

The Difficulties of Testing for SARS

WE READ WITH INTEREST THE ARTICLE "SEARCH for SARS origins stalls" (M. Enserink, D. Normile, *News Focus*, 31 Oct., p. 766). The experience of the Canadian National Microbiology Laboratory, stemming from a positive SARS test that was later found to be a false alarm (Sidebar, "Unexplained false alarm may hold lessons," M. Enserink, p. 767), struck a particularly resonant chord, as it mirrored almost exactly our own experience in Hong Kong, one of the places most affected by SARS.

As the provider of the only private test service for the SARS coronavirus (CoV) in Hong Kong, we had been contracted by a local private hospital to test patient samples from cases of atypical pneumonia. The majority of tests were conducted after Hong Kong had been declared free from SARS. After testing many samples with our enhanced real-time PCR method, which we developed in-house, one sample gave a preliminary positive result with our

standard set of primers against the viral polymerase gene. Before we were able to confirm the positive test by retesting the sample using primers directed at another part of the SARS-CoV genome, the patient was transferred to another designated hospital. Regrettably, the results of the initial positive test were passed to the Department of Health and Hospital Authority, which then leaked the information to the media, causing considerable distress. This premature disclosure resulted in the temporary reintroduction of SARS preventive measures in hospitals, a plunge in the stock market, and the return of fear and anxiety to the general population. The patient later provided not to have the virus.

We share the scientific community's concern at the lack of a standardized, sensitive, and specific test for SARS-CoV. Test sensitivity is critical to SARS control. Any positive results can be confirmed by other laboratories. But false negative results may go unchallenged, leading to a false sense of security, with the potential for the disease to spread silently in the community. Only when standardization is available will more direct questions concerning effective SARS control be addressed clearly. In light of the recently confirmed SARS case in Guangdong, China, the origins of the disease in China, the involvement of one or more reservoir species, and the dynamics of interspecies transmission are all vital in understanding the potential for future outbreaks.

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