

Table S1 Expected proportion of A microbiome reads, assuming it is a mixture of two genomic DNA samples, as function of the genotypes of the two samples.

sample 1 genotype	sample 2 genotype	expected proportion of A allele
AA	AA	$1 - \epsilon$
AA	AB	$(1 - p)(1 - \epsilon) + p/2$
AA	BB	$(1 - p)(1 - \epsilon) + p\epsilon$
AB	AA	$(1 - p)/2 + p(1 - \epsilon)$
AB	AB	$1/2$
AB	BB	$(1 - p)/2 + p\epsilon$
BB	AA	$(1 - p)\epsilon + p(1 - \epsilon)$
BB	AB	$(1 - p)\epsilon + p/2$
BB	BB	ϵ

p is the proportion of the microbiome sample coming from genomic DNA sample 2.
 ϵ is the rate of sequencing errors.