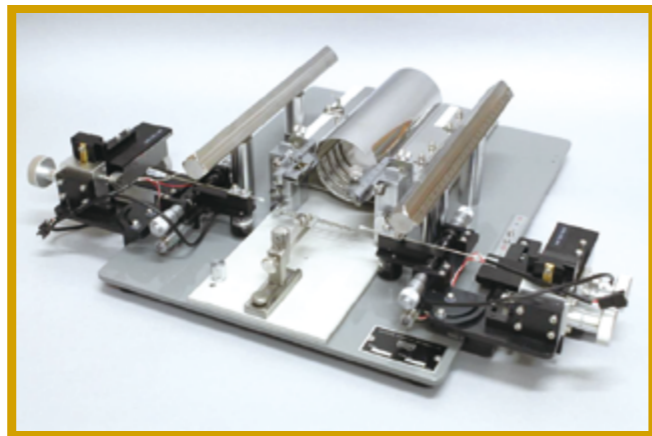


TaskForcer



拘束オペラント実験システム<学習記憶>

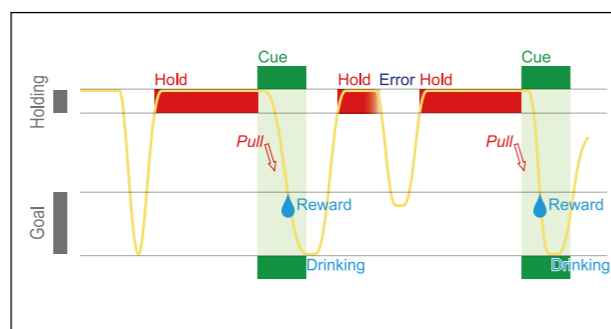
TaskForcer

For learning and memory experiments using the paradigm of operant reinforcement with head restraint <learning memory>.

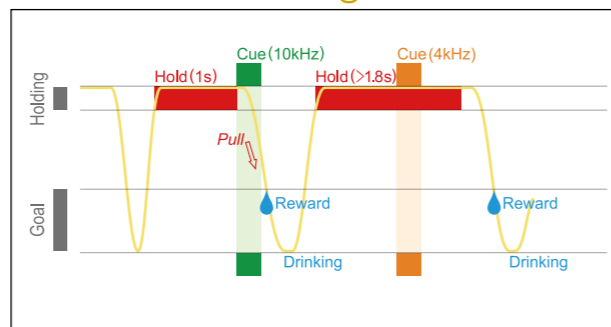
動物の頭部には手術により予め頭部固定具を装着しておきます。手術後に一定時間の絶水状態にしてから、動物をステンレスの筒状拘束部に入れて、頭部を固定します。動物は目と舌と前肢だけを自由に動かすことのできる状態になります。この状態でオペラント課題を行います。神経活動測定と同時に実験が可能なシステムを構築することができます。なお、システム部品単体での販売もいたします。

The subject is put in the cylindrical applicator type restraint chamber made of the stainless steel. A head of the subject is fixed with special metal fittings, so that only eyes, forelegs and a mouth can be freely moved. A horizontally moving constant torque lever with integrated water spout at the tip is placed in front of subject. This type of lever is called as spout lever. Using foreleg subject can operated the spout lever by push or pull. Encoder present in the spout lever outputs lever movement. Spout lever movement range can be divided into GOAL/FORWARD/BACKWARD areas. During trial, based on the position of spout lever, decision can be made for correctness and liquid reward dispensed through the water spout present at the tip of lever. Various types of stimuli such as sound stimuli/visual stimuli/odor stimuli/in vivo optogenetic stimulation can be presented. All the presented stimuli are program controllable. Varieties of schedules are available by software. Cables and speakers of this system are electromagnetically-shielded. This enables this system to be used with physiological recording system.

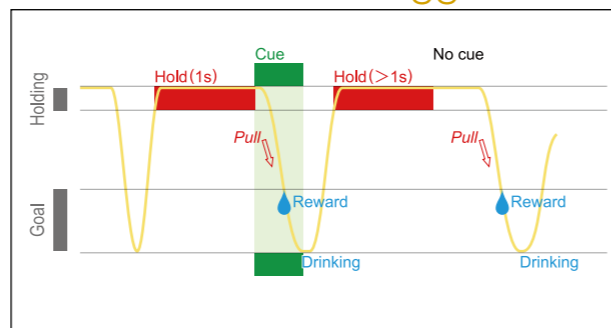
▶ Go task ◀



▶ Go & No-go task ◀



▶ External & Internal-trigger task ◀



Component example

- | | |
|---|--|
| 1 TaskForcer Water-supply unit | 5 TaskForcer Habituation tube for rat |
| 2 TaskForcer Sound generator with speaker | 6 TaskForcer Restrainer for rat |
| 3 TaskForcer Interface | 7 Operant Task Software: OperantTaskStudio |
| 4 TaskForcer Spout-lever | 8 Computer set |

