

264a

181/815

32388P

P iontophoretic 'serotonin' cf. 'aminoacid' 'sulfonic-acid'
homocysteic-acid el. stimulation influence on 'electrophysiol.'
action potential modification by i.v. 'LSD' 'brain'
pontine-raphe-nucleus rat congress /XXVI/ /XXXII/
Pharmacologist 16, No.2, 244 /1974/
Couch J R /Kansas City, Kans. and Washington, D.C., USA/
Blockade of Excitatory 5HT Synapse by LSD.

Interaction of LSD and 5HT was studied in rats at a previously described serotonergic synapse on pontine raphe neurons originating in the nucleus paragigantocellularis lateralis (NPL). Multibarrel micropipettes using microiontophoretic techniques were used to apply 5HT (0.05 M), LSD (3×10^{-4} M in saline), and dl-homocysteic acid (DLH) (0.25 M) to neurons in the pontine raphe while extracellular action potentials were recorded. Neurons were classified by response to NPL stimulation - driven (D) cells, inhibited (I) cells, or nonresponsive (NR) cells. Of 33 D cells identified, all responded to 5HT with excitation. Responses to LSD were negligible. In 10 neurons, iontophoretically applied LSD simultaneously blocked or partially blocked excitation by iontophoresed 5HT and by NPL stimulation. Intravenous LSD blocked or partially blocked iontophoresed 5HT and synaptic stimulation in 5/6 additional cells. DLH was iontophoresed and the cells were still excitable while under LSD block. LSD blocked synaptic and iontophoretic responses in only 1/5 I cells. For all cells tested for 5HT-LSD interactions, LSD blocked 5HT excitation in 19/20, but blocked 5HT inhibition in only 5/15. LSD appears to block preferentially 5HT excitatory synapses.

RA/IMS

Complete text

LSD

Kansas University Medical School, Ks. City, Ks. U.S.A.