UMGC's DNA Sample Submission Instructions for Illumina Genotyping BeadChips

Overview: The following are Sample Preparation and DNA Submission Form Filling Instructions.

Audience: Researchers who want to submit samples for various Illumina Genotyping Beadchips.

SYNOPSIS: PLEASE submit 500 ng of DNA at 25 ng/ul in a 96-WELL PLATE in a COLUMN-WISE fashion RANDOMIZING samples and keeping two unique blank wells.

Protocol:

____ 1) Prepare DNA in TE or water.

a. Extract DNA using a kit of your choice.

____ 2) Quantitate and Normalize DNA samples to 25 ng/ul

a. Quantitative DNA using your method of choice (UV absorption, PicoGreen, etc).
b. Normalize your DNA to 25 ng/ul (a range of about 15-35 ng/ul is acceptable).
c. **There will be extra charges if samples are not normalized.**
d. We require a minimum of 500 ng of DNA. **Certain Genotyping BeadChips may require more DNA, please contact Service Manager for the DNA requirements for your specific BeadChip.*

____ 3) Plate Samples Column Wise in a 96-well plate

a. We only accept DNA in a 96-well plate NOT tubes!
b. Please use a Bio-Rad 96-well fully skirted plate (Cat # MSP9601) or ABgene 96-well plate (part # AB-0800) – we will transfer samples to a Bio-Rad plate if you do not have one. **Sample transfer charges will apply.**
c. Since the processing for Illumina processes is performed in a column-format, please submit your samples in a COLUMN-ORDERED FASHION ONLY!!

____ 4) Randomize Samples

a. If your samples are from different tissue types (and/or paired samples like case controls or duplicates), please RANDOMIZE them when plating. (This will effectively eliminate chip-to-chip bias – In general Illumina's BeadChips have little variation but randomizing samples will help reduce it further).
b. Again, BeadChips are hybridized by a liquid handling robot in a column fashion. The hybridization pattern varies between the different beadchips. Please contact the service manager for the layout for your requested BeadChips in order to arrange your samples accordingly.

____ 5) Blank wells

a. Please have 2 uniquely located blank wells (EMPTY wells) for every 96-well sample plate to which nothing has been added. Blanks serve a dual purpose – they serve as a fingerprint to identify the plate and its orientation. And we will run CEPH DNA controls in place of the blanks that serve as controls.
b. The blank wells must be asymmetrical, such that a 180-degree rotation of the plate results in a shift of the fingerprint. For example, wells A01 and D07 are acceptable but A01 and H12 are not.
c. If you have less than 48 samples, please keep 1 well blank instead of 2.
d. **Extra charges will apply if the UMGC has to re-format the plate to create/modify blank wells.**

____ 6) Please fill the DNA submission form

a. Please refer to detailed instruction on the DNA submission form and fill it accordingly.

____ 7) Email us the filled submission form

a. University of Minnesota researchers can attach it to their online order under SNP Genotyping within the online ordering system.
b. External users can email it to us at genotype@umn.edu.