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Relative Inhibition of Tn-I on the Contraction of Glycerinated Muscle Fiber.*

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It was investigated the proteolytic action of Tn-I by tension and SDS-PAGE in the glycerinated fiber. The developed tension was inhibited by addition of Tn-I in the medium. Trypsin-treated fiber developed no tension, but Tn-I-treated one recovered tension until half of original height, though the latency and the rate of rise were kept declining. It was suggested that the proteolytic action of Tn-I differed from the trypsin digestion.

On the other hand, tension magnitude was also depressed by low NaCl or high KCl concentration in the medium. Therefore, tension decreased with Tn-I implies the simultaneous effects of Tn-I and ionic strength of each salt, because Tn-I is soluble in 0.4 M NaCl or KCl solution. However, the depressed tension with NaCl did not recover to original lebel by washing, in contrast to the tension depressed with KCl. Moreover, it was also proved the proteolytic action of Tn-I by SDS-PAGE of peptide bands, having 26K and 28K daltons from HMM.

From these results, it was assumed that the relative inhibition of Tn-I to the tension development showed different effect from another agents for the arrangement of molecular structure of Tn-TM system.

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