ISO 9001 Certified

Complete diagnostics for Avian Influenza Virus in the field and laboratory use

AIV Antigen Tests

[Rapid test]
Rapid AIV Ag Test
Rapid H5 AIV Ag Test
Rapid AIV/H5 AIV Ag Test
Rapid H7 AIV Ag Test
Rapid H9 AIV Ag Test

[ELISA]
AIV Ag ELISA
H5 AIV Ag ELISA

AIV Antibody Tests

[Rapid test]
Rapid AIV Ab test

[ELISA]
AIV Ab ELISA
H5 AIV Ab ELISA

AIV General PCR Kits

AIV A PCR Kit
AIV H5 PCR Kit
AIV H7 PCR Kit
AIV H9 PCR Kit
AIV N1 PCR Kit

AIV Real-Time PCR Kits

AIV A Real-Time PCR Kit
AIV H5 Real-Time PCR Kit
AIV H7 Real-Time PCR Kit
AIV H9 Real-Time PCR Kit
AIV N1 Real-Time PCR Kit
AIV H5/N1 Duplex Real-Time PCR Kit
AIV type A/ H5 Duplex Real-Time PCR Kit
AIV type A/ H7 Duplex Real-Time PCR Kit
AIV type A/ H9 Duplex Real-Time PCR Kit

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CAI04-02

Who is spreading the bird flu around the world?

Migratory Wild Birds, and Ducks

Some of wild birds, and ducks infected by H5N1

- Show no clinical symptoms
- Virus excretion is too low to be detected by immunoassay
- Antibody against AIV H5N1 is produced
- Classified as a Latent AIV H5N1 Carrier

The Wild birds and ducks infect other poultry (chickens, turkeys etc) when migrating

The Chickens are very susceptible to AIV H5N1 and show acute symptoms immediately

AIV H5N1 infection in chicken is fatal

Q&A

Q How to eradicate the H5N1 bird flu threat caused by wild birds or ducks?

A Large scale H5N1 surveillance is required

Q What is the best method for large scale H5N1 surveillance?

A AIV H5 Antibody ELISA

Q Why ?

A
1. AIV H5 Ab ELISA can detect the H5 Ab produced by latent carrier
2. ELISA kits are suitable for the high volume, mass screening of birds (PCR is not suited to the mass screening of a large number of samples)

Why early detection of Bird Flu is required?

1. Early and accurate diagnosis of Bird Flu will enable you to use appropriate antibodies and antiviral therapy.
2. Early detection of infected poultry or wild birds can greatly reduce the spread by culling of infected birds, proper disposal of carcasses, cleaning, and disinfection of affected areas
3. Prompt treatment of AIV infected birds reduces the possibility of antigenic shift.

AIV Ab ELISA

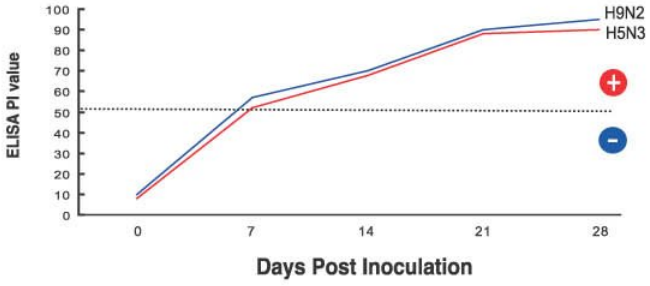
Screening of AIV infection & Determination of efficacy of AIV vaccination

- Principle : Competitive Enzyme Linked Immunosorbent Assay
  [Nucleoprotein(NP) capture]-[AIV Ab in serum]-[Monoclonal NP Ab-HRP detector]
- Purpose : Qualitative detection of AIV type A antibody in serum, plasma, and yolk
- Determination of effectiveness of H9 vaccinated animals
- The ELISA test has been accepted as a screening tool by OIE and is included in the latest edition of the OIE manual (2005, avian influenza chapter).
- Replacing Agar Gel Precipitation(AGP) method
- Packing size : 480 wells/Kit ■ Catalogue No.: EB45-02 ■ Store at 2~4°C

Comparison ANIGEN ELISA and Other ELISA

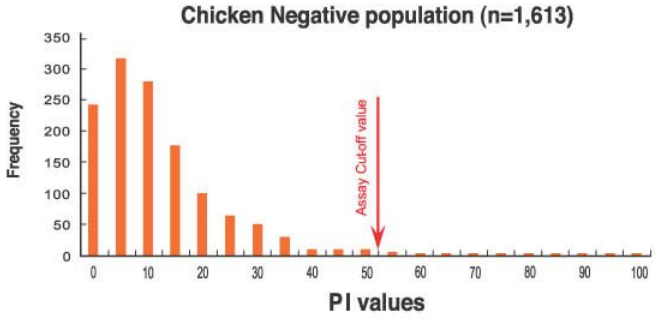
	ANIGEN AIV Ab ELISA	Other AIV Ab ELISA
Species	Chickens, Ducks, Turkeys, Geese, Swans, Quails, Guinea fowls, Grey partridges, Red Partridges, Pheasants, Horses, and Pigs, Tern, Seal, Gull, Mallard, Bar-headed Gull	Only Chickens
Easy Test procedure	No sample dilution required.	1: 25 ~ 1: 100 sample pre-dilution required
Fast Test Result	Complete within 45 Min.	Approximately 2 hours required

Seroconversion after experimental AIV vaccination in chicken



ANIGEN Avian Influenza Virus Ab ELISA detected antibody at 7 days post-inoculation of experimental AIV vaccine (H9N2 vaccine and H5N3 vaccine).

Cut off Value



ANIGEN Avian Influenza Virus Ab ELISA demonstrated a high level of specificity at PI value of 50. All tested Sera were HI negative.

AIV Ab ELISA

Sensitivity and Specificity

	Chicken	Duck	Turkey	Goose	Swan	Quail
Total No. of sera	1,613	178	213	25	4	46
PI value	50	50	85	50	50	51
Sensitivity (%)	98.2	97.5	97.1	100	100	100
Specificity (%)	97.3	93.8	100	100	100	97

	Guinea fowl	Grey Partridge	Red Partridge	Pheasant	Horse	Swine
Total No. of sera	19	38	5	18	63	266
PI value	19	50	50	50	50	50
Sensitivity (%)	87.5	100	Not tested	100	100	91.1
Specificity (%)	100	100	100	62.5	Not tested	97.4

*Validated of OIE AIV Reference Laboratory (IZS, Italy)

Serotype Validation : This kit is valid in all subtype of AIV

H1N1	H2N2	H2N3	H3N2	H3N8	H4N6	H4N8	H5N1	H5N2	H5N3	H6N2
H7N1	H7N3	H7N7	H8N4	H9N2	H9N7	H10N1	H10N7	H11N6	H12N5	H13N6
H14N5	H15N6	H15N8	H16N3							

[Detection of AIV Ab in serum of Chicken that immunized purified inactivation virus]

Serum	Anigen Ab ELISA kit	HI*
PR/8/34 (H1N1)	+ (98)	102,400
Singapore/1/57 (H2N2)	+ (97)	16,384
Duck/Ukraine/1/63 (H3N8)	+ (99)	40,960
Duck/Czechoslovakia/56 (H4N6)	+ (99)	16,384
Tern/South Africa/61 (H5N3)	+ (99)	10,240
Turkey/Massachusetts/3740/65 (H6N2)	+ (94)	10,240
Seal/Massachusetts/1/80 (H7N7)	+ (98)	12,800
Turkey/Ontario/6118/68 (H8N4)	+ (99)	8,000
Turkey/Wisconsin/66 (H9N2)	+ (99)	16,000
Chicken/Germany/N/49 (H10N7)	+ (99)	51,200
Duck/England/1/56 (H11N6)	+ (99)	10,240
Duck/Alberta/60/76 (H12N5)	+ (99)	16,834
Gull/Maryland/704/77 (H13N6)	+ (84)	51,200
Mallard/Astrakhan/263/82 (H14N5)	+ (99)	10,240
Duck/Austalia/341/83 (H15N8)	+ (98)	5,120
Bar-headed Gull/Sweden/5/99 (H16N3)	+ (99)	16,384
NDV Miyadera	- (-20)	131,072

*HI used each virus antigen that immunized

[Detection of AIV Ab in serum post experimental infection]

Serum	No	Anigen Ab ELISA kit				HI*		
		pre	1w	2w	3w	pre	1w	2w
Turkey/England/63 (H7N3) (HP AI)	1	- (-27)	+ (96)	+ (95)	+ (98)	<20	320	640
	2	- (-23)	+ (97)	+ (98)	+ (99)	<20	320	640
	6	- (-25)	+ (95)	+ (97)	+ (98)	<20	320	640
	7	- (-26)	+ (98)	+ (98)	+ (99)	<20	320	1280
	8	- (-22)	+ (90)	+ (96)	+ (98)	<20	320	640
	9	No test	+ (97)	+ (97)	+ (99)	<20	160	320
Chicken/Tbaraki/1/05 (H5N2) (LPAI)	11	No test	- (41)	+ (58)	+ (98)	<20	160	640
	12	No test	+ (58)	+ (69)	+ (99)	<20	160	640

*HI used each virus antigen that immunized *Pre : Pre immunization, W : week(s)
*Validated of OIE AIV Reference Laboratory (Hokkaido Univ. Japan)