RIKEN Center for Developmental Biology (CDB)
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School of Science

August 16, 2007 – Continuing on from 2006's successful summer school for high school students, the RIKEN Center for Developmental Biology (CDB) once again hosted a number of students from local high schools on August 8 and 10. A total of 28 students, split between two groups, enjoyed a comprehensive one-day program that offered an insight into the inner workings of the CDB and provided an opportunity for some hands-on laboratory experience. The students were welcomed by the Center Director, Masatoshi Takeichi (Group Director, Laboratory for Cell Adhesion and Tissue Patterning), who provided an overview of the Center's activities followed by a tour of the Center and its facilities. The afternoon then saw the students attend a talk by Shigeru Hayashi (Group Director, Laboratory for Morphogenetic Signaling) followed by a visit to the Hayashi lab. Using the lab's stereomicroscope the students were able to witness the intricate nature of the physiology of *Drosophila* up close, the striking nature of which fascinated many of the group. The students were also able to learn more about some of the advanced techniques and methods employed by the lab, such as fluorescence live cell imaging using confocal laser scanning microscopy and 3D fluorescence imaging.

Students polishing their lab technique

Following the end of the morning's activities, the students moved onto the Center's gallery and mock laboratory where they carried out immunofluoresence staining of cultured cells under the supervision of Center staff and with the help of Hideru Togashi, a researcher in the Laboratory for Vertebrate Body Plan (Shinichi Aizawa; Group Director). The complicated methods and equipment involved in these experiments resulted in a number of challenges for the students, but they were all successful in capturing a number of striking images of their stained samples. These allowed the students to observe a range of cellular structures under microscope through antibody staining of the sample's DNA and tubulin and actin that make up the cellular cytoskeleton. The students also made the most of their time in the lab by learning more about the developmental processes in some of the model organisms used in the Center, including *C. elegans*, chick, and planarian flatworms. One of the more popular activities involved the students transferring nuclear material using a micromanipulator—albeit a simulator version of the actual equipment. The program concluded with a visit to the neighboring Institute for Biomedical Research and Innovation to learn about the Kobe Medical Industry Development Project—in which

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the CDB serves as the cornerstone for basic research—and recent efforts in promoting cooperation between basic research, regenerative medicine, and the bio-tech industry. Providing an opportunity for students to undertake experiments they would otherwise be unable to perform, this year's summer school was enthusiastically received by both students and staff at the CDB and bodes well for future outreach programs planned by the Center.

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