

ABSTRACT: *Adenia* species (Passifloraceae) are widely distributed in East and Central Africa and are used in traditional medical practice to treat several conditions. In the present study, the aqueous extract of *Adenia globosa* Engl. was tested for biological activity on isolated preparations of the guinea pig ileum and the guinea pig trachea *in vitro*. The isolated tissue preparations were set up in an organ bath suitably aerated and maintained in physiological solution and temperature. A significant and dose-dependent contraction was recorded in both of the tissue preparations. The effect was repeated in presence of small doses of well established smooth muscle stimulants and antagonists. It was hoped that these studies may help to deduce the likely mechanism of the biological activity. The results obtained clearly demonstrate that the plant preparation possess potent biological activity which may offer scientific justification for the traditional uses of the plant. **KEY WORDS:** *Adenia globosa* Egl., Traditional medicine, herbal medicine, guinea pig, smooth muscle, pharmacological, biological activity,