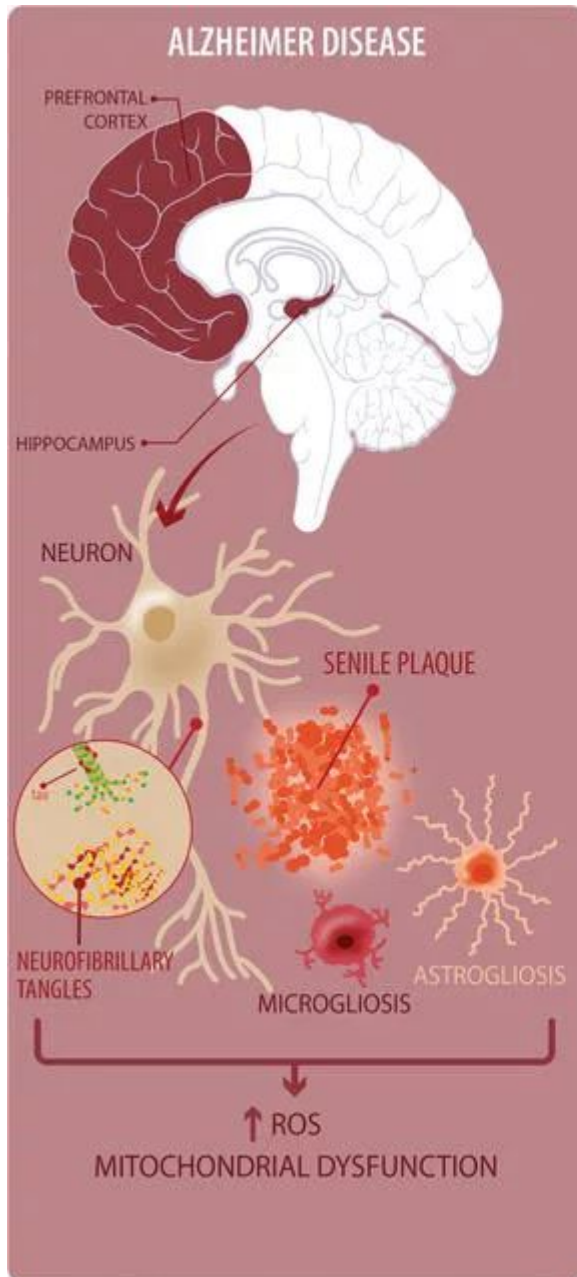




Severe reactive astrocytes precipitate pathological hallmarks of Alzheimer's disease via H_2O_2^- production

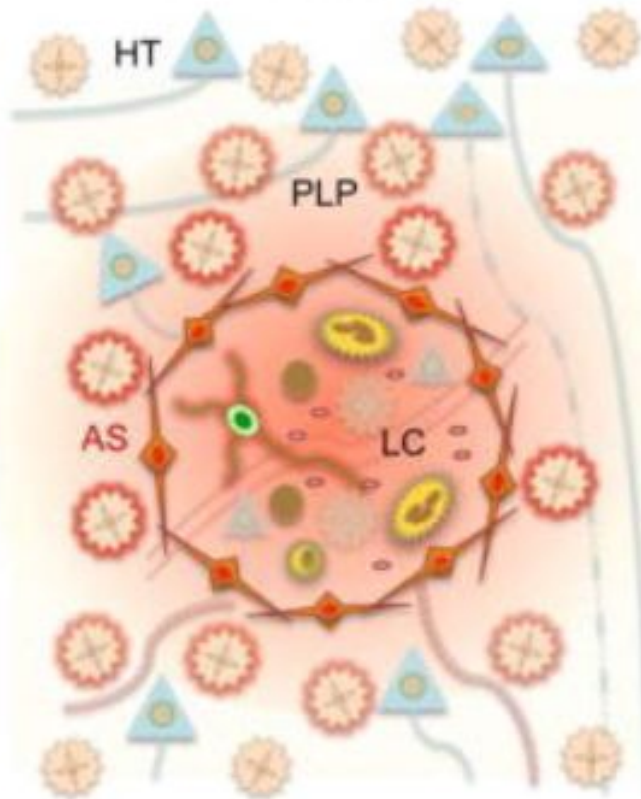
Heejung Chun ^{1,2,3}, Hyeonjoo Im³, You Jung Kang⁴, Yunha Kim³, Jin Hee Shin⁵, Woojin Won^{1,6}, Jiwoon Lim¹, Yeonha Ju^{1,7,8}, Yongmin Mason Park^{1,7,8}, Sunpil Kim^{1,6}, Seung Eun Lee⁹, Jaekwang Lee², Junsung Woo², Yujin Hwang³, Hyesun Cho^{3,10}, Seonmi Jo ^{2,11}, Jong-Hyun Park ¹², Daesoo Kim ¹¹, Doo Yeon Kim ¹³, Jeong-Sun Seo^{10,14}, Byoung Joo Gwag⁵, Young Soo Kim ¹⁵, Ki Duk Park^{8,12,16}, Bong-Kiun Kaang ¹⁷, Hansang Cho^{4,18,19}, Hoon Ryu ^{3,20}  and C. Justin Lee ^{1,2,6,7} 



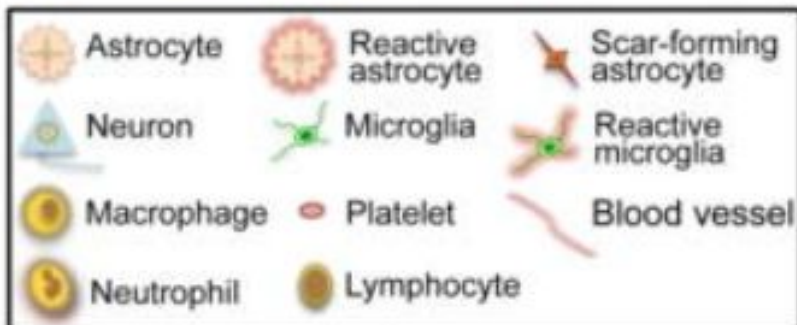
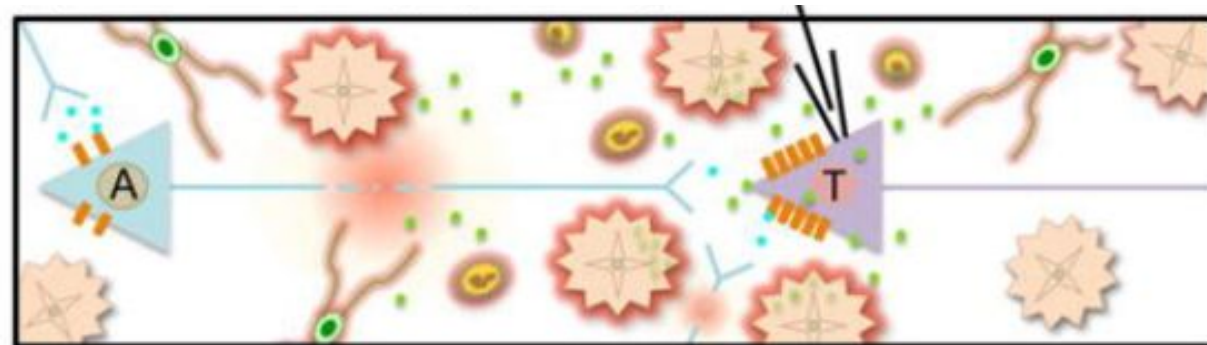
AD:

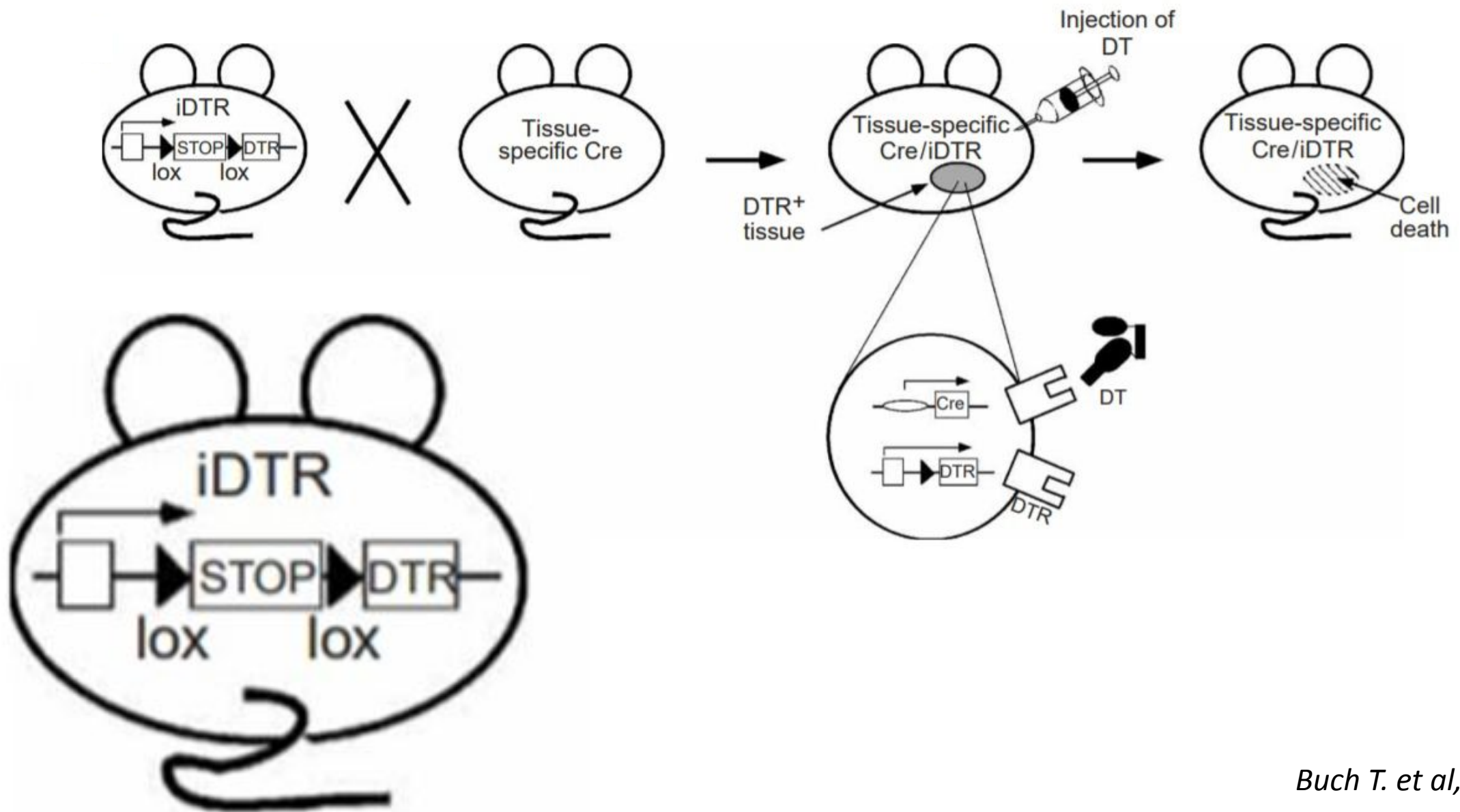
- Накопление β A и p-тау
- Мультиклеточный глиальный ответ;
нейровоспаление
 - реактивный астроглиоз
 - активация микроглии
- Нейродегенерация

Focal lesion with scar formation

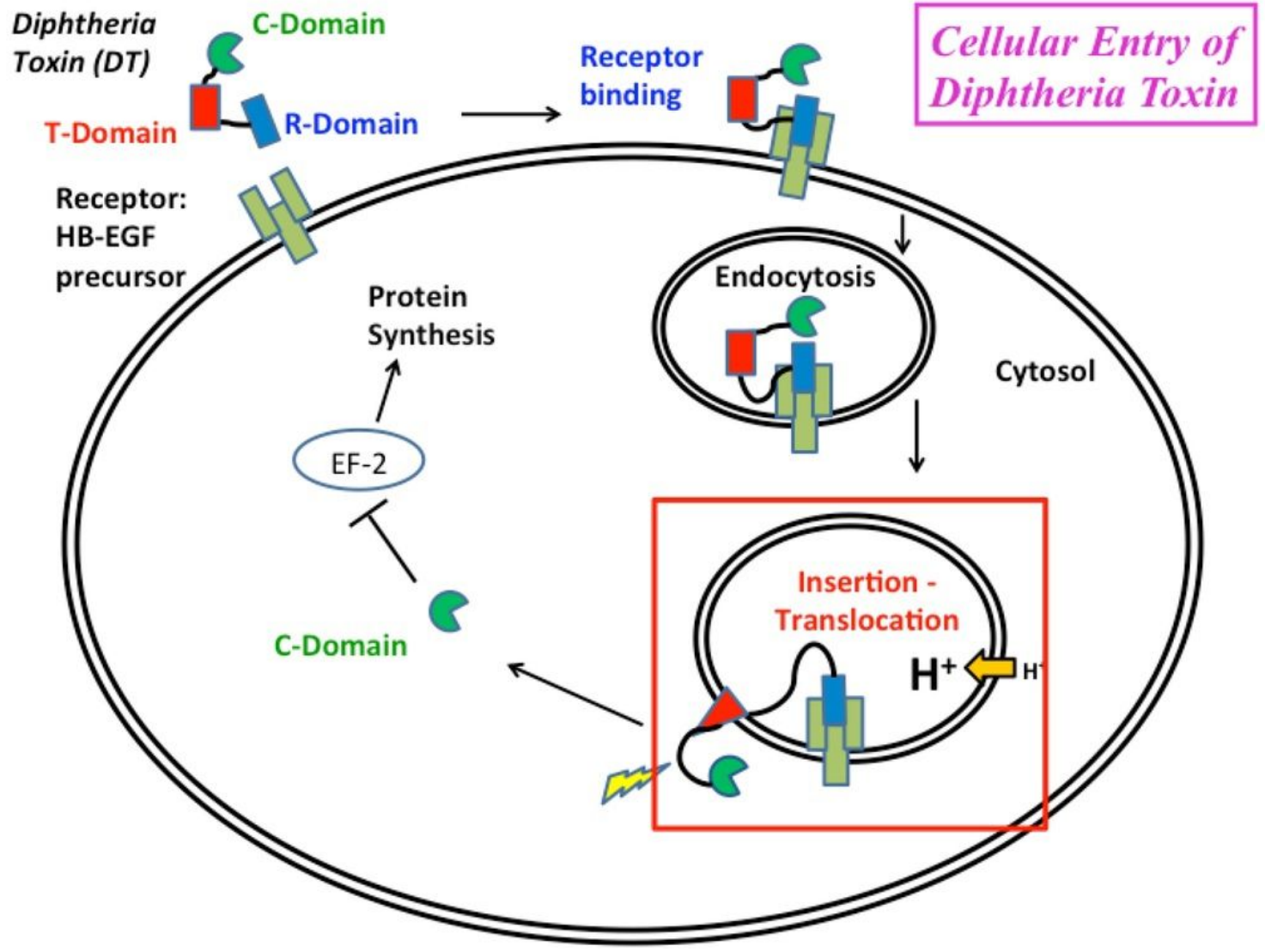


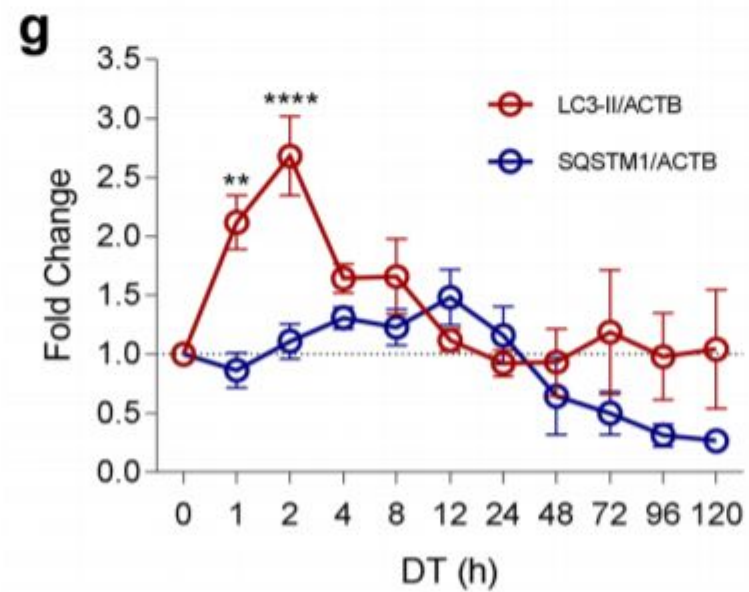
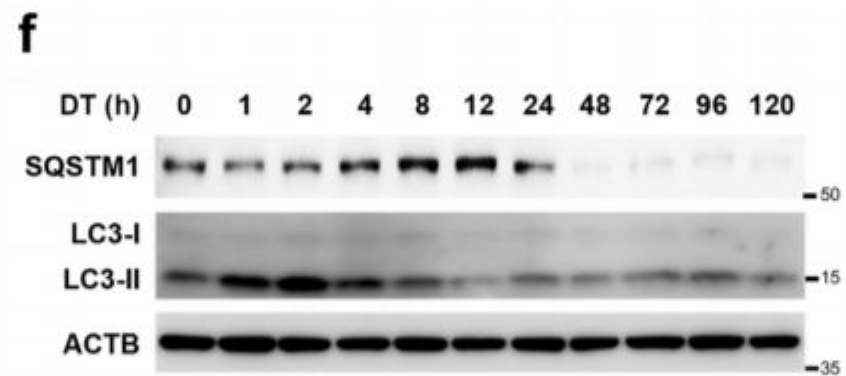
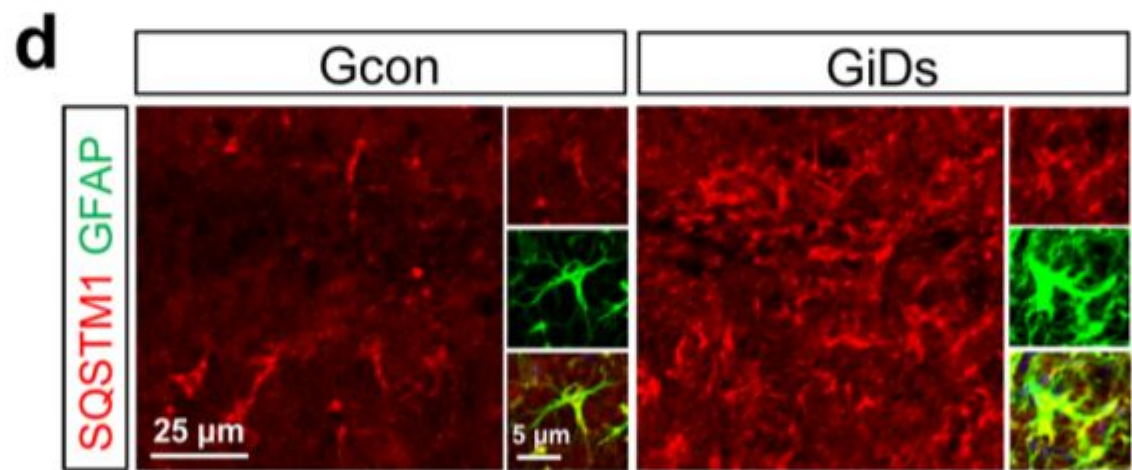
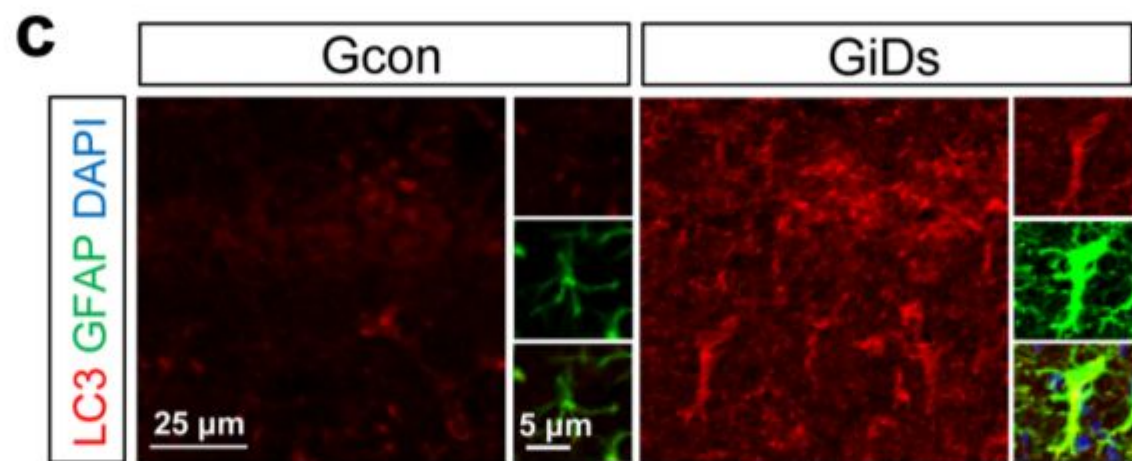
- Изоляция очага поражения
 - механический барьер
 - «химический» барьер
- Регуляция воспаления
- Регуляция проницаемости ГЭБ
- Посттравматическое ремоделирование нервной цепи
- Стимуляция регенерации



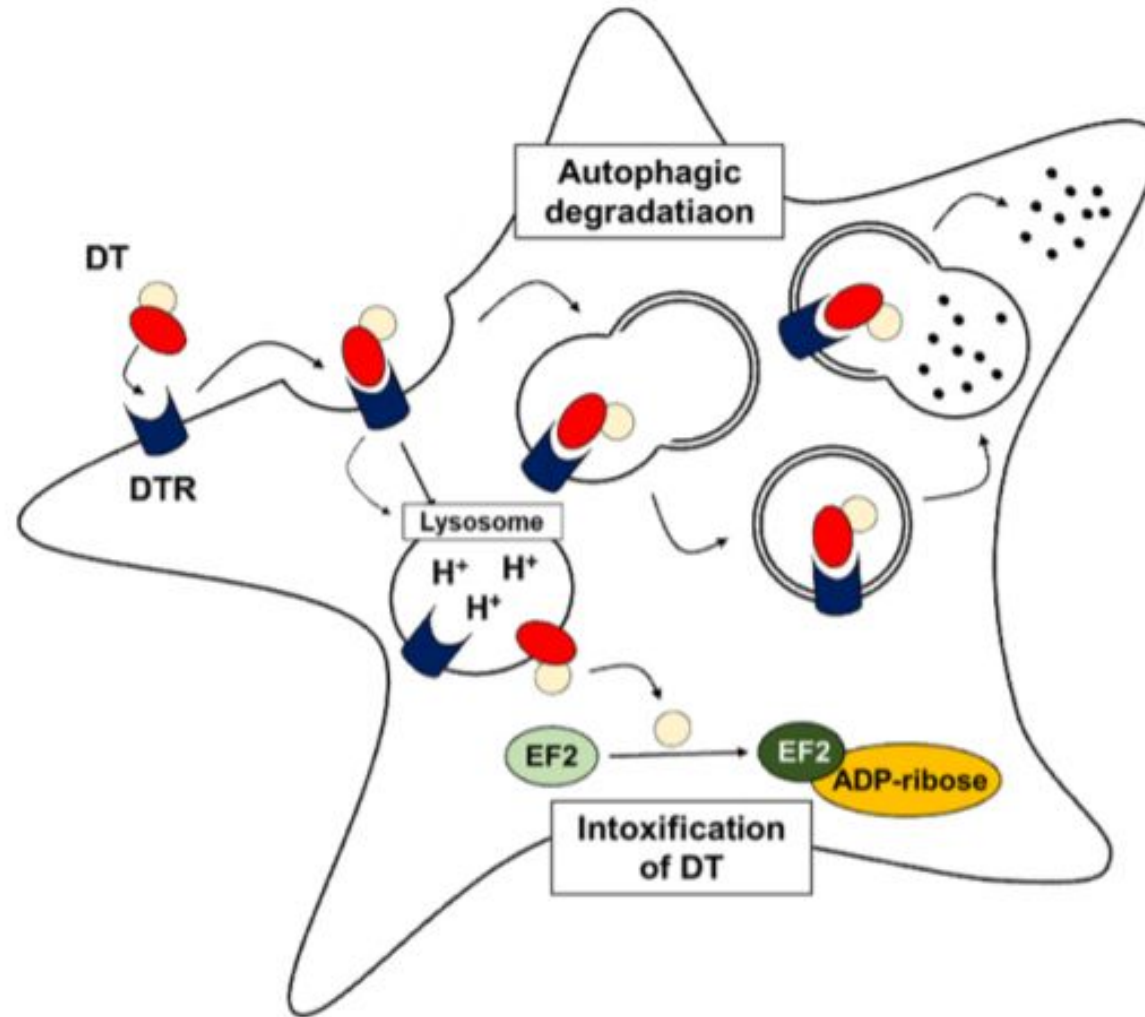


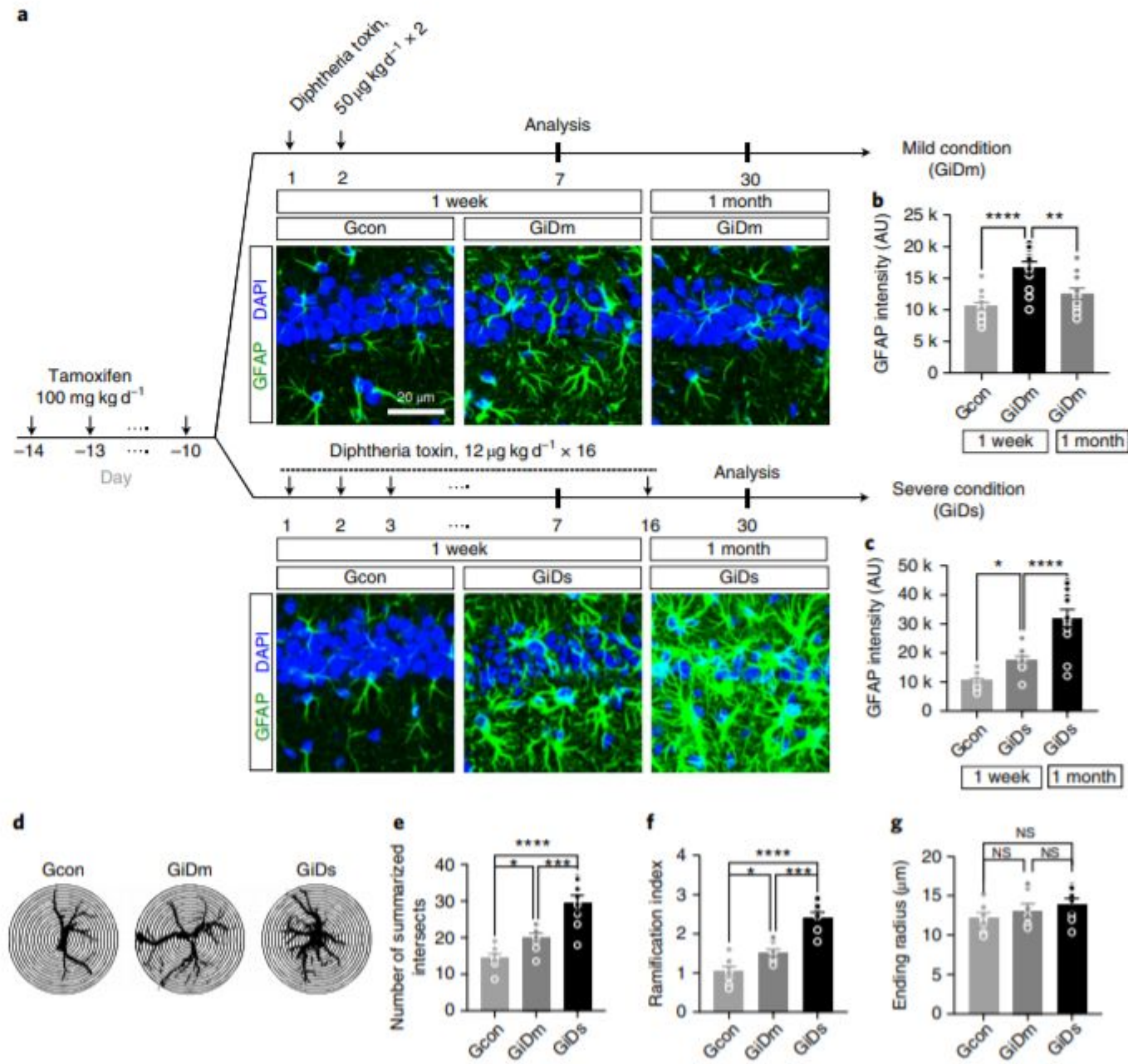
Buch T. et al, 2005

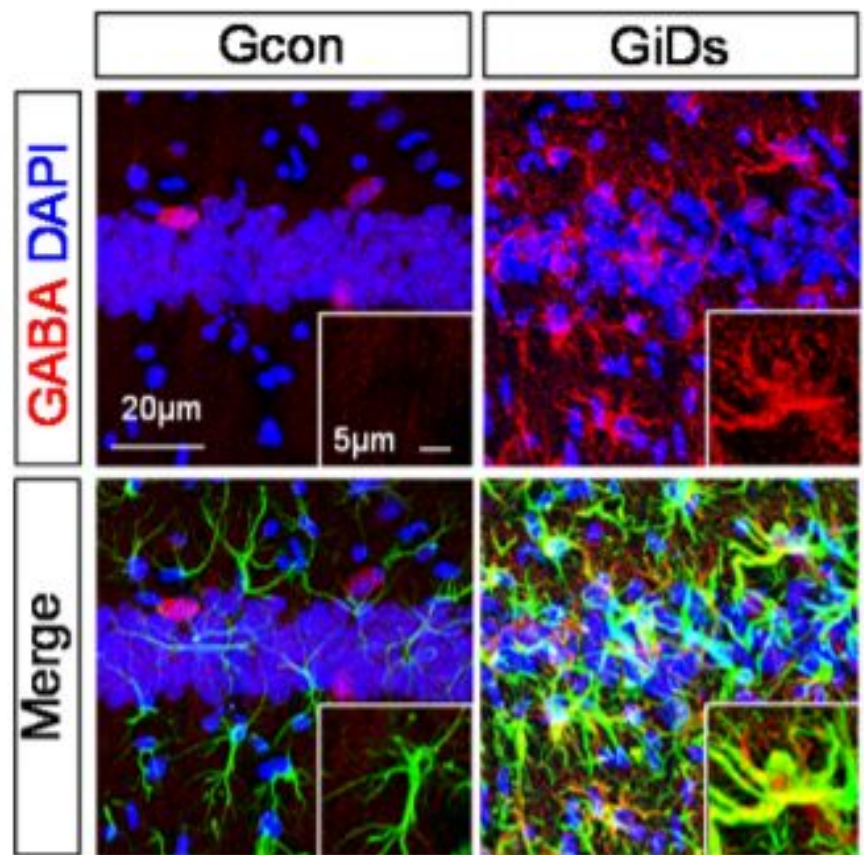




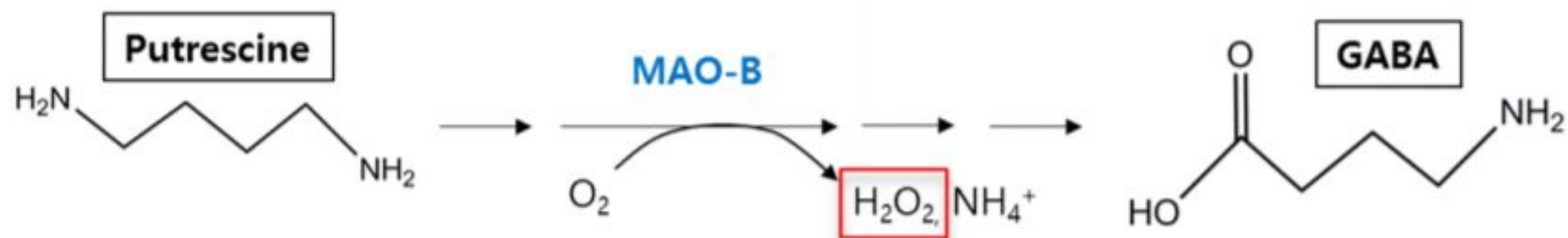
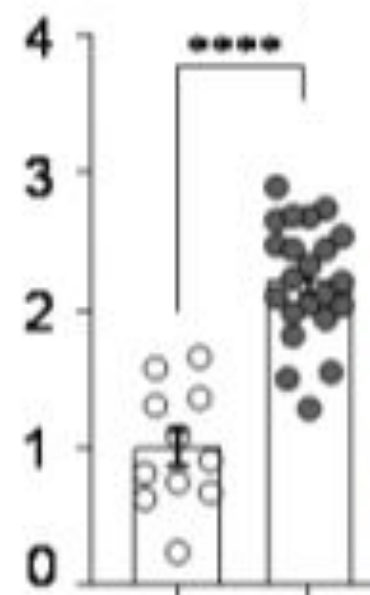
Alternative pathways of DT actions



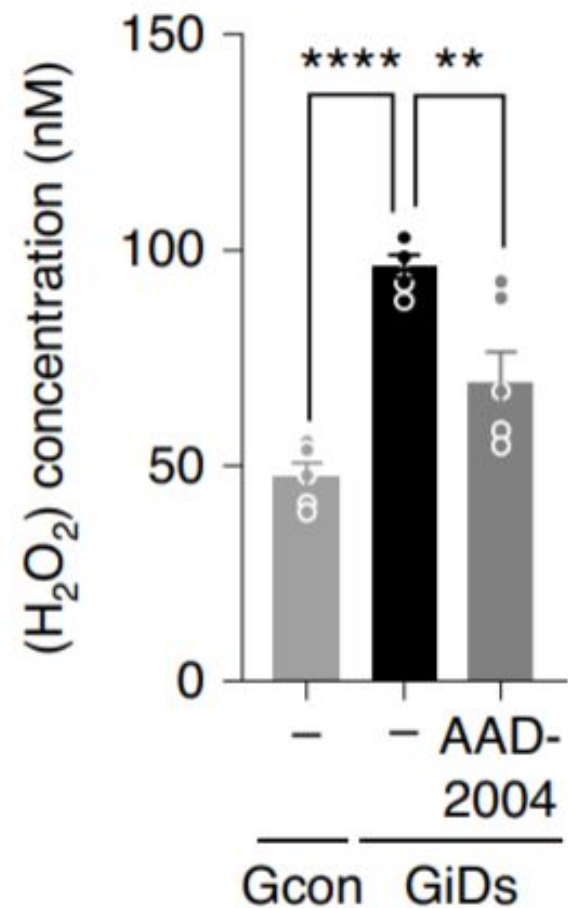
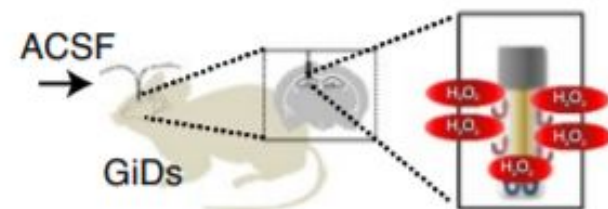
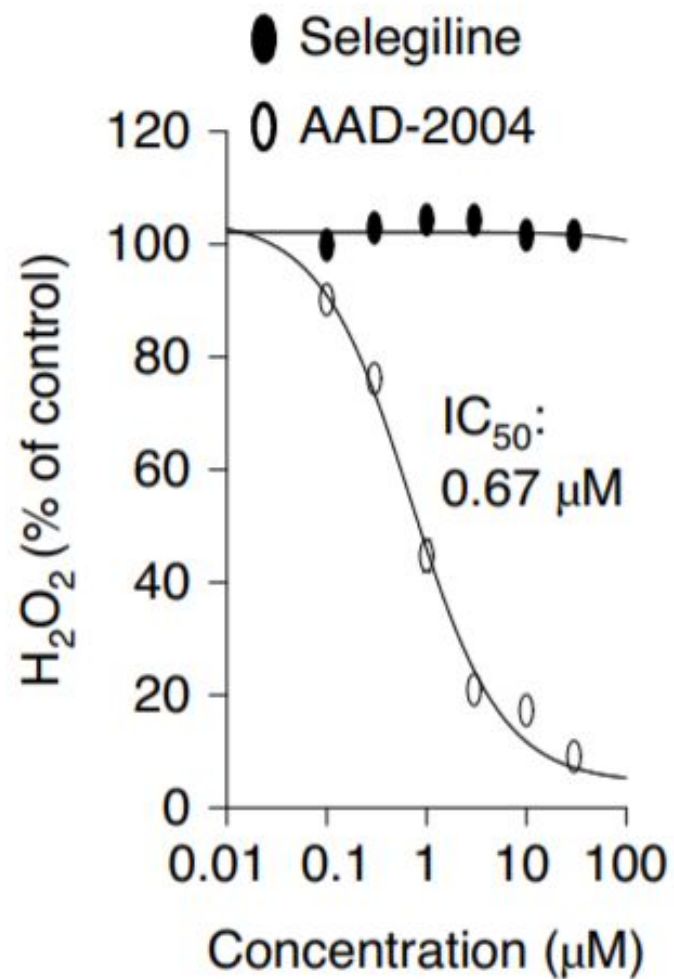
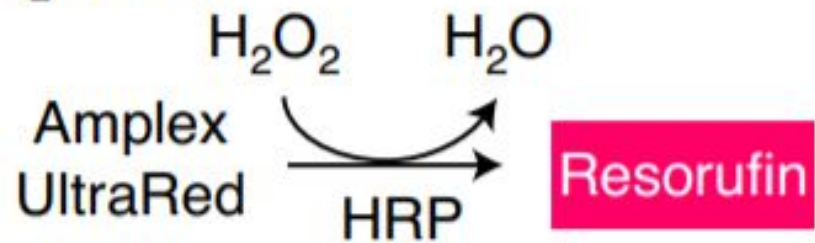


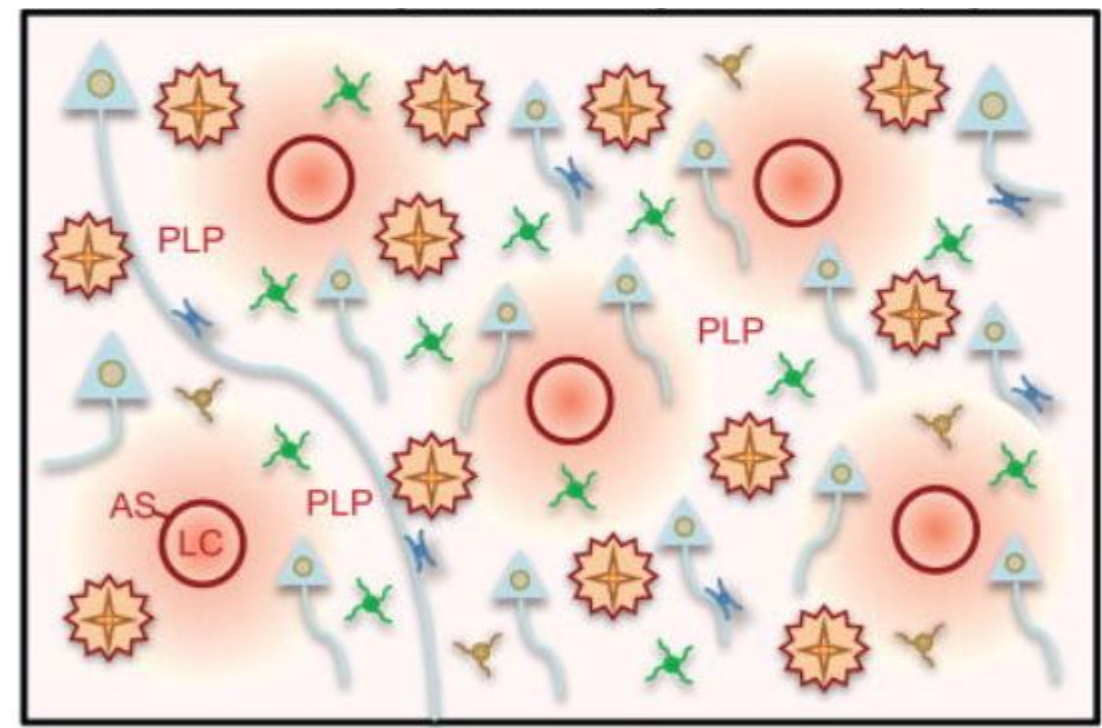
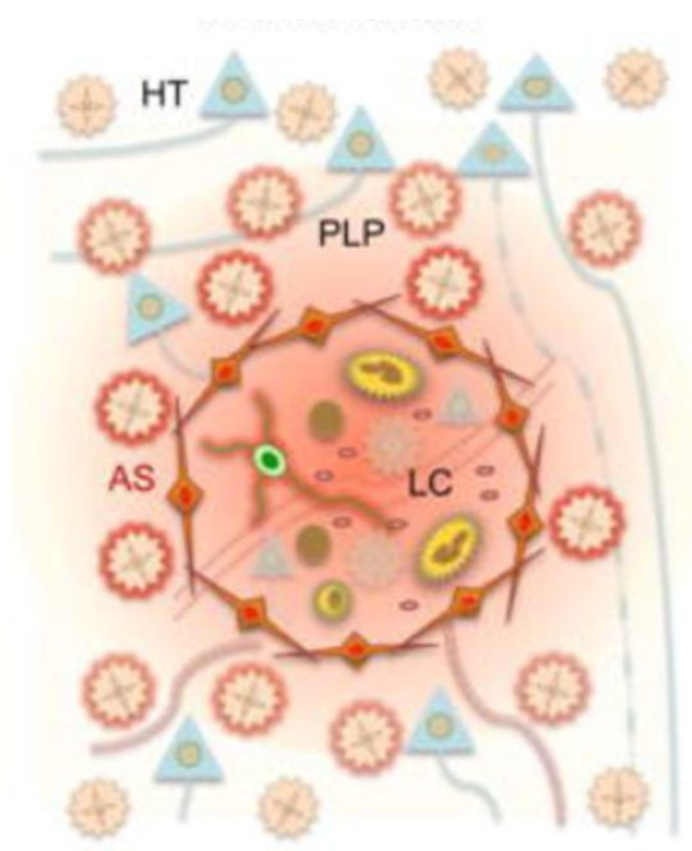


i
GABA in GFAP+
(Fold change)



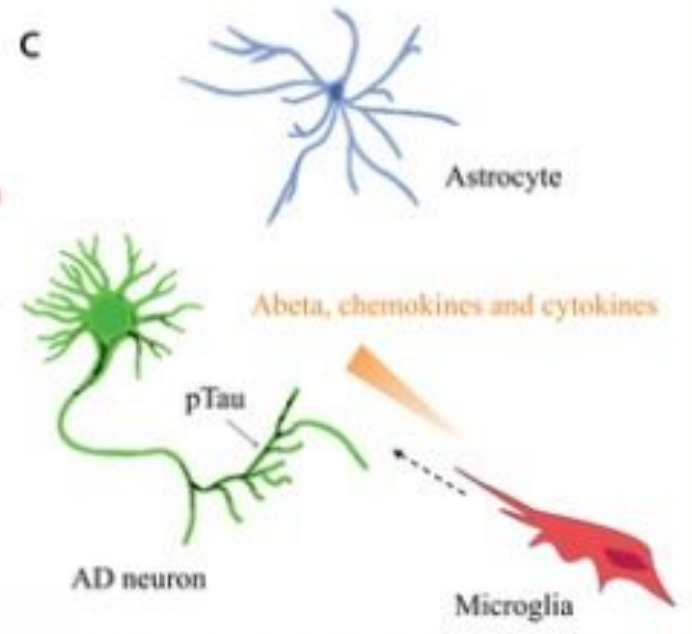
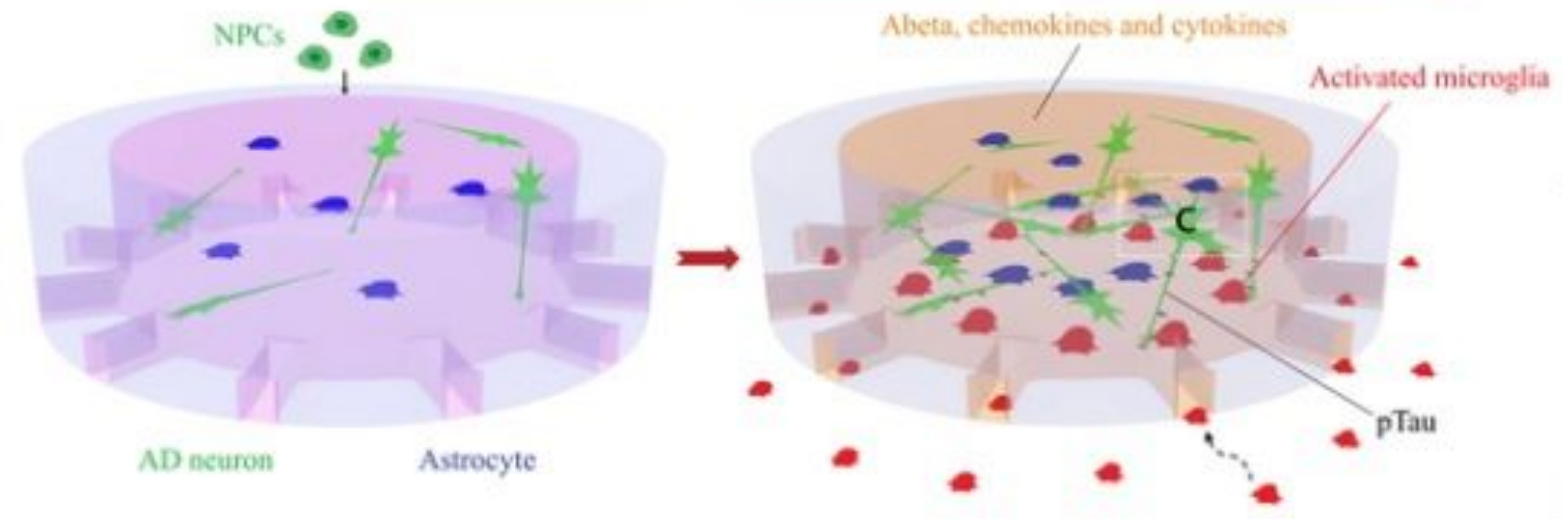
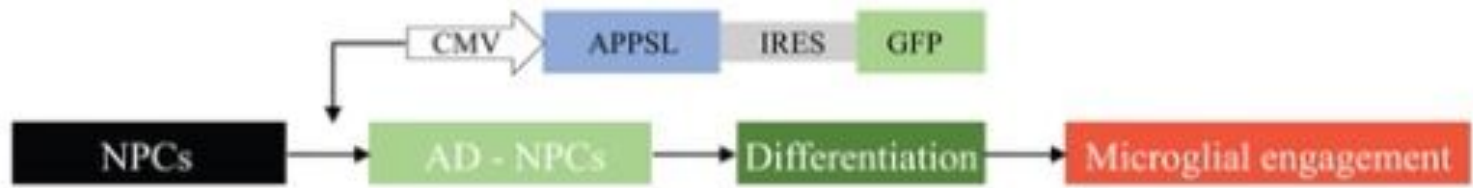
H₂O₂ assay





- | | | | | | |
|--|------------|--|--------------------|--|------------------------|
| | Astrocyte | | Reactive astrocyte | | Scar-forming astrocyte |
| | Neuron | | Microglia | | Reactive microglia |
| | Macrophage | | Platelet | | Blood vessel |
| | Neutrophil | | Lymphocyte | | |

Burda J. and Sofroniew M. 2016



Park J. et al, 2018