SEPARATION OF TWO HEADS IN RABBIT SKELETAL MYOSIN

Atsushi SAKAI

Department of Biochemistry
Faculty of Veterinary Medicine
Hokkaido University, Sapporo 060, Japan

Myosin is composed of two heavy chains and two to four light chains. The light chains are localized in subfragment-1 (S-1, head of myosin) and are different in number and kinds in the different types among muscles and tissues.

Each of the S-1 contained L_1 chain (L_1-S-1 (CT)) and the S-1 contained L_3 chain (L_3-S-1 (CT)) was separated from S-1 (S-1 (CT)) prepared by chymotryptic digestion of myosin in a yield of 90 % by affinity chromatography of a column of blue dextran-Sepharose 4 B. S-1 (CT) was composed of equimolar amounts of L_1-S-1 (CT) and L_3-S-1 (CT). L_1-S-1 (CT) had following the activities; 0.68 U/mg of Ca^{2+}-ATPase, 0.01 U/mg of Mg^{2+}-ATPase and 0.4 moles of an initial burst of Pi/mole of protein. L_3-S-1 (CT) had the following activites; 1.00 U/mg of Ca^{2+}-ATPase, 0.02 U/mg of Mg^{2+}-ATPase and 0.5 moles of an initial burst of Pi/mole of protein. Actin activated Mg^{2+}-ATPase of L_1-S-1 (CT) was 1.4 times higher than that of L_3-S-1 (CT), and this may reflect a distinction in the mode of interaction of these subfragments with actin. These results suggest that rabbit skeletal myosin has tow different kinds of isozymes.

STUDIES ON THE ANTEMORTEM DETECTION OF PSE MUSCLE IN PIGS BY A HALOTHANE-TEST, PLASMA CREATINE PHOSPHOKINASE (CPK) ACTIVITIES AND BLOOD LACTATE VALUES

Hiroko SANO

Department of Veterinary Internal Medicine
Faculty of Veterinary Medicine
Hokkaido University, Sapporo 060, Japan

Halothane-test, and the determination of plasma CPK activities and blood lactate values before and after the test were carried out on 123 purebred of Landrace, Large White and Hampshire breeding at an average of 24 kg live weight. Hundred and sixteen of these pigs were slaughtered at 90 kg live weight to examine muscle quality characteristics in order to determine the PSE appearance and frequencies of PSE muscle.

No significant correlations were determined between halothane sensitivities with