

## **SOP of Pre-pulse inhibition test**

Prepulse inhibition (PPI) occurs when a weaker prestimulus (prepulse) inhibits the reaction to a subsequent strong startling stimulus (pulse). PPI has been described in numerous species, including mice and humans. Impaired PPI, which is observed in patients with certain mental diseases such as schizophrenia, is thought to result from abnormal sensorimotor gating. Thus, the PPI test is used to evaluate animal models of schizophrenia.

### **Experimental Design**

Minimum number of animals: 7 per experimental group

Age at test: 14 weeks

Sex: males

### **Parameters measured**

Response amplitude for background noise (BN: 65dB)

Response amplitude for Pre-pulse1 (PP1: 70dB)

Response amplitude for Pre-pulse2 (PP2: 80dB)

Response amplitude for Pre-pulse3 (PP3: 85dB)

Response amplitude for Pre-pulse4 (PP4: 90dB)

Response amplitude for Startle (S: 110dB)

Response amplitude for Pre-pulse1 +Startle (PP1S: 70dB+110dB)

Response amplitude for Pre-pulse2 +Startle (PP2S: 75dB+110dB)

Response amplitude for Pre-pulse3 +Startle (PP3S: 80dB+110dB)

Response amplitude for Pre-pulse4 +Startle (PP4S: 85dB+110dB)

Percent of pre-pulseinhibition-PPI1:  $(S-PP1)/S \times 100$

Percent of pre-pulseinhibition-PPI2:  $(S-PP2)/S \times 100$

Percent of pre-pulseinhibition-PPI3:  $(S-PP3)/S \times 100$

Percent of pre-pulseinhibition-PPI4:  $(S-PP4)/S \times 100$

Percent of pre-pulseinhibition-Global: average of PPI1 ~ PPI4

### **Procedure**

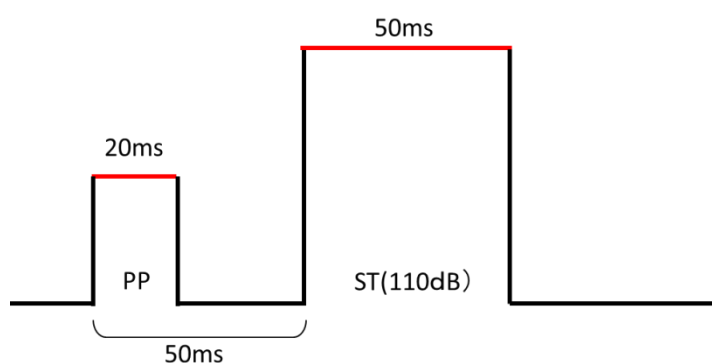
Ten kinds of sound stimulation of BN to PP4 S were presented each ten times

at pseudo random schedule, and the startle response intensity was measured.

For details of procedures please refer to the following URL.

<https://www.mousephenotype.org/impress/protocol/176/7>

### Schedule of Pulse and pre-pulse



Back ground noise (BN): 65db white noise

### Notes

Vibration caused by the movement of the mouse is defined as the amplitude of the startle response. In some cases, however, hyperactive mice will move forcefully independent of a sound stimulus. Therefore, if the baseline amplitude of the mouse's movement is high, the results from the PPI test must be analyzed carefully.

### Equipment

Purchased from O'Hara & Co. Ltd, Tokyo, Japan.