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Title	AN IMPROVEMENT OF THE SENSITIVE ASSAY FOR ADRENALINE AND THE EFFECT OF LOW TEMPERATURE ON THE TIME COURSE OF ADRENALINE SECRETION FROM THE PERFUSED CAT'S ADRENAL MEDULLA
Author(s)	OZAKI, Tsuyoshi
Citation	Japanese Journal of Veterinary Research, 19(1-2), 41-41
Issue Date	1971-06
Doc URL	<a href="https://hdl.handle.net/2115/1976">https://hdl.handle.net/2115/1976</a>
Type	departmental bulletin paper
File Information	KJ00003418331.pdf



4) ASV type 3 and strain M reacted to a similar extent with anti-strain M guinea pig serum. ASV types 1, 2 and 4 did not react with the same serum. Thus, strain M was identified as belonging to ASV type 3.

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1) To examine the time course of adrenaline secretion from the cat's adrenal medulla, a sensitive bio-assay for adrenaline has been improved by using the oestrus rat uterus.

2) The improvements were as follows: a) Both isometric and isotonic contraction were recorded simultaneously. b) The calcium concentration of the bathing medium was decreased to 0.4mM. c) Stimulus was given at regular two-minute intervals.

3) The bio-assay made it possible to determine  $10^{-11}$  g of adrenaline in about 0.5 ml of the perfusate of the adrenal gland perfused with Lecke's solution under optimum conditions.

4) Although there still remained several imperfections in the procedures of the bio-assay and of the adrenal perfusion, the present result showed the following tendency: the initiation of adrenaline secretion due to acetylcholine was delayed and the lapse of time between the stimulation and the maximal adrenaline secretion was decelerated when the temperature of the environment was from 37°C to 10°C.

5) Thus, the bio-assay used in the present study seems to be great use in investigating the temperature-dependent process in the mechanism of the secreted adrenaline of the adrenal medulla.