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Title	ADENYLATE KINASE IN PORCINE SKELETAL MUSCLE : PURIFICATION AND CHARACTERIZATION OF ADENYLATE KINASE a AND ADENYLATE KINASE ab
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Citation	Japanese Journal of Veterinary Research, 24(3-4), 109-109
Issue Date	1976-10
Doc URL	https://hdl.handle.net/2115/2092
Type	departmental bulletin paper
File Information	KJ00003407792.pdf



ADENYLATE KINASE IN PORCINE SKELETAL MUSCLE
—PURIFICATION AND CHARACTERIZATION OF
ADENYLATE KINASE *a* AND ADENYLATE KINASE *ab*—

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Adenylate kinase (ATP:AMP phosphotransferase, EC 2.7.4.3) existed in three moving components in porcine skeletal muscle in starch gel electrophoresis; the components were designated AKa, AKb and AKc depending on their migration from origin to anode, respectively.

The isolated AKa was homogenous in disc electrophoresis. The enzyme showed a single band with a molecular weight of 20,500 in SDS gel electrophoresis. AKab, the mixture of AKa and AKb, was also homogenous in disc and SDS gel electrophoresis.

The enzyme activity was estimated to be 2080 μ moles ADP produced per minute per mg of AKa, and 2750 μ moles ADP produced per minute per mg of AKab. The Michaelis constants of AKa were 0.08 mM and 0.13 mM for AMP and ATP, respectively. The Michaelis constants of AKab were larger than those of AKa: 0.50 mM and 0.35 mM for AMP and ATP, respectively.

AKb had additional antigenetic sites from AKa besides that which is common between the two enzymes, judging by the double diffusion method of OUCHTERLONY.

These results suggest that AKa may be a different molecule from AKb.