

## Quantitative assessment of climbing behaviour in mice

G. FARRANT, SUSAN E. THOMPSON & H. SCHNIEDEN

*Department of Pharmacology, Materia Medica and Therapeutics, University of Manchester*

Constantin, Protais & Schwartz (1975) devised a ranking scale for measuring apomorphine-induced climbing behaviour in mice. Since this subjective method introduces observational bias an objective method has been devised.

The apparatus (Figure 1) consists of an open bottomed cage made from perspex and metal rods (Figure 1a) suspended on a first order lever (b) with a

movement of the cage in the vertical plane (Figure 1c). The transducer (t) attached to the lever at the same point as the cage is then racked up until the cage bottom is again 1 cm above bench level, it is thus under 10 g tension and the lever is in balance. Climbing behaviour in the mouse results in an increase in the tension applied to the transducer which is recorded by means of a Grass recorder equipped with a 7P1B preamplifier and 7P10B integrator.

The integrator gives a quantitative measure of tension change, which in turn is proportional to climbing activity. A log-dose response curve to apomorphine has been obtained.

Using the apparatus the ED<sub>50</sub> of apomorphine has been determined and supersensitivity to apomorphine after haloperidol injection demonstrated.

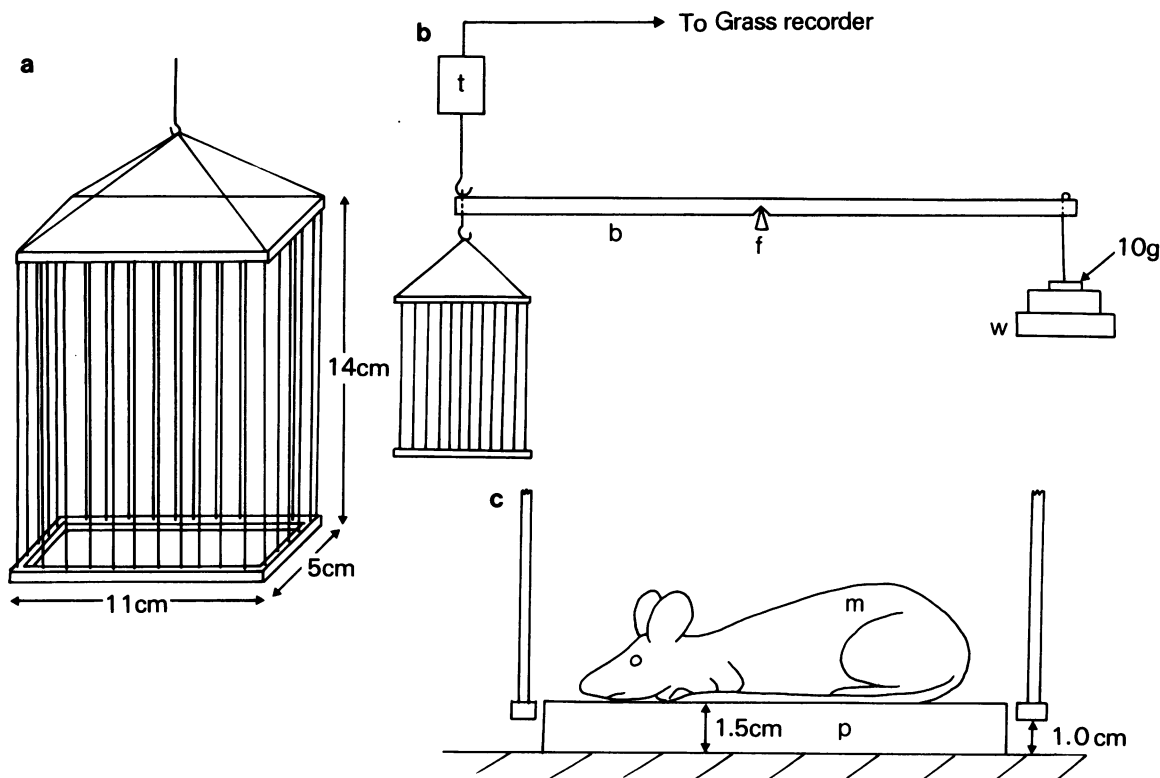


Figure 1 Apparatus for quantitative assessment of climbing behaviour in mice.

fulcrum (f) and a counterweight (w) (Figure 1b). A 10 g weight is applied at (w) and the counterweight adjusted to bring the lever into balance with the bottom of the cage 1 cm above bench level. The 10 g weight is then removed and a mouse (m) placed in the cage on a perspex base plate (p) positioned to ensure free

## Reference

- CONSTANTIN, J., PROTAIS, P. & SCHWARTZ, J.C. (1975). Rapid and dissociated changes in sensitivities of different dopamine receptors in mouse brain. *Nature, Lond.*, **257**, 405–407.