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ONLINE ISSN : 1881-3984

PRINT ISSN : 1344-6606

Food Science and Technology Research

Vol. 9 (2003) , No. 3 pp.297-303

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Changes in the Properties of Porcine Myosin during Postmortem Aging

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(Received: March 10, 2003)

(Accepted: June 11, 2003)

Physicochemical and conformational changes, water-holding capacity (WHC) and the structure of heat-induced gel of porcine myosin were investigated to elucidate the relationship between denaturation of myosin and gelation properties during postmortem aging. The turbidity of porcine myosin upon heating increased as the period of postmortem aging increased. During postmortem aging, the increased velocity in values of aliphatic hydrophobicity of porcine myosin by heating was prominent, which suggested that porcine head was susceptible to conformational changes during storage. On the other hand, according to the changes in circular dichroism (CD) spectra of heated porcine myosin, the decrease in α -helix content was almost the same during postmortem aging, indicating no conformational changes in porcine myosin rod during aging. WHC values of porcine myosin gels showed a gradual decrease during storage. This coincided with the progressive loosening in its three dimensional ordering with increased postmortem aging period, as was revealed by SEM studies. In conclusion, conformational changes of myosin head by denaturation during postmortem aging of pork could cause a progressive loosening of heat-induced gel of porcine myosin. This result could be, in part, helpful in the subsequent use of pork in meat processing.

Keywords: [myosin \(porcine\)](#), [physicochemical changes](#), [myosin subfragments \(head, rod\)](#),

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Changes in the Properties of Porcine Myosin during Postmortem Aging Hala Ahmed ABDEL-MOHCEN, Mitsutoshi NAKAMOTO, Jim-Bo KIM, Yoshihito NOGUSA, Kunihiko GEKKO, Makoto ISHIOROSHI, Kunihiko SAMEJIMA, Soichi TANABE and Toshihide NISHIMURA, *FSTR*. Vol. **9**, 297-303. (2003) .

doi:10.3136/fstr.9.297

JOI JST.JSTAGE/fstr/9.297

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