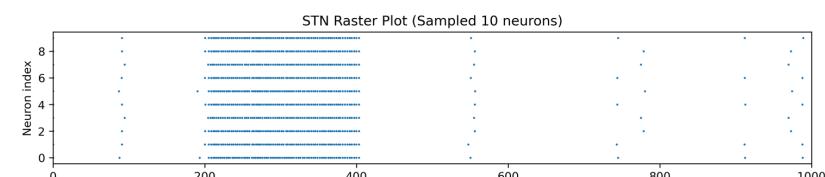
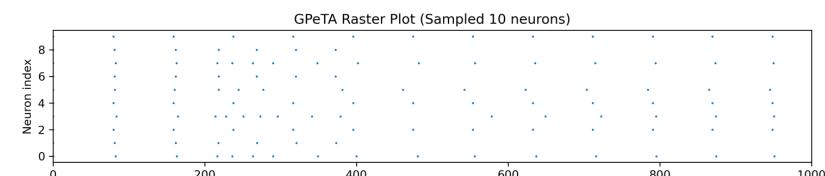
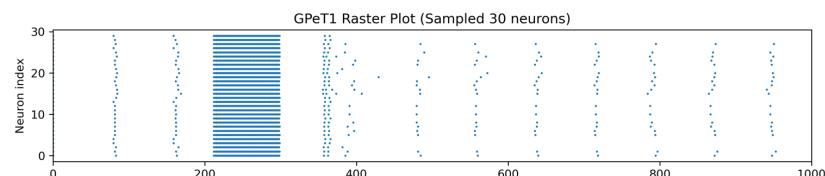
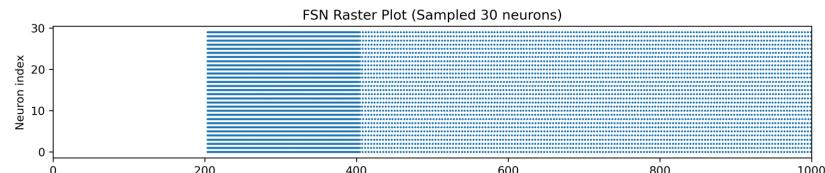
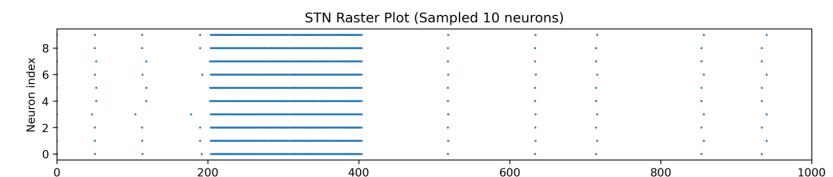
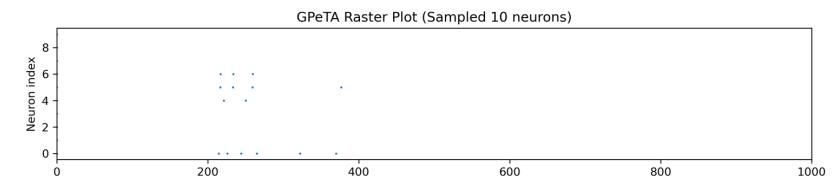
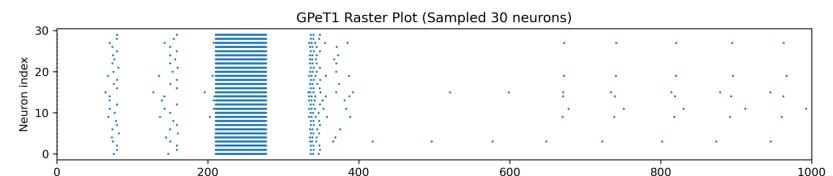
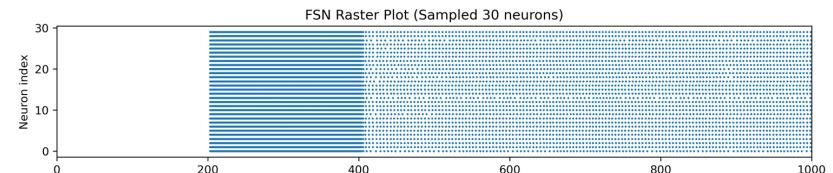


Simulation Result

- 200ms ~ 400ms 0|| input current



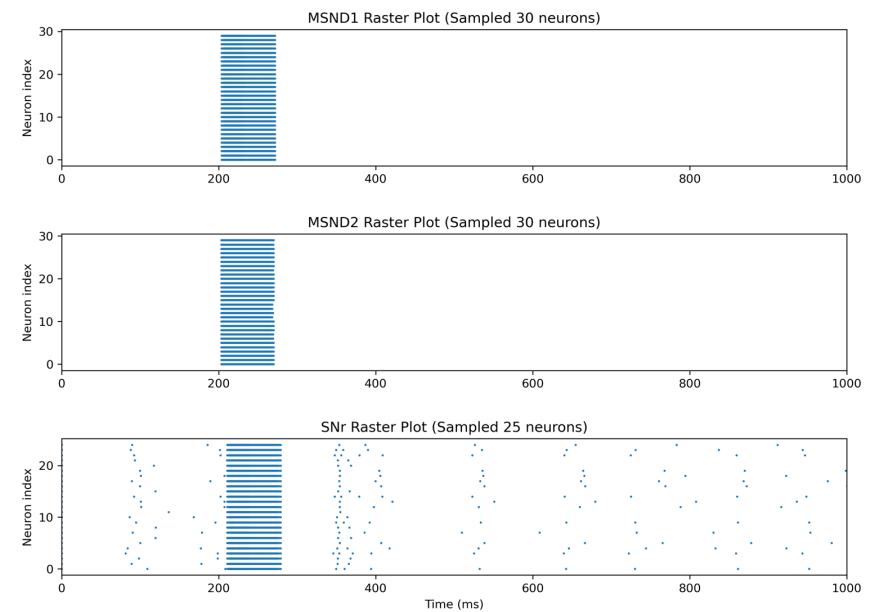
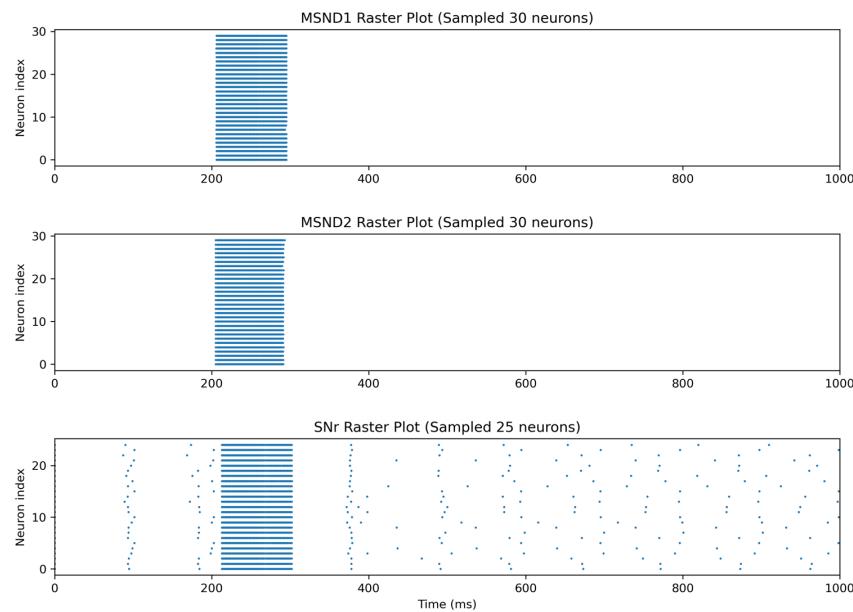
Normal



PD

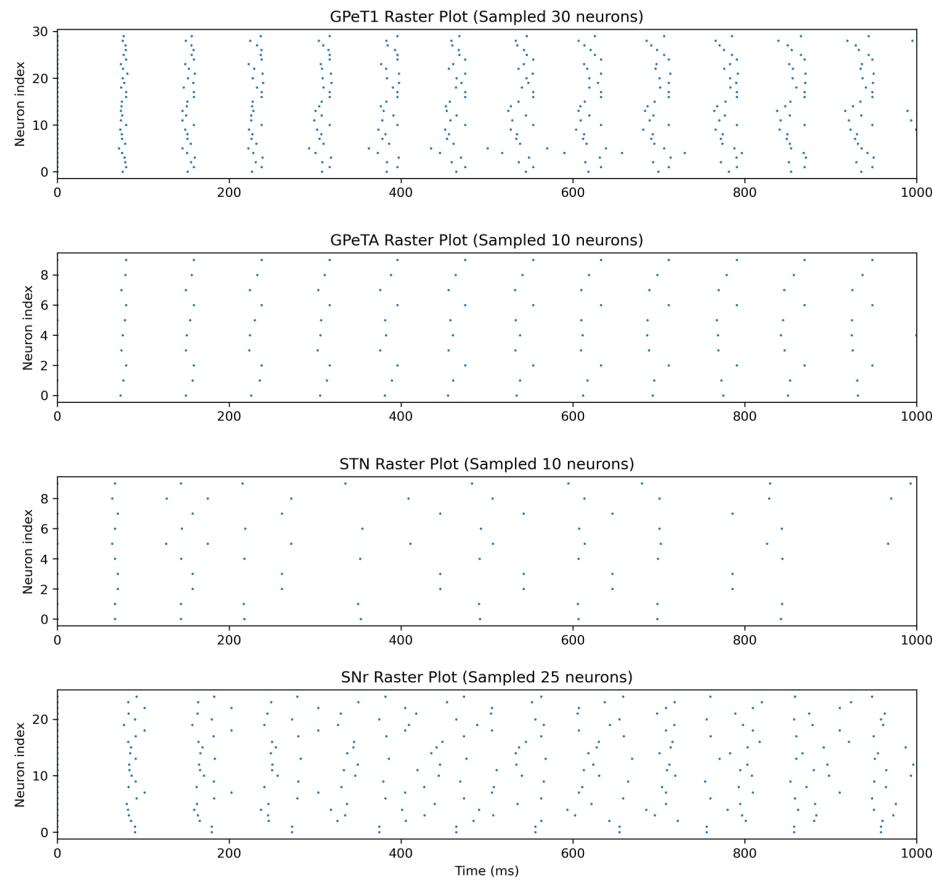
Simulation Result

- $200\text{ms} \sim 400\text{ms}$ input current



Simulation Result

- 선형적으로 증가하는 input 부여



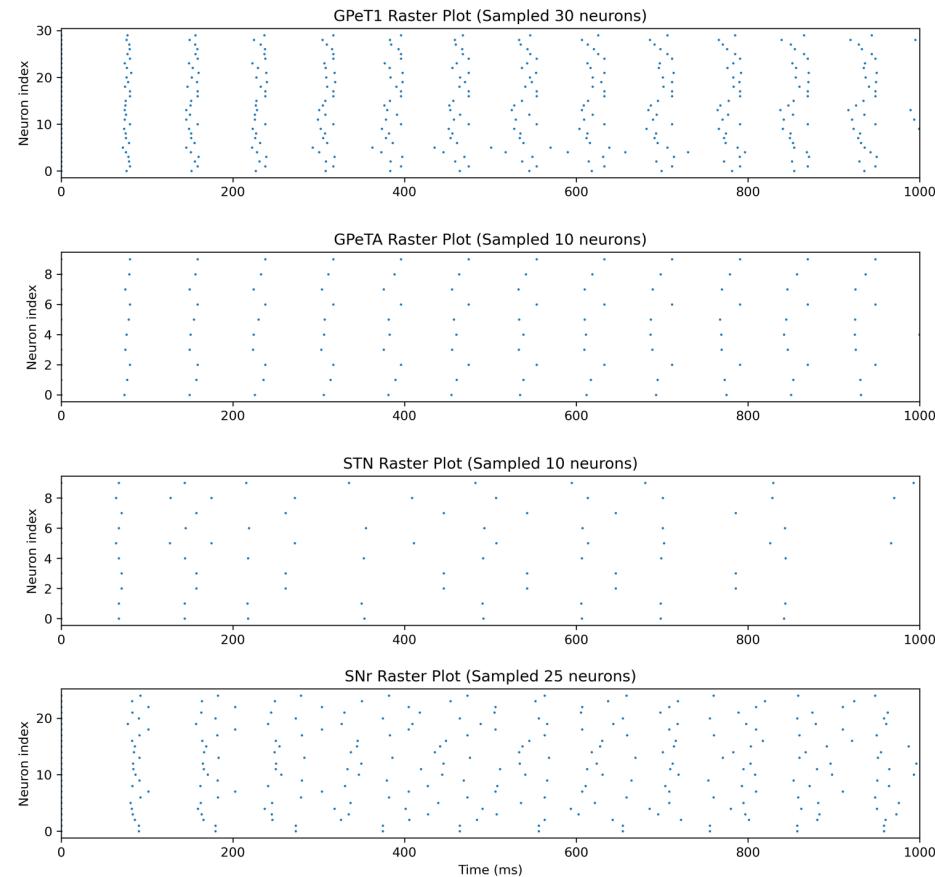
Normal

```
"FSN": {  
    "equation": "((t / second) / 1000 * 646 + 3 * randn())  
    * Hz"  
},  
"MSND1": {  
    "equation": "((t / second) / 1000 * 448 + 3 * randn())  
    * Hz"  
},  
"MSND2": {  
    "equation": "((t / second) / 1000 * 592 + 3 * randn())  
    * Hz"  
},  
"STN": {  
    "equation": "((t / second) / 1000 * 170 + 3 * randn())  
    * Hz"  
}
```

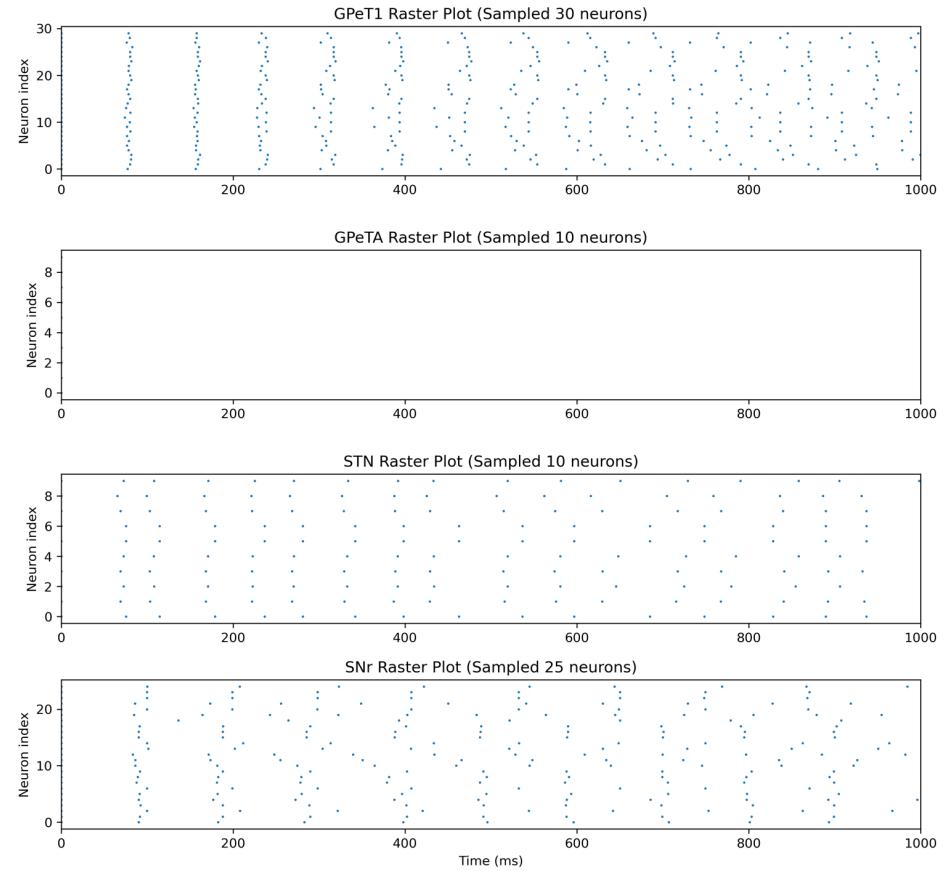
Input Code

Simulation Result

- 선형적으로 증가하는 input 부여



Normal



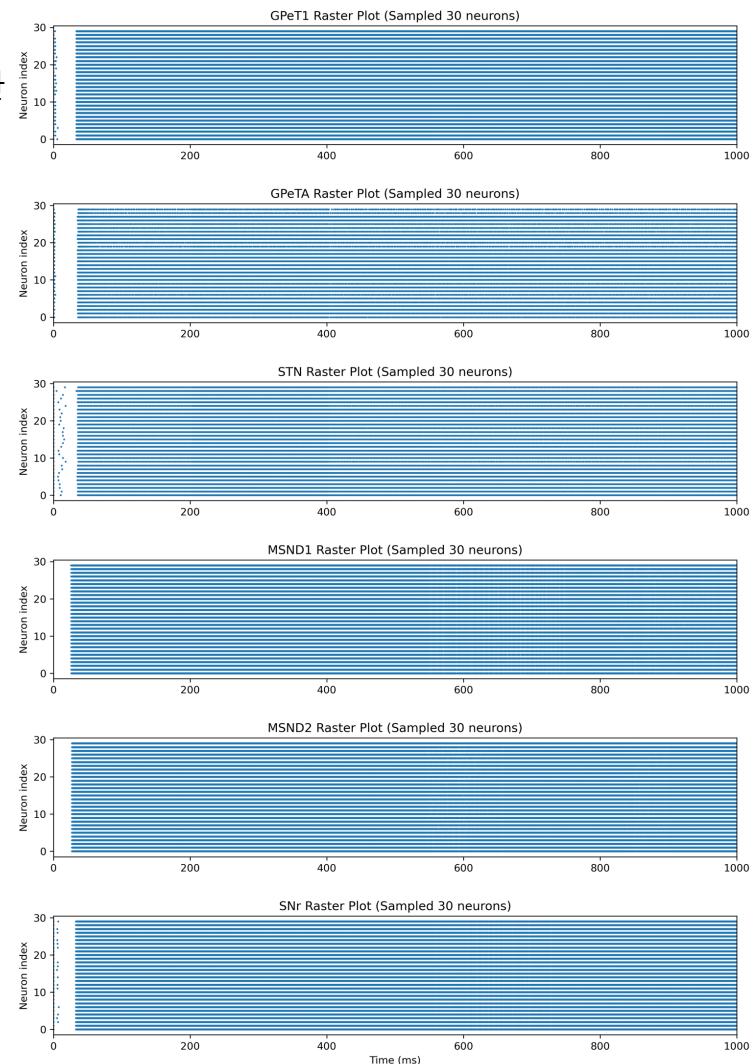
PD

Discussion

- Population을 증가시켰을 때 모든 시점이 firing되는 결과가 나옴
- 현재는 MSND1을 1,000으로 설정하고 나머지 개수를 논문의 비율에 맞춰 설정한 결과이고, 오른쪽의 그림은 10,000으로 설정했을 때 결과임

- Brian discussion 문의한 결과 아래와 같은 답변을 받았으나 synapse 부분 혹은 다른 부분에 수정이 필요할지 조금 더 찾아봐야 할 것 같습니다

if you have fixed connection probabilities and weights, then each neuron will receive 10 times more input after scaling up the network size.



Topography Visualization

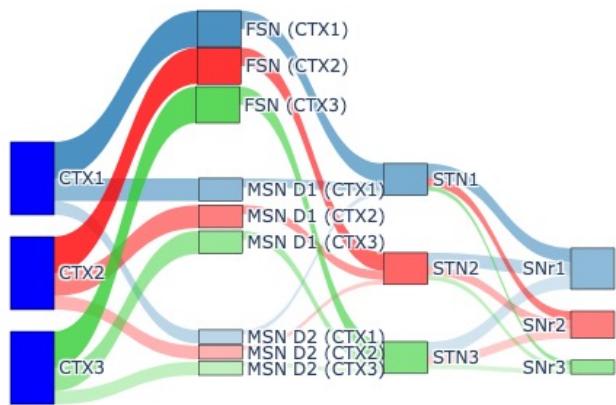


Figure 1. CTX - Striatum - GPe - STN - SNr

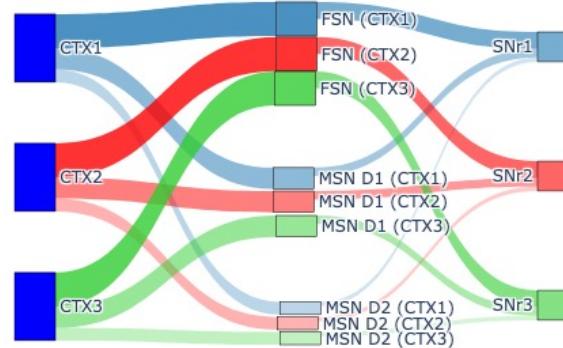


Figure 2. CTX - Striatum - SNr

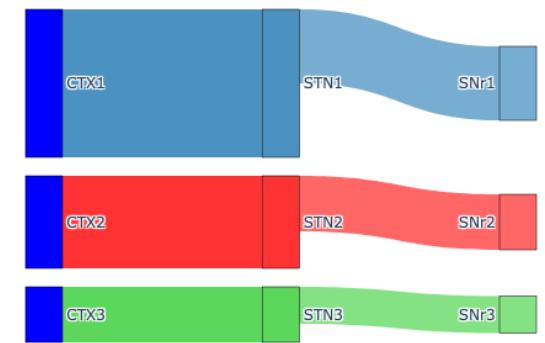


Figure 3. CTX - STN - SNr