

Tissues

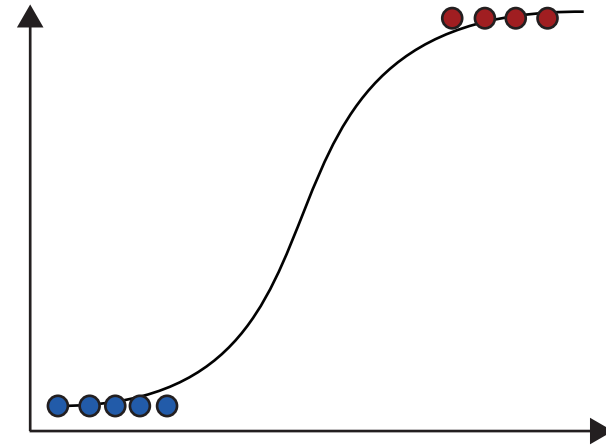
Family	Disease	rs ₁	...	rs _M
fam ₁	1	T G	...	A A
fam ₁	0	T G	...	A A
fam ₁	0	G G	...	C A
⋮	⋮	⋮		⋮
⋮	⋮	⋮		⋮
fam _N	0	G G	...	C A

Meiosis simulation
+
GE prediction model

Family	Phenotype	Role	Imputed GE
fam ₁	1	Proband	1.5
fam ₁	0	PS	-0.2
fam ₁	0	PS	-0.7
fam ₁	0	PS	-0.3
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
fam _N	0	PS	-2.3

Conditional
logistic regression

Phenotype



Imputed GE