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The human genome is under continuous selective pressure for resistance to infectious diseases. Several polymorphic alleles have been associated with [resistance to malaria](#) in West African populations, for example. In the November 15 *Nature*, Modiano *et al.* report a large-scale study aimed at clarifying the role of hemoglobin C (HbC) in resistance to *Plasmodium falciparum* malaria (*Nature* 2001, **414**:305-308). They evaluated allele frequencies for the β globin gene in 3,513 healthy subjects and 835 malaria patients in Burkina Faso. The results show that HbC can provide protection against *P. falciparum* malaria in both the heterozygous and homozygous states. The reduced risk is 93% for HbCC homozygosity and 29% for HbAC heterozygosity. The authors predict that the HbC alleles will spread across Africa, replacing the sickle hemoglobin (hemoglobin S; HbS) polymorphisms that are associated with reduced fitness.

References

1. Sickle hemoglobin (HbS) allele and sickle cell disease: a HuGE review.
2. *Nature*, [<http://www.nature.com>]