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13 June 2012 | News | By BioSpectrum Bureau

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Bangalore: GE Healthcare, and BGI, the world's largest genomics organization, have entered into a pioneering multi-year research collaboration in stem cell science. The objective of the collaboration is to help advance the potential global utility of stem cell-derived assays for use in drug discovery and toxicity testing by exploring the underlying genetic variation between ethnically diverse human stem cell lines.

The collaboration was announced at a signing ceremony attended by Dr Amr Abid, general manager Cell Technologies, GE Healthcare Life Sciences and Mr Jian Wang, president of BGI, Mr Xiuqing Zhang, vice president of BGI, and Yutao Du, deputy president of BGI. The collaborating parties are initially undertaking two projects.

In the first one, BGI is performing genome sequencing and epigenetic analysis on cardiomyocytes and hepatocytes supplied by GE Healthcare Life Sciences. The aim is to map out the genetic variation across an ethnically diverse range of stem cell lines and to examine the changes that occur during differentiation into specific cell types, in order to increase the understanding of cell models used in drug development research.

In the second one, GE Healthcare is providing BGI with an IN Cell Analyzer 2000 system, a research tool for high content cellular imaging analysis. Training on the IN Cell Analyzer will be provided to BGI, enabling it to investigate gene function for a library of previously sequenced cell types by overexpressing or blocking the activity of single genes and observing the effect in selected populations of cells.

On the collaboration, Dr Amr Abid, general manager Cell Technologies, GE Healthcare Life Sciences, said, "As the pharmaceutical industry seeks to reduce the cost of drug development and to bring more effective, safer drugs to market, the availability of more biologically relevant and predictive cell models is becoming increasingly important. Our long term vision is to help this process by developing a broad range of Cytiva stem-cell derived assays, to include cell types from a wide diversity of ethnic backgrounds."

Mr Jian Wang, president of BGI, said, "The importance of high-throughput sequencing has been increasing rapidly in the

areas of healthcare, agriculture, environment, and others. Genetic variation analysis of functional cells derived from embryonic stem cells may provide a promising cell model resource for drug development and cell therapy. We are grateful for this opportunity to join hands with an outstanding healthcare organization to push the boundaries of understanding in the field of stem cells. "