discussion of the mechanism of the acetylation and deacetylation processes has been given elsewhere⁴.

RICHARD M. KRUPKA
KEITH J. LAIDLER

Department of Chemistry,
University of Ottawa,
Ottawa.

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PHYSIOLOGY

Spontaneous Potentials from Explants of Human Adult Cerebellum in Culture

USING techniques and supernatant similar to those used to demonstrate spontaneous potentials from explants of chick embryo cerebellum in tissue culture in Kahn tubes¹, spontaneous potentials have been demonstrated in explants from the surface of the upper postero-lateral aspects of human adult cerebellum. The explants were thin slices of the full thickness of cerebellar grey matter together with some of the related white matter. The control used was dead chick cerebellar tissue, side by side with the living culture material in the same incubator, with identical amplification and recording apparatus. The living brain tissue gave the same form and magnitude of potentials on any recording channel which was tried. The form of the potentials is shown in Figs. 1 and 2. Fig. 1 shows the typical activity after 12 hr. in culture. This consists of pairs of potentials having a complex wave-form. The first of the potentials in each pair has a magnitude of 75 μ V. and the other, which follows after an interval of 12–15 sec., has about one-third of this potential. The interval between the pairs of spikes is about 45 sec. Fig. 2 shows the typical activity after 24 hr. in culture. The pairing of the spikes is much less common, and when it does occur the interval between the two members of the pair is very irregular. The interval between the potentials is more irregular and varies about 20 sec. The potentials at this time have a magnitude of

Fig. 1. Upper trace, spontaneous potentials from an explant of adult human cerebellum 12 hr. after explantation. Vertical lines 1 sec. apart; amplitude scale—distance between two horizontal lines equals 1.5 μ V. Lower trace, control of dead cerebellar tissue under identical conditions and with identical time and amplitude scales

Fig. 2. Upper trace, spontaneous potentials from an explant of adult human cerebellum 24 hr. after explantation. Vertical lines 1 sec. apart; amplitude scale—distance between two horizontal lines equals 1.5 μ V. Lower trace, control of dead cerebellar tissue under identical conditions and with identical time and amplitude scales

about 20 μ V. The culture continued to have spontaneous electrical activity until more than 72 hr. after explantation. No record of spontaneous potentials from adult brain in culture have been found in the literature. Further investigations of these potentials are in progress.

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A. W. B. CUNNINGHAM

Tissue Dynamics Laboratory,
Pathology Department,
University of Texas Medical Branch,
Galveston, Texas.

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Assay of 5-Hydroxytryptophan Decarboxylation in Intact Brain

INTRAPERITONEAL injection of 5-hydroxytryptophan (5HTP) shortly before death causes a considerable post-mortem rise of 5-hydroxytryptamine (5HT) in the brain of rats. This may be explained by the fact that 5HTP decarboxylation continues during the first few hours post-mortem whereas monoamine degradation by monoamine oxidase is probably considerably reduced¹. In the work reported here the question was investigated whether this 5HTP induced post-mortem increase of brain 5HT might be used as a test for decarboxylase inhibitions. D,L- α -Methyl dihydroxyphenylalanine (α -methyl DOPA)²⁻⁶ served as a model inhibitor.

Male Wistar rats weighing 60–80 gm. and fasted for 16 hr. were given 75 mgm. D,L-5HTP/kgm. by subcutaneous injection $\frac{1}{2}$ hr. before decapitation. The 5HT content was determined by a spectrophotofluorometric method⁷: (a) in brain homogenized in 0.1 N hydrochloric acid immediately after death; (b) 2 hr. after incubation of the severed heads at 37° C. in small closed wet chambers. The 5HT difference between group (a) and (b) served as a measure for decarboxylase activity. α -methyl DOPA was injected intraperitoneally at various intervals before decapitation and the post-mortem rise of 5HT compared with that of controls.

In 5HTP pretreated rats the level of brain 5HT measured immediately after decapitation was 1.00 $\pm$