INDICAL
BIOSCIENCE

Keeping flocks healthy

Efficiently manage flock health
with flocktype ELISAs and software
from INDICAL

Reliable tools to monitor and manage flock health

Monitoring a flock's immune status with antibody response testing is vital to solve issues around suboptimal flock performance. Testing enables:

- Identification of vaccine breakthrough
- Quality control of vaccination to evaluate the level of coverage
- Improved and optimized vaccination program efficiency

Discover INDICAL's comprehensive poultry ELISA portfolio

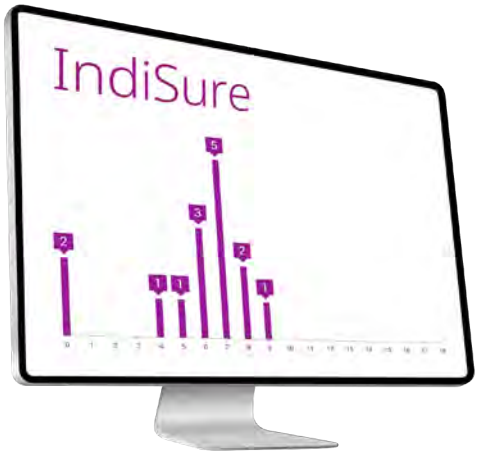
- Reliable, consistent results with excellent sensitivity and specificity
- Harmonized protocols with ready-to-use reagents and a flexible microplate system
- Interchangeable reagents for all flocktype assays*
- Suitable for low- to high-throughput application

*Sample Diluent, Wash Buffer, TMB Substrate and Stop Solution

flocktype poultry ELISAs †

Pathogen	***Infectious Bronchitis Virus***	***Infectious Bursal Disease Virus***	***Newcastle Disease Virus***	***S.* Enteritidis & *S.* Typhimurium**	***Mycoplasma synoviae***	**Avian Influenza A Virus**
Ready-to-use assay	flocktype IBV Ab	flocktype IBDV Ab	flocktype NDV Ab	flocktype Salmonella Ab	flocktype Mycoplasma Ms Ab	flocktype AIV Ab
Target	IBV-specific antibodies	IBDV-specific antibodies	NDV-specific antibodies	*S.* Enteritidis- & *S.* Typhimurium specific antibodies	Ms-specific antibodies	AIV-specific antibodies

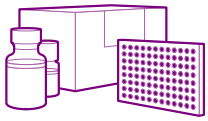
†Product availability/distribution: outside the U.S. and Canada



Powerful ELISA software

Our IndiSure ELISA Software allows you to easily interpret, store and navigate results. Multiple reports and tools help you visualize individual flock performance, predict trends and assess animal health.

- Versatile report structure for total visibility of flock health
- All reports, INDICAL ELISAs and key tools are preloaded
- Intuitive, LIMS-compatible workflow with easy report exporting



flocktype IBV Ab

The flocktype IBV Ab is a highly sensitive and specific ELISA for detection of antibodies to *Infectious Bronchitis Virus* (IBV) in serum and plasma samples from chicken. The assay reliably enables monitoring of humoral vaccination responses or IBV infections.

- 100% diagnostic specificity*
- 100% sensitivity in infected flock samples†
- 98.9% sensitivity in vaccinated flock samples‡
- User-friendly with ready-to-use, color-coded reagents
- Also detects D274 anti-serum
- Full results in 1.5 hours
- Excellent results in international ring trials§

**n* = 334 SPF sera.
† *n* = 80 infection samples from six infected flocks.
‡ *n* = 551 samples from 36 vaccinated flocks.
§ Data on file.

Excellent specificity and superior sensitivity in vaccination trials compared with other suppliers

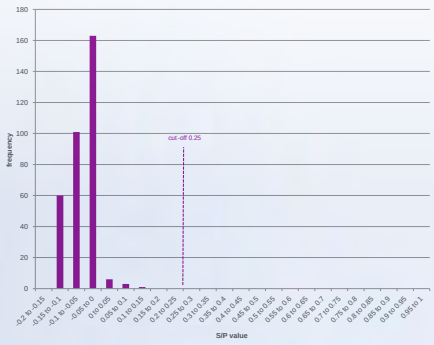


Figure 1: Frequency distribution for *n* = 334 chicken SPF sera tested using the flocktype IBV Ab.
Conclusion: The flocktype IBV Ab returned negative results for all samples tested, offering 100% diagnostic specificity.

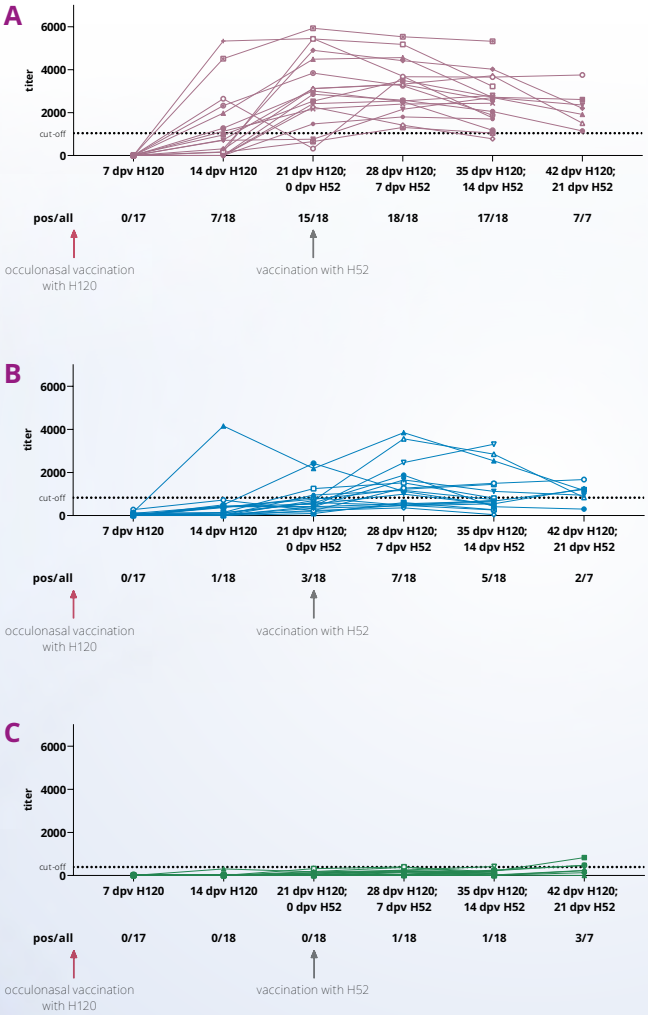


Figure 2: Temporal study of IBV-specific antibody content in serum from *n* = 18 vaccinated chicken. **A:** flocktype IBV Ab; **B:** Test from other supplier 1; **C:** Test from other supplier. The dashed line shows the cut-off for each test.
Conclusion: The flocktype IBV Ab provides sensitivity superior to assays from other suppliers.

Product availability/distribution: outside the U.S. and Canada

flocktype IBDV Ab

The flocktype IBDV Ab enables detection of antibodies to *Infectious Bursal Disease Virus* (IBDV) in serum and plasma samples from chicken. Infectious Bursal Disease (Gumboro disease) is characterized by immunosuppression – especially in young chicken – and is therefore of economic importance for the poultry industry. Vaccination of breeder flocks is an effective method of disease prevention. Detection of antibodies to IBDV using flocktype IBDV Ab enables monitoring of humoral vaccination responses or IBDV infections.

- 99.3% diagnostic specificity*
- 100% sensitivity in infected flock samples†
- 100% sensitivity in vaccinated flock samples‡
- Vaccination date prediction available
- User-friendly with ready-to-use, color-coded reagents
- Full results in 1.5 hours
- Excellent results in international ring trials§

**n* = 149 SPF sera.
† *n* = 75 infection samples from five infected flocks.
‡ *n* = 322 samples from 27 vaccinated flocks.
§ Data on file.

High diagnostic specificity and sensitivity in trials

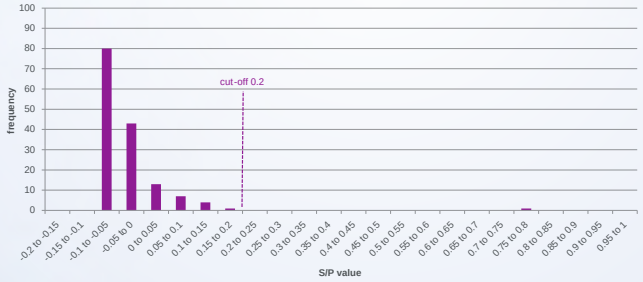


Figure 3: Frequency distribution for ***n*** = 149 chicken SPF sera tested using the flocktype IBDV Ab.
Conclusion: The flocktype IBDV Ab provides a 99.3% diagnostic specificity.

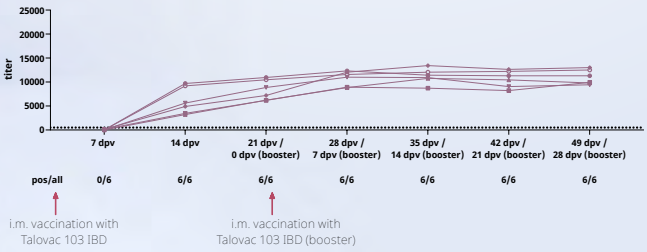


Figure 4: Temporal study of IBDV-specific antibody content in serum from ***n*** = 6 vaccinated chickens tested with the flocktype IBDV Ab.
Conclusion: This IBDV vaccination trial showed 100% sensitivity from 14 dpv.

Product availability/distribution: outside the U.S. and Canada

flocktype NDV Ab

The flocktype NDV Ab is a highly sensitive and specific solution for detection of antibodies to *Newcastle Disease Virus* (NDV) in serum and plasma samples from chicken. Newcastle Disease is an epizootic disease affecting many domestic and wild avian species. Prophylactic vaccinations are used to reduce the likelihood of outbreaks in domestic poultry populations. Detection of antibodies to NDV using the flocktype NDV Ab reliably enables monitoring of humoral vaccination responses or NDV infections.

- 100% diagnostic specificity*
- 100% sensitivity in infected flock samples†
- 98.7% sensitivity in vaccinated flock samples‡
- User-friendly with ready-to-use, color-coded reagents
- Full results in 1.5 hours
- Excellent results in international ring trials§

**n* = 108 SPF sera.
† *n* = 132 infection samples from 6 infected flocks
‡ *n* = 233 samples from 18 vaccinated flocks
§ Data on file.

Excellent diagnostic specificity and sensitivity

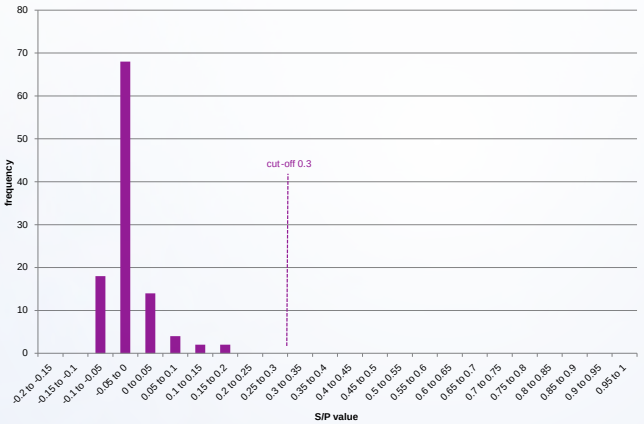


Figure 5: Frequency distribution for *n* = 108 chicken SPF sera tested using the flocktype NDV Ab. S/P <0.3 = negative; S/P ≥0.3 = positive. **Conclusion:** The flocktype NDV Ab provides a 100% diagnostic specificity.

Table 1: Results of *n* = 132 SPF sera derived from six infected chicken flocks tested using the flocktype NDV Ab.

				flocktype NDV Ab		
	Flock	**Age**	***n***	**pos**	**neg**	**Mean titer**
Infection samples	#1	unkn.	15	15	0	22694
	#2	unkn.	15	15	0	23706
	#3	unkn.	15	15	0	25829
	#4	unkn.	15	15	0	21946
	#5	42 d	60	60	0	23038
	#6	19 w	12	12	0	20795
Mean						23001
Sum			132	132	0	
Sensitivity					**100%**	

n = amount of samples, pos = positive, neg = negative, SD = standard deviation, CV = coefficient of variation (given in %), d = days, w = weeks, unkn. = unknown

Conclusion: The flocktype NDV Ab scored all tested infection samples correctly, offering 100% diagnostic sensitivity.

Product availability/distribution: outside the U.S. and Canada

flocktype Salmonella Ab

INDICAL's flocktype Salmonella Ab (BGVV-B 322) is a highly sensitive and specific assay that detects antibodies to *Salmonella* Enteritidis and *Salmonella* Typhimurium. Antibodies to the O-antigens 1, 4, 5, 9, and 12 are identified.

The flocktype Salmonella Ab is suitable for use with serum, plasma and egg yolk samples from chicken and turkey. Antibody diagnostics with the flocktype Salmonella Ab is the preferred screening method to detect *Salmonella* infections or humoral vaccination responses.*

- 98.9% diagnostic specificity†
- 96.4% sensitivity‡
- User-friendly with ready-to-use, color-coded reagents
- Full results in 1.5 hours

*Note: It is not possible to differentiate between antibodies present in samples due to immunization with a *Salmonella* vaccine or infection with *Salmonella* field strains.
† *n* = 90 SPF sera.
‡ *n* = 139 vaccinated broiler breeders.

flocktype Mycoplasma Ms Ab

The flocktype Mycoplasma Ms Ab is a highly sensitive and specific ELISA for the detection of antibodies to *Mycoplasma synoviae* (Ms) in serum and plasma samples from chicken and turkey.

Ms is found worldwide and causes chronic respiratory diseases in birds. Systemic infection leads to infectious synovitis. The severity of infection depends on secondary infections. *Mycoplasma* adheres to the respiratory epithelium and to erythrocytes. The cellular immune response is central to infections with Ms, although the production of specific antibodies may also be induced by infection and vaccination.

- 99.6% diagnostic specificity*
- 100% sensitivity†
- User-friendly with ready-to-use, colored reagents
- Full results in 1.5 hours

**n* = 272 SPF sera.
† *n* = 24 samples in Ms vaccination trial.

Product availability/distribution: outside the U.S. and Canada

flocktype AIV Ab

Developed for surveillance and vaccine compliance testing, the flocktype AIV Ab (FLI-B 435) is a screening ELISA for specific and sensitive detection of antibodies to *Avian Influenza A Virus* in serum and plasma samples from poultry, including chicken and turkey.

- 100% sensitivity*
- 96.8% specificity†
- User-friendly with ready-to-use, color-coded reagents
- Full results in 1.5 hours
- Part of INDICAL's broad range of Influenza A identification tools

**n* = 104 AIV antibody-positive samples.
† *n* = 432 AIV antibody-negative samples.

The flocktype AIV Ab shows high diagnostic specificity and delivers early antibody detection from day 6 after infection

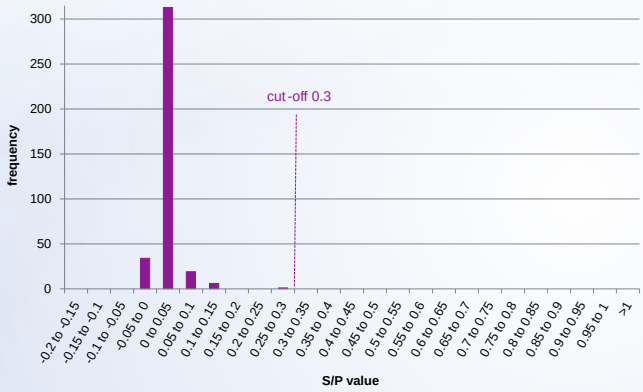


Figure 6: Distribution of n = 373 AIV antibody-negative field sera (pre-selected on their negative test result in an ELISA from another supplier)
Conclusion: 100% specificity for AIV-antibody negative field sera.

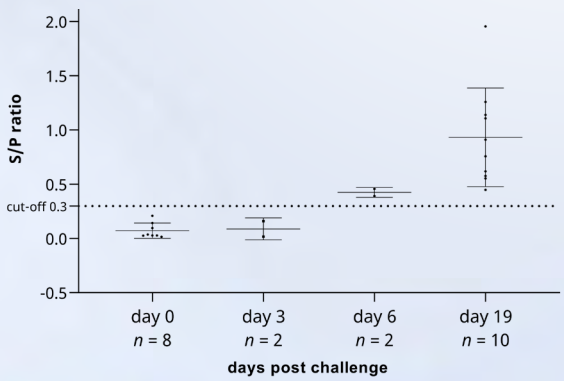


Figure 7: Course of seroconversion after vaccination and subsequent challenge with an AIV H7N1 strain.
Conclusion: Antibodies to AIV H7N1 are detected from day 6 post challenge. Therefore, the flocktype AIV Ab is a reliable tool for early detection of AIV-specific antibodies.

Product availability/distribution: outside the U.S. and Canada

Peace of mind for your flocks' health

With over two decades of experience, INDICAL is a leading provider of diagnostic workflows, associated protocols, and expert technical support. We are committed to protecting animal and human health by enabling you to reliably identify and monitor pathogens that affect the health of your flocks.

Accessible advice and support: Our team of experienced veterinarians, biologists, and application specialists stand ready to answer your questions.

Ordering information

Pathogen investigated	Product*	Technology	Number of reactions	Cat. No.
Infectious Bronchitis Virus (IBV)	flocktype IBV Ab	Indirect ELISA	480 tests (5 ELISA plates)	FT274303
Infectious Bursal Disease Virus (IBDV)	flocktype IBDV Ab	Indirect ELISA	480 tests (5 ELISA plates)	FT274203
Newcastle Disease Virus (NDV)	flocktype NDV Ab	Indirect ELISA	480 tests (5 ELISA plates)	FT275003
Salmonella Enteritidis and *Salmonella* Typhimurium	flocktype Salmonella Ab	Indirect ELISA	192 tests (2 ELISA plates)	FT275702
Mycoplasma synoviae (Ms)	flocktype Mycoplasma Ms Ab	Indirect ELISA	192 tests (2 ELISA plates)	FT274602
Avian Influenza A Virus	flocktype AIV Ab	Indirect ELISA	192 tests (2 ELISA plates)	FT274012

*Product availability/distribution: outside the U.S. and Canada

Product	Short description	Cat. No.
IndiSure ELISA Software Demo licence	For e.g., calculation and management of results using ELISAs from INDICAL	SW270001
IndiSure ELISA Software Single-user license for one year	For e.g., calculation and management of results using ELISAs from INDICAL	SW270002

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