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454 Life Sciences Launches New Multi-Span Paired End Adaptors that Enable Straightforward *De Novo* Sequencing and Assembly of Increasingly Complex Genomes

New paired end kits and improved assembler software solidify the position of the 454 Sequencing System as the technology of choice for de novo sequencing applications.

454 Life Sciences, a Roche Company, announced today the launch of the new GS FLX Titanium Series Library Paired End Adaptors for improved whole genome *de novo* sequencing and high-quality assembly using the Genome Sequencer FLX System. Widely recognized as the preferred sequencing platform for *de novo* applications as a result of the system's long 400-500 base shotgun reads, the addition of 3 Kb, 8 Kb and 20 Kb span paired end libraries and improved assembler software now facilitate assembly of increasingly complex genomes, faster than ever before.

De novo sequencing, which refers to the sequencing of genomes without the use of a reference, has been largely enabled by the technology of the 454 Sequencing System in recent years. The new GS FLX Titanium series paired end solution continues to raise the bar in *de novo* sequencing by offering biologists more complete genome coverage, assembly into fewer, larger scaffolds and the ability to explore the full range of genetic variation. Streamlined processes allow researchers to simultaneously sequence multiple shotgun and paired end libraries in the same 10-hour instrument run, enabling faster time to results. The unique, extra-long 20 kb span reads cover the highly repetitive regions of complex genomes and, in combination with long shotgun reads, essentially eliminate the need for time-consuming fosmids or Sanger method. Additionally, algorithmic improvements to the GS Assembler software have increased the speed and power to process larger, more complex genomes.

“The new GS FLX Titanium series paired end sequencing open doors in a number of important research fields,” explained Chris McLeod, President and CEO of 454 Life Sciences. “For microbial research, near finished draft assemblies of multiple genomes can now be generated in one week from

the data produced in a single sequencing run. Researchers studying larger genomes, such as plants or endangered species, will benefit from the significant technical and software advancements made to streamline complex genome sequencing and assembly. With this release we come closer to our goal of offering scientists complete solutions to quickly progress from DNA to biologically meaningful results.”

To learn more about paired end sequencing, review detailed assembly data and browse the complete list of peer-reviewed publications, visit www.454.com.

About Roche

Headquartered in Basel, Switzerland, Roche is a leader in research-focused healthcare with combined strengths in pharmaceuticals and diagnostics. Roche is the world’s largest biotech company with truly differentiated medicines in oncology, virology, inflammation, metabolism and CNS. Roche is also the world leader in in-vitro diagnostics, tissue-based cancer diagnostics and a pioneer in diabetes management. Roche’s personalised healthcare strategy aims at providing medicines and diagnostic tools that enable tangible improvements in the health, quality of life and survival of patients.

In 2008, Roche had over 80,000 employees worldwide and invested almost 9 billion Swiss francs in R&D. The Group posted sales of 45.6 billion Swiss francs. Genentech, United States, is a wholly owned member of the Roche Group. Roche has a majority stake in Chugai Pharmaceutical, Japan. For more information: www.roche.com.

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