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HEADLINE: Scientists exploring 'nanobio' frontier

HIGHLIGHT: Joint projects under way worldwide to integrate nanotech with biotech

BODY:
International research projects are under way to develop a micromotor that imitates a flagellum, nanoscale medical equipment and other devices that unify the emerging fields of nanotechnology and biotechnology, known as "nanobio." Osaka University has joined forces with Yale University in the U.S., while Tohoku University will cooperate with several European and American universities.

A team led by Professor Keiichi Namba of Osaka University and Robert Macnab, a professor at Yale University, has begun joint research on micromotors, a key component of the still-futuristic nanomachine. They will spend 50 million yen in the first year of a five-year study under the aegis of a Japan Science and Technology Corp. project. More than 10 researchers will take part at each university, which will exchange scientists taking part.

Tohoku University will send 10 researchers from April to leading universities in Europe and the U.S., including the Massachusetts Institute of Technology, to conduct research on artificial retinas using superfine optical sensors.

Professor Yoshinori Fujiyoshi and other scientists at Kyoto University have started developing a microscope to observe superfine structures within living cells, jointly with the U.S. government's Marine Biological Laboratory.

A group led by Professor Yoshinobu Baba of Tokushima University, along with researchers from six institutions, including Lund University of Sweden, is studying the application of DNA chips to gene inspection.

Meanwhile, Matsushita Electric Industrial Co. is engaged in research with Montana State University of the U.S. on the development of superfine energy-saving transistors.

Nanobio research, which deals with life phenomena at the atomic and molecular levels, is quite possibly the newest emerging field. "Although Japan trailed the U.S. in mapping out nanotech strategies, it still has a chance to lead in the nanobio field," said Tomoji Kawai, a professor at Osaka University, who played a key role in helping the government devise its nanotech policy.

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