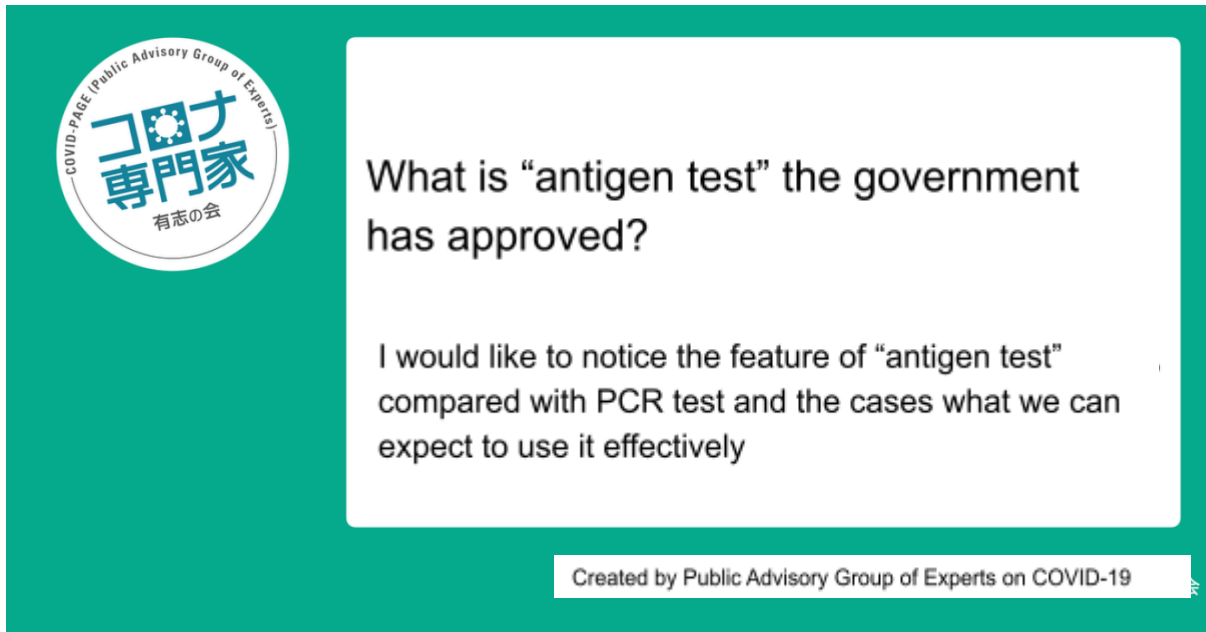


[国が承認した「抗原検査」ってどんなもの？](#)

Original article published on 15 May 2020



COVID-PAGE (Public Advisory Group of Experts)
コロナ専門家
有志の会

What is “antigen test” the government has approved?

I would like to notice the feature of “antigen test” compared with PCR test and the cases what we can expect to use it effectively

Created by Public Advisory Group of Experts on COVID-19

What is the “antigen test” the government has approved?

Public Advisory Group of Experts on COVID-19
2020/05/14 02:22

Change History: 1. Chart has been updated
2. <Note: About "diagnosis" of COVID-19> is added.
(2020/05/14 23:52)

On 13 May 2020, the government approved [the diagnostic agent of “antigen test” for COVID-19 that is manufactured and sold](#) by one of the testing firms, and [the insurance system was applied](#) on the same day (both Japanese pdfs). Then, in what case is “antigen test” practical and useful? In this article, I would like to talk about the differences compared with the PCR test and the instances in which we can expect to use it effectively.

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1. What are the differences between “antigen test” and PCR test?

The differences of “antigen test” and the PCR test

	Antigen test	PCR test
Specimen to use	nasal and throat swab	
Infectious risk of a medical professional when taking a specimen	Yes	
The necessity of analysis instrument	None	Analysis instrument for PCR is necessary.
The time required for analysis	About 30 min.	Several days
The percentage of giving “positive” in error	Approximately the same as PCR test	About 1% (*1)
The percentage of giving “negative” in error	May be higher than PCR test	About 30% (*2,3)
Created by Public Advisory Group of Experts on COVID-19 (Revised on 14 May)		

Reference (*1)

- Ministry of Health, Labour and Welfare (MHLW) “Guidelines on utilization of antigen test” ([Administrative communication to the local governments on May 13, attached documents](#)) (in Japanese)
- Ministry of Health, Labour and Welfare / Pharmaceutical Safety and Environmental Health Bureau (*A) [“About the approval for a diagnostic agent of “antigen test” for COVID-19 on May 13”](#) (in Japanese)

Reference (*2)

- Kanagawa Medical Association [“Characteristics and Limitation of PCR Test on May 12”](#) (in Japanese)

Reference(*3) [Fang, Y. et al. Radiology. In February 2020](#)

“Antigen test” is useful for finding out “**Is a person infected or not right now?**” It can be thought of as being similar to a rapid test kit for influenza.

The advantage compared with the PCR test is that the medical staff collects the specimen at the test site and can get the test result in about 30 minutes without sending it to the analysis laboratory.

Also, the percentage of error that people who are not actually having COVID-19 shows the test result is “positive” is approximately the same as PCR test. **Therefore, if the result of “antigen test” is “positive”, we can diagnose someone as having COVID-19*.**

<Caution: About “diagnosis” of COVID-19> (added May 14)

* Diagnosis is given from the doctor’s comprehensive judgement is together with other symptoms. It is not judged only as the result of an “antigen test”. The test is done **when the doctor considers it necessary**. (Refer [the guidelines](#) of Ministry of Health, Labour and Welfare) (in Japanese)

There are several issues when we provide an “antigen test” for many people.

- (1) Because the test kit has just been developed, it is necessary to establish and confirm how to use it properly on site.
- (2) At present, the production and supply of test kits are limited.
- (3) **The more people are tested, the more test results show “positive” in error ([false-positive](#)) although they do not have COVID-19.** Therefore, when we decide how many people can be tested, it is necessary to consider the progress of production and supply carefully, and also strength and weakness to do so.

However, there are some disadvantages. Compared to PCR test, it is high that the percentage of people who show “negative” as the test result although actually, they have COVID-19.

Therefore, **when the test result of the “antigen test” gives "negative"**, currently we cannot accept it without question, so **we need to run the PCR test further**.

Also, because the specimen is taken from the deep part of the nose, the infectious risk to medical professions does not differ from the PCR test. However, saliva, which has a lower risk of infection, may be used as a specimen in future.

This test is still the stage of trial and error for the time being, but we think it is going to be in everyday use **as a set with the PCR test**.

<Summary of current “antigen test”>

- Results can be taken in a shorter time than the PCR test
- If "positive", can diagnose COVID-19

- If "negative", I need to get reliability by doing a PCR test.

2. What cases are “antigen tests” used?

According to “Guidelines on utilization of antigen test” of MHLW, it is expected to use the antigen tests in the following cases. ([Administrative communication to the local governments on May 13, attached documents](#)) (in Japanese)

(1) Giving “Early detection and rapid care” to the patient who has symptoms of COVID-19

A doctor judges and conducts the test for patients with possible for COVID-19 at “The consultation centre for people with potential exposure to COVID-19 (*B)” or medical institutions.

If you do not have any symptoms, the amount of discharged virus is too small to detect accurately. **It is not recommended to run an “antigen test” at present.**

(2) **Preventing the spread of infection in hospitals or facilities.**

When a COVID-19 cluster occurs at a medical institution or a facility, those who may have COVID-19 get tested.

We need time to manufacture and supply test kits. First, we plan to send them from more urgent areas and medical institutions, and to increase providing step by step. Besides, **the study is needed to evaluate the effect of test kits from now on.**

3. Furthermore

If you would like to know more about the “antigen test”, please read the leaflet of the Japanese Society of Laboratory Medicine. ["To public and non-medical professions, "Regarding false-positive and false-negative of clinical tests" on April 27"](#) (in Japanese) . The fact "Inspection is not perfect" is explained in an easy-to-understand manner.

Not only providing tests but also research and development of medications for the treatment and vaccines are needed in parallel. However, the study takes time. I would like you (each) to wait and see the development of them while taking necessary measures to prevent the spread of infection.

Where to contact

[The New Coronavirus Multilanguage Consultation Center](#) (AMDA Medical Information Center) available in English, Chinese, Korean, Thai, Vietnamese, Portuguese, Tagalog, and Spanish.

[Tokyo Coronavirus Support Center for Foreign Residents \(TOCOS\)](#) (Bureau of Citizens and Cultural Affairs, Tokyo Metropolitan Government) available in easy Japanese, English, Chinese (中文), Korean (한국), Vietnamese (Tiếng Việt), Nepalese (नेपाली), Bahasa Indonesia, Tagalog, Thai (ภาษาไทย), Portugues (Português), Spanish (Español), French (Le français), Khmer, and Burmese.

[Useful phrases during hospital visits for COVID-19 testing](#)

[Returnees/ Contacts Consultation Center \(COVID-19 Consultation Counseling Service\)](#) (in Japanese)

Returnees/ Contact Consultation Centre (COVID-19 Consultation Counselling Service) at Public Health Centres in Kumamoto (in Japanese)

※After hours, we will respond by call forwarding		
Location	Phone	Opening hours (weekdays, weekends and holidays) ※
Ariake Public Health Centre	0968-72-2184	9 am- 7 pm
Yamaga Public Health Centre	0968-44-4121	9 am- 7 pm
Kikuchi Public Health Centre	0968-25-4138	9 am- 7 pm
Aso Public Health Centre	0967-24-9030	9 am- 7 pm
Mifune Public Health Centre	096-282-0016	9 am- 7 pm
Uki Public Health Centre	0964-32-1207	9 am- 7 pm
Yatsushiro Public Health Centre	0965-33-3229	9 am- 7 pm
Minamata Public Health Centre	0966-63-4104	9 am- 7 pm
Hitoyoshi Public Health Centre	0966-22-3107	9 am- 7 pm
Amakusa Public Health Centre	0969-23-0172	9 am- 7 pm

Kumamoto City Public Health Centre	096-372-0705 096-364-3222	24 hours
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Translator's comment

(*A)「厚生労働省医薬・生活衛生局」is translated “Ministry of Health, Labour and Welfare / Pharmaceutical Safety and Environmental Health Bureau”

Refer from the H.P. of Japanese Law Translation

http://www.japaneselawtranslation.go.jp/rel_info/info_name?re=01&no=14

(*B)「帰国者・接触者外来」“Kikokusha Sesshokusha Gairai” is translated “The consultation center for people with potential exposure to COVID-19”

Refer from the H.P. of Ministry of Health, Labour and Welfare

https://www.mhlw.go.jp/stf/seisakunitsuite/bunya/kenkou_iryuu/dengue_fever_ga_00014.htm