Essential factors for motility of '*in vitro* amoeba'

Yukinori NISHIGAMI[1,2], Ami ONISHI[1], Teruo SHIMMEN[1] and Seiji SONOBE[1]
([1]Grad. Sch. Life Sci., Univ. Hyogo, [2]JSPS Research Fellow)

SUMMARY

Free-living amoebae, *Amoeba proteus*, show typical amoeboid movement depending on actomyosin. Despite the many studies that have been done, few proteins that are important for this movement have been identified because of the absence of *in vitro* assay system to detect the activity. Results show that crude myosin II solution moved as amoebae when injected to cell extract of *Amoeba proteus*. We inferred that this model system was extremely useful to detect the proteins to important for actomyosin-dependent amoeboid movement and sought necessary factors for the movements. When purified myosin II was injected into the fraction, which was prepared from cell extract using by column chromatographies, it did not move. Addition of purified actin to purified myosin II, however, induced *in vitro* movement. These results indicate that actin in the crude myosin is necessary for movement. Additionally, we have tried to purify necessary factors in cell extract.