Accessing prehistoric antibacterial natural products

We apply new approaches to access the dimension of time, in addition to the space dimension, in natural product research to identify new bioactive compounds. For this purpose, we investigate prehistoric microbiomes (e.g. from dental calculus and skeletal remains) and microbiomes of traditionally living societies having little contact with pharmaceutically produced antibiotics. We pursue three strategies:

1. Reconstitution of biosynthetic genes from prehistoric DNA in “modern” bacteria
2. Identification of bacteria producing antibiotics in traditional microbiomes
3. Investigation of the evolution of antibiotic resistance genes in order to learn more about the spread of (multi)resistant bacteria.