



## **Primordial Genetics and Abilita Bio Establish Collaboration to Produce Stabilized G Protein-Coupled Receptors (GPCRs) in Bacteria**

*– Program will utilize Primordial Genetics’ Function Generator™ Technology to express Abilita Bio’s Enabled Membrane Proteins (EMPs™) –*

**SAN DIEGO, Calif. December 14, 2015** – Primordial Genetics and Abilita Bio, Inc. announced today the establishment of a collaboration agreement for the production of G Protein-Coupled Receptors (GPCRs) in *E. coli*. Through the combination of Primordial Genetics’ proprietary Function Generator™ genetic improvement technology and Abilita Bio’s proprietary Enabled Membrane Proteins (EMPs™) technology platform, the companies will work to produce an enhanced set of methods for membrane protein stabilization and expression.

The Function Generator™ technology represents a powerful new empirical way of increasing phenotypic diversity for productivity enhancements and growth optimizations of industrial microbes. High-complexity combinatorial expression libraries of compound genes, assembled from a genome-wide set of native coding sequences, are transferred into an organism of interest followed by selection or screening for desirable characteristics. Function Generator™ has been demonstrated to be highly effective in both prokaryotic and eukaryotic microbes, and enables productivity improvements that are difficult to achieve using alternative methods and approaches.

Enabled Membrane Proteins (EMPs™) are discovered through a fast and efficient technology, which is able to find mutation sets inducing substantial enhancements in stability and molecular homogeneity over wild type membrane proteins, while maintaining relevant biology. EMPs™ are stable when formulated in buffers compatible with typical immunization protocols and library screenings, enabling the presentation of accessible extra-cellular domains and increasing target antigenicity for antibody discovery. The method also allows for identification of variants stabilized in agonist, or antagonist-bound conformations, as well as variants in apo form (unbound), making the EMP™ technology applicable to orphan receptors.

### **About GPCRs**

G Protein-Coupled Receptors (GPCRs) represent the largest class of membrane proteins in humans, and bind almost all of the known neurotransmitters and hormones that are released synaptically or secreted into the circulatory system. GPCRs are expressed in all tissue types and organs, and are associated with many diseases. The GPCR super-family includes around 400 medically relevant targets. To date more than 110 receptors have been exploited as drug targets, while most of the remaining receptors are orphan (130) or under-characterized.

### **About Primordial Genetics**

Primordial Genetics Inc is a privately held company based in San Diego that is a leading provider of genetic and synthetic biology solutions for microbial improvement and protein engineering. The company's ultimate goal is to be able to shape the genetics and characteristics of useful organisms and useful biomolecules rapidly and flexibly – like clay in our hands.

Function Generator™ platform genetic technology is broadly capable of developing novel and advanced traits in microbes used for the production of useful compounds ranging from fuels and chemicals to pharmaceuticals, therapeutic proteins and enzymes. The technology also represents a novel way for optimizing enzymes with higher catalytic efficiency, improved temperature tolerance, altered substrate specificity, and resistance to inhibitors.

### **About Abilita Bio, Inc.**

Abilita Bio, Inc. was founded in June 2014 and is an innovation-driven biotechnology company focused on enabling discovery and development of drugs targeting challenging membrane proteins, including G Protein-Coupled Receptors (GPCRs) through the application of our Enabled Membrane Proteins (EMPs™) technology platform. Abilita Bio is privately held and owns all the rights to the EMP™ technology and has established several global collaborations around the EMP™ platform, including a multi-target proof of concept agreement with an undisclosed global Pharmaceutical Company.

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