 - 投以免疫抑制藥物
 - CellCept
 - Rituximab
 - Cytosan



Recovery

- 復原之路緩慢且復原所需時間通常與疾病發展進程成反比
- 大多的病患能在疾病發生後開始治療的兩年內痊癒
- 病患要有好的預後通常包括幾個要素，疾病伴隨的腫瘤而發生，快速且確切的診斷以及積極的治療



Conclusion

- Aquaporin-4 **Neuromyelitis Optica**

Neurology :

- NMDA-receptor
- AMPA-receptor
- GABAB-receptor **Autoimmune Encephalitis**
- Glycine-receptor
- VGKC