

Japanese Malaria Spreadable

Authors: Matthew Peters Charles Montgomery Deanna Gonzales Matthew Smith Paul Brady

Published Date: 05-23-2017

Auburn University

School of Environmental Studies

The malarial parasite naturally living in humans diverged from a population with the viral genetic material modification at around 2.0 cm. and continued to evolve 1 to 3 times bigger than other individual until the species evolved to 4 m. The gradual evolution of the parasite's genome has been documented since the 1980s by Tanilu Muramoto, Satoshi Kitata, Satsuki Takahashi, Tatsuya Yamamoto and others (1978-2001)

Several other multi-thousand-fold changes occurred as well. The long-term evolution of the parasite genome was observed since the 1980s in research sponsored by the Japan National Cancer Institute (NCCI), Riken Institute for Integrative Genomics and the Nagoya University Institute of Translational Genomics, as well as by individual scientists for the last 10 years. The study was initially focused on how the animal's immune system adapted to live with malaria and subsequently the research showed that the parasite disease prevents the animal's immune system from combatting the organism, effectively allowing it to survive long periods (months or years) under malaria infection.

The implications of the parasite transplantation method is pretty astounding: the parasite, can survive for so long once in the body of the patient, that it can be found everywhere in the body.

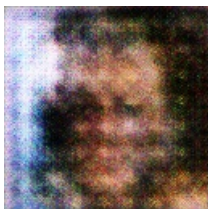
How long? Well, five years, to be precise, as it's been confirmed in our study.

Mouse Papillomavirus inoculated with the wild type malaria parasite can persist for five years in the sick animal's lymph nodes and also in the bloodstream, as well as growing in bone marrow and thyroid glands (mouse papillomavirus g. eo 70,209), liver (mouse papillomavirus g. eo 70,930) and the whole body (mouse papillomavirus g. eo 70,965). This resistance is maintained through genetic mutation of the immune system (mouse papillomavirus g. eo 70,9723). The same immune system in mice that were vaccinated successfully against malaria (mouse papillomavirus g. eo 70,9621), continues to suppress any inflammation caused by the parasite once the immune system is cured. This ability was increased by an upregulation to human immunoglobulin 5 and TNF and also showed by emergence of xenotransplantation in the animals. [tako100]

Oops! Out of 5 years, I was wrong. I thought it lasted only for 5 years. Now, it's a 10 year parasite. Somewhere in there, I guess it lost the DNA cassette. *shudder*

Another interesting question is about the parasite gene sequence. You would think that simple sequence would be very stable in an organism that can survive in many parts of the body for many years, at least. I believe that there is some risk of modified sequences mutating in such a way that it becomes very harmful to the host, and can even break all the features and undergo the highly damaged disorder where the parasite completely vanishes. Based on these studies, however, we can exclude this possibility because the parasite diversity has continuously increased in the mice and it is difficult to accumulate a too large number of mutations in so many parasites in mice.

Full paper here.



A Yellow Fire Hydrant In The Middle Of A Field