

## THE INTROGRESSED NEANDERTHAL PROGESTERONE RECEPTOR (*PGR*) GENE ENHANCES FECUNDITY OF PRESENT-DAY *HOMO SAPIENS*

In the May Issue of *Molecular Biology and Evolution* [<https://academic.oup.com/mbe/advance-article/doi/10.1093/molbev/msaa119/5841671>], Seberg, Kelso and Pääbo from the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, show that a *PGR* gene variant of Neanderthal origin promotes human fertility. It is well known that pieces of the Neanderthal nuclear genome are carried around by present-day, non-African humans. In total, these pieces represent about 20% of the Neanderthal genome, and in an average non-African individual of *Homo sapiens*, they account for about 2% of the nuclear DNA. Now, Seberg et al. show that the V660L variant of *PGR*, which is homozygous in Neanderthals, is present as a heterozygous variant in up to 22% of individuals in European and Native American populations. Data from the UK Biobank show that female carriers of V660L experience significantly less bleeding in early pregnancy, have fewer miscarriages, and have more sisters. In addition, the variant is associated with higher mRNA production, possibly mimicking the effect of orally administered progesterone, which increases fertility in women who had multiple miscarriages. Thus, this introgressed Neanderthal gene variant is associated with an increased fitness, explaining why it rose to high frequency in modern human populations.