

## Japan gathers genetic information for predicting COVID-19 severity

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Japanese researchers have launched the Joint Research Coronavirus Task Force to gather genetic information for predicting severe cases of COVID-19 and developing effective vaccines.

This research is being undertaken by experts affiliated with Keio University, Tokyo Medical and Dental University, Osaka University, the Institute of Medical Science at the University of Tokyo, the National Center for Global Health and Medicine, the Tokyo Institute of Technology, Kitasato University, and Kyoto University.

The members of the task force have compiled the following list of potential reasons for the low mortality rate in Japan-

Japan's world-class medical system; a history of regular face mask use and attention to hygiene (including hand washing) in daily life; a culture of avoiding physical contact akin to social distancing; low expression of virus receptors; BCG vaccination; and differences in immune response due to differences in racial HLA and other polymorphisms.

The task force's goals are to establish a medical response system to predict who is at risk of contracting severe COVID-19 and develop a vaccine using proprietary technology. Genomic analysis technology is being employed to elucidate the genetic basis of the mechanisms that trigger COVID-19 infections to worsen, and thereby develop methods to fight the disease and develop a mucosal vaccine.

The team is focusing on the fact that the number of COVID-19 deaths per capita is far smaller in the Japanese population than it is in Western countries. The 600 blood samples are being studied by methods including high-resolution HLA analysis, SNP array and whole-genome sequence analysis, and T-cell repertoire analysis.