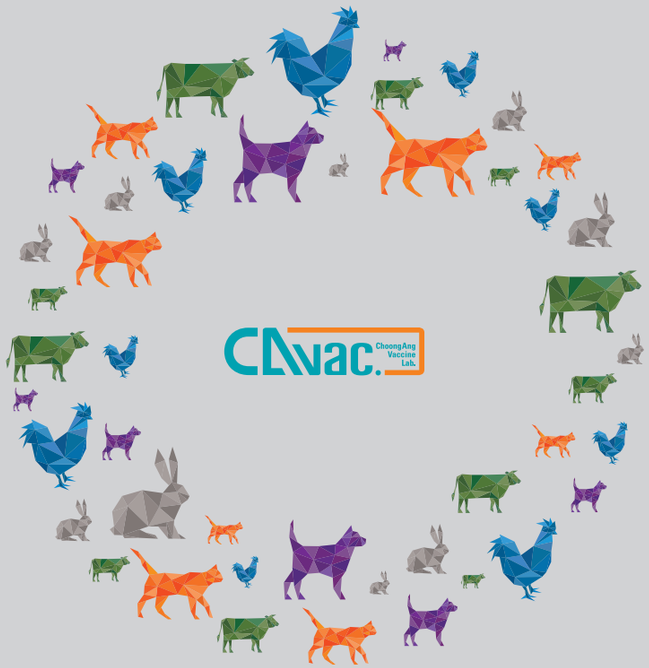

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www.cavaclab.com

CAVAC

Choong Ang Vaccine Laboratories Co., Ltd.

History for half a century,
Front runner in the animal vaccine industry

Since established in 1968, Choong Ang Vaccine Laboratories Co., Ltd. (CAVAC) is an animal vaccine manufacturer which has pioneered the vaccine business and contributed to the rich lives of animals and humans by providing products and services beloved and trusted by customers.

In order to be the top tier in every business section, CAVAC is taking the lead in advancing the vaccine market in domestic and abroad by focusing on developing and training manufacturing-based technology, production management, human resources, investing R&D technology, empowering marketing, etc.

As a leading vaccine research/manufacturing company in the animal vaccine industry for half a century, CAVAC will always be with you for solutions that drives your business more insightful.

Your future is bright with CAVAC
Company History

- **2019** Winning an award for the export of 10 million US dollars
- **2018** First Korean company of WHO GMP approval
- **2016** Egypt Governmental Audit
- **2013** Passed Bayer HealthCare audit
- **2009** Selected as one of Asia's 200 Best Under A Billion companies by Forbes
- **2003** Listed in Korean Securities Dealers Automated Quotation (KOSDAQ)
- **1994** First Korean company of Korea Veterinary Good Manufacturing Practice (GMP) approval
- **1993** First Korean company of exporting its vaccines to the foreign countries (Thailand, Pakistan)
- **1968** Established Choong Ang Livestock Infectious Disease Laboratory

Innovative brand for the best quality vaccine

CAVAC has developed and improved the quality of Korean vaccines on a par with the products of the world's top companies.

CAVAC is always pursuing the perfection of animal disease prevention and management services by providing the nation's best professional veterinary diagnostic service and technical support to farmers along with vaccines.

PoulShot®
Poultry vaccine

CaniShot®
Canine vaccine

FeliShot®
Feline vaccine

RabbiShot®
Rabbit vaccine

BoviShot®
Bovine vaccine

PoulShot®

POULTRY VACCINES

Product list

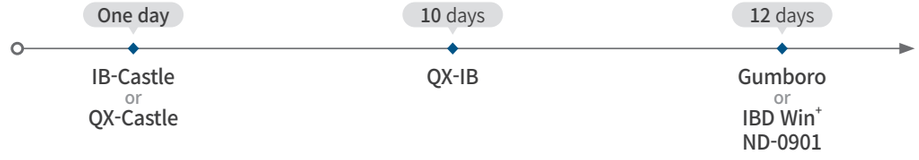
Live vaccines		
QX-IB	**QX type IBV live vaccine** Infectious bronchitis virus (IBV, K40/09 HP strain) ····· ≥ $10^{2.5}EID_{50}$	2,000 doses
QX-Castle	**IBV (QX type)+NDV combined live vaccine for day old chick at hatchery** Infectious bronchitis virus (IBV, K40/09 HP strain) ····· ≥ $10^{6.0}EID_{50}$ Newcastle disease virus (NDV, NDRL0901 strain) ····· ≥ $10^{2.5}EID_{50}$	2,000 doses
IB-Castle	**IBV+NDV combined live vaccine for day old chick at hatchery** Infectious bronchitis virus (IBV, AVR1/08 strain) ····· ≥ $10^{2.5}EID_{50}$ Newcastle disease virus (NDV, NDRL0901 strain) ····· ≥ $10^{6.0}EID_{50}$	2,000 doses
B1+IB	**NDV (B1)+IBV (H120) combined live vaccine** Newcastle disease virus (NDV, B1 strain) ····· ≥ $10^{6.0}EID_{50}$ Infectious bronchitis virus (IBV, H120 strain) ····· ≥ $10^{2.5}EID_{50}$	2,000 doses
LaSota+IB	**NDV (LaSota)+IBV (H120) combined live vaccine** Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{6.0}EID_{50}$ Infectious bronchitis virus (IBV, H120 strain) ····· ≥ $10^{2.5}EID_{50}$	2,000 doses
LaSota	**NDV (LaSota) live vaccine** Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{6.0}EID_{50}$	2,000 doses
ND-0901	**NDV live vaccine** Newcastle disease virus (NDV, NDRL0901 strain) ····· ≥ $10^{6.0}EID_{50}$	2,000 doses
IBD Win+	**IBDV live vaccine (Intermediate plus)** Infectious bursal disease virus (IBDV, Winterfield 2512 strain) ····· ≥ $10^{2.0}EID_{50}$	2,000 doses
Gumboro	**IBDV live vaccine (Intermediate)** Infectious bursal disease virus (IBDV, LZD 228-JAC3 strain) ····· ≥ $10^{2.0}TCID_{50}$	2,000 doses
S/9R	***Salmonella* Gallinarum (9R) live vaccine** *Salmonella* Gallinarum (SG, 9R strain) ····· ≥ $2\times10^{7.0}CFU$	1,000 doses
MG-F	***Mycoplasma gallisepticum* (F) live vaccine** *Mycoplasma gallisepticum* (MG, F810 strain) ····· ≥ $1\times10^{5.0}CCU$	1,000 doses
Killed vaccines		
Flu H9 ME+ND7	**AIV (ME strain)+recombinant NDV (genotype VII) combined inactivated vaccine**	500ml
Flu H9N2+ND	**AIV+NDV combined inactivated vaccine** Avian influenza virus (AIV, H9N2) ····· ≥ $10^{9.5}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{9.5}EID_{50}$	500ml
ND-7	**Recombinant NDV (genotype VII) inactivated vaccine** Newcastle disease virus (NDV, rNDV-mF strain) ····· ≥ $10^{8.0}EID_{50}$	500ml

Product list

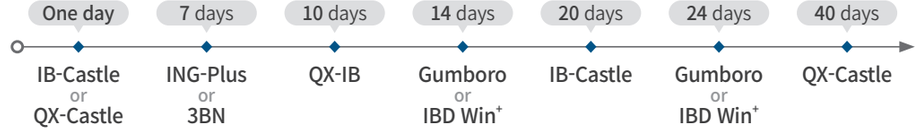
Killed vaccines		
Qx ND-7	IBV (QX type)+recombinant NDV (genotype VII) combined inactivated vaccine Infectious bronchitis virus (IBV, ADL05258 strain) ····· ≥ $10^{6.0}EID_{50}$ Newcastle disease virus (NDV, rNDV-mF strain) ····· ≥ $10^{8.0}EID_{50}$	500ml
Qx Flu-4	IBV (KM91, QX type)+NDV+AIV combined inactivated vaccine Infectious bronchitis virus (IBV, KM91 strain) ····· ≥ $10^{6.0}EID_{50}$ Infectious bronchitis virus (IBV, ADL05258 strain) ····· ≥ $10^{6.0}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{8.0}EID_{50}$ Avian influenza virus (AIV, H9N2) ····· ≥ $10^{8.0}EID_{50}$	1,000 doses
Qx Flu-5	IBV (KM91, QX type)+NDV+EDSV+AIV combined inactivated vaccine Infectious bronchitis virus (IBV, KM91 strain) ····· ≥ $10^{6.0}EID_{50}$ Infectious bronchitis virus (IBV, ADL05258 strain) ····· ≥ $10^{6.0}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{8.0}EID_{50}$ Egg drop syndrome virus (EDSV, K11 strain) ····· ≥ $10^{5.5}EID_{50}$ Avian influenza virus (AIV, H9N2) ····· ≥ $10^{8.0}EID_{50}$	1,000 doses
3BN	IBV (M41, KM91, QX type)+NDV combined inactivated vaccine Infectious bronchitis virus (IBV, M41 strain) ····· ≥ $10^{5.6}EID_{50}$ Infectious bronchitis virus (IBV, KM91 strain) ····· ≥ $10^{6.3}EID_{50}$ Infectious bronchitis virus (IBV, ADL05258 strain) ····· ≥ $10^{6.3}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{8.2}EID_{50}$	1,000 doses
ING-Plus	IBV (M41, KM91)+NDV+IBDV combined inactivated vaccine Infectious bronchitis virus (IBV, M41 strain) ····· ≥ $10^{5.8}EID_{50}$ Infectious bronchitis virus (IBV, KM91 strain) ····· ≥ $10^{6.1}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{8.4}EID_{50}$ Infectious bursal disease virus (IBDV, CAG strain) ····· ≥ $10^{6.4}TCID_{50}$	1,000 doses
BNE	IBV (M41)+NDV+EDSV combined inactivated vaccine Infectious bronchitis virus (IBV, M41 strain) ····· ≥ $10^{5.9}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{8.4}EID_{50}$ Egg drop syndrome virus (EDSV, K11 strain) ····· ≥ $10^{7.7}EID_{50}$	1,000 doses
Coryza-Plus	Infectious coryza inactivated vaccine *Avibacterium paragallinarum* serotype A ····· ≥ $10^{8.0}CFU$ *Avibacterium paragallinarum* serotype C ····· ≥ $10^{8.0}CFU$	1,000 doses
Adeno	Fowl adenovirus inactivated vaccine Fowl adenovirus type 4 (FAdV-4, K4 strain) ····· ≥ $10^{7.0}TCID_{50}$	1,000 doses
Autogenous vaccine	Avian *E.coli* inactivated vaccine	1,000 doses

Vaccination program

Broiler

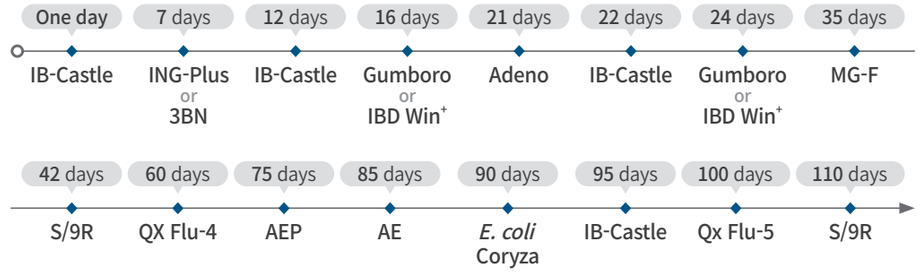


Native chicken

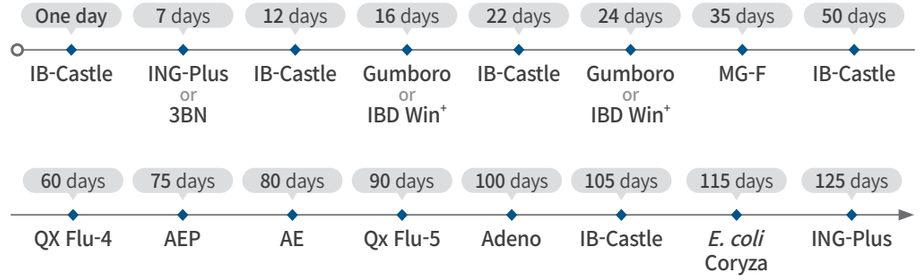


※ It is optional to use IBD vaccine according to the level of the maternally derived antibody and history of the chicken flock.

Layer



Breeder



※ Regular vaccination of IB-Castle at intervals of 1~2 month after starting egg-laying

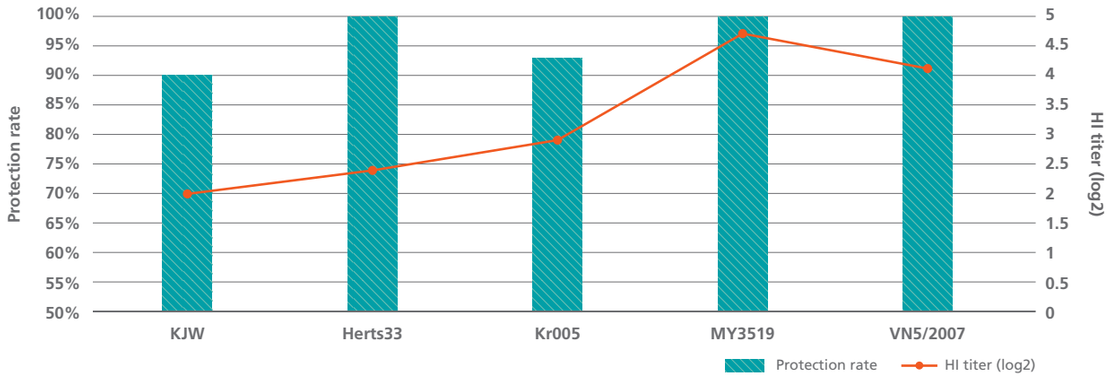
PoulShot® IB-Castle

Indication	An aid in the control and prevention of Newcastle disease and infectious bronchitis caused by NDV and IBV
Composition and quantity	Infectious bronchitis virus (IBV, AVR1/08 strain) ····· ≥ $10^{2.5}EID_{50}$ Newcastle disease virus (NDV, NDRL0901 strain) ····· ≥ $10^{6.0}EID_{50}$
Administration and dosage	-1st Administer by spray: 1day of age -2nd Administer by spray or drinking water: at least 5 days of age

PoulShot® ND-0901

Indication	An aid in the control and prevention of Newcastle disease caused by NDV
Composition and quantity	Newcastle disease virus (NDV, NDRL0901 strain) ····· ≥ $10^{6.0}EID_{50}$
Administration and dosage	Spray, Drinking water, Eye drop

High defense against various pathogenic NDV

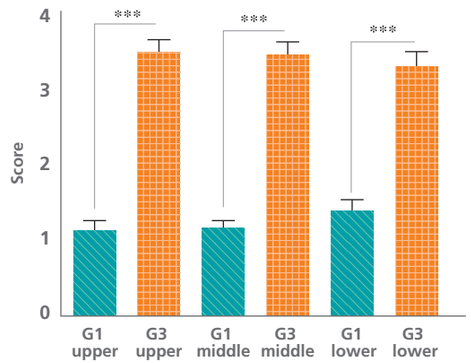


KJW, Kr005: Korean pathogenic strain / Herts 33: International standard pathogenic strain
MY3519: Malaysian pathogenic strain / VN5/2007: Vietnamese pathogenic strain

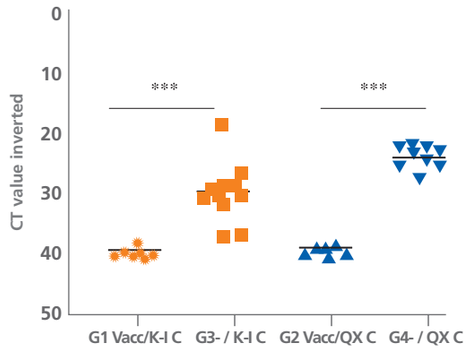
PoulShot® IB-Castle PoulShot® ND-0901

PoulShot® IB-Castle protects against respiratory and nepropathogeinc IBV

Ciliostasis between K-I IBV challenged groups

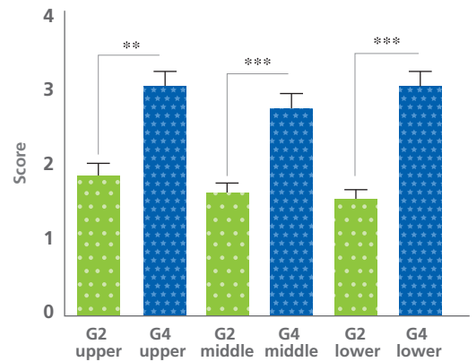


Group
Tracheal position



Group Vaccination/Challenge

Ciliostasis between QX-IBV challenged groups



Group
Tracheal position

Group	No. of chicks	Vaccination			Challenge
		Age	Vaccine	Route	Strain
G1	8	1day	PoulShot® IB-Castle	Spray	AVR1/08 Parental strain
G2	8	1day			K40/09 CE4
G3	10	1day	-	-	AVR1/08 Parental strain
G4	10	1day	-	-	K40/09 CE4

NDV (NDRL0901): The latest isolate, respiratory and enterotrophic virus
IBV (AVR1/08): Strong immunity induction of respiratory system

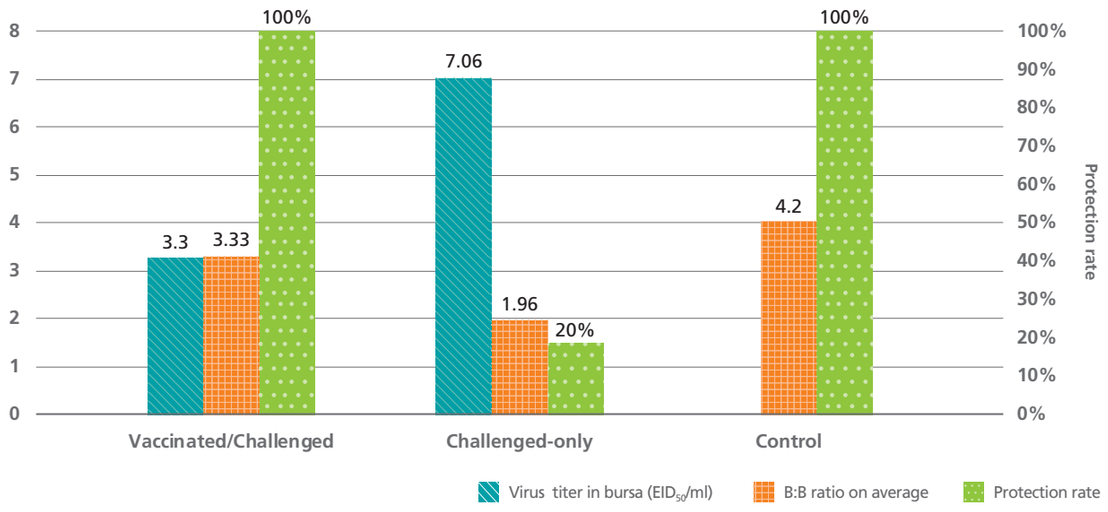
LIVE

PoulShot® Gumboro

Indication	An aid in the control and prevention of infectious bursal disease caused by IBDV
Composition and quantity	Infectious bursal disease virus (IBDV, LZD 228-JAC3 strain) ····· ≥ $10^{2.0}TCID_{50}$
Administration and dosage	Vaccinate by drinking water.

Age	Water
1 day	2L
10 days	20L
40 days	80L

PoulShot® Gumboro shows perfect protection against very Virulent IBDV challenge



B:B ratio: Bursa weight(g)/Body weight(g)x1,000, If the B:B ratio has increased, it means that protection was not enough.

LIVE

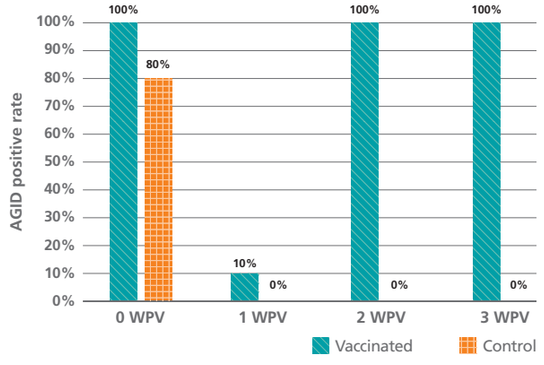
PoulShot® IBD Win+

Indication	An aid in the control and prevention of infectious bursal disease caused by IBDV
Composition and quantity	Infectious bursal disease virus (IBDV, Winterfield 2512 strain) ····· ≥ $10^{2.0}EID_{50}$
Administration and dosage	Vaccinate by drinking water. For broilers, vaccinate between 7 and 14 days of age. For layers and breeders, vaccinate between 10~14 days of age, and as a supplement, vaccinate between 10~12 weeks of age.

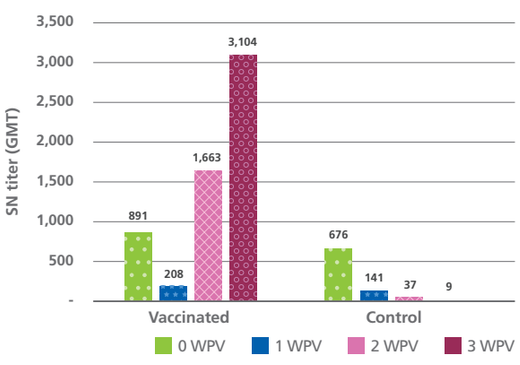
PoulShot® IBD Win+ shows great protection and safety in chicks

Group	0 DPV		0 DPC		10 DPC		Mortality
	SN titer (GMT)	AGID	SN titer (GMT)	AGID	SN titer (GMT)	AGID	
Vaccinated/Challenged	1.2	0%	2,702	100%	2,964	100%	0%
Vaccinated-only	1.3	0%	2,580	100%	2,048	100%	0%
Challenged-only	1.3	0%	1	0%	3,251	100%	76%
Control	1.3	0%	1	0%	1	0%	0%

DPV: Days post vaccination
DPC: Days post challenge



WPV: Weeks post vaccination



WPV: Weeks post vaccination

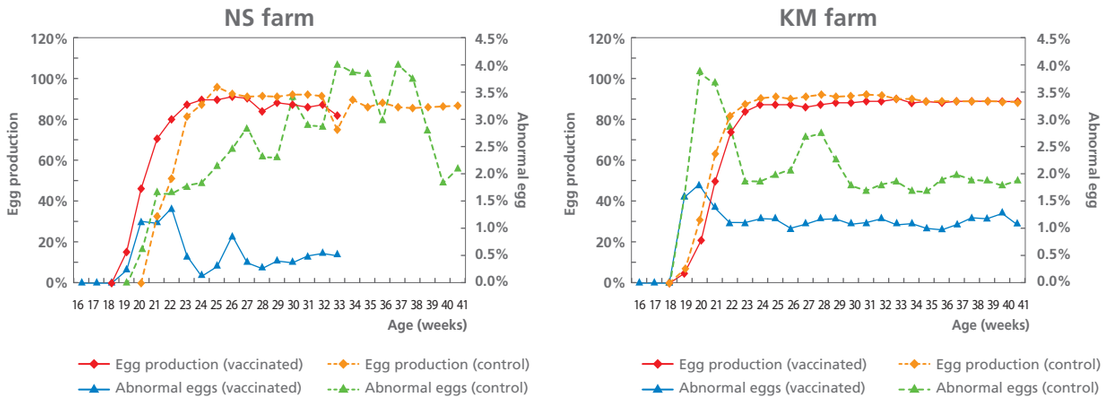
Since commercial chicks possessed maternally-derived antibody prior to vaccination, they did not show 100% seroconversion one week after vaccination

LIVE

PoulShot® MG-F

Indication	An aid in the control and prevention of avian mycoplasmosis caused by *Mycoplasma gallisepticum*
Composition and quantity	*Mycoplasma gallisepticum* (MG, F810 strain) ····· ≥ $1\times10^{5.0}$CCU
Administration and dosage	Reconstitute the vaccine with the enclosed diluent and administer one eye drop - 1st vaccination: 6 weeks of age - 2nd vaccination: 3 weeks after 1st vaccination

Increase in Egg Production and Egg Quality



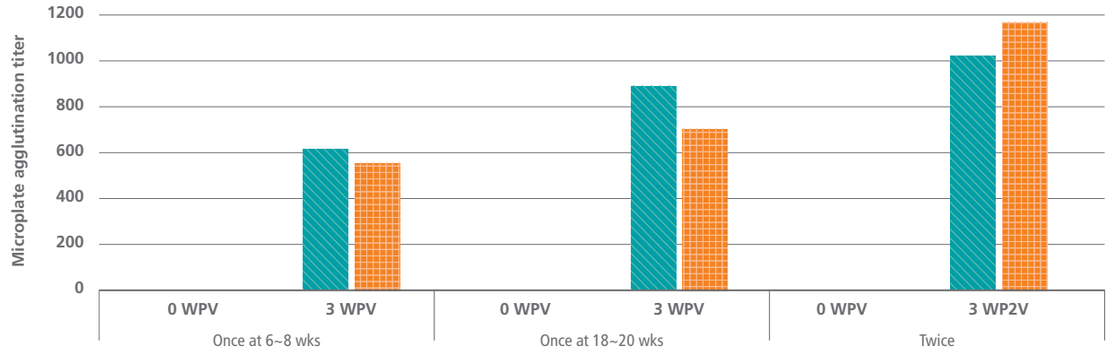
	F strain	6/85	ts-11	Bacterin
Form	**Lyophilized**	Lyophilized	Frozen	Emulsion
Administration	**Eye drop**	Spray	Eye drop	IM, SC
Vaccination age (week)	**1st: 6 weeks, 2nd: 9 weeks**	≥ 6 weeks	6~24 weeks (at least 2 weeks)	< 16 weeks
Persistence in the tracheal epithelium	**Excellent**	Good	Good	No
Serological monitoring	**Very good**	Slight (almost negative)	Moderate (about 50% positive)	Very good
Field strain replacement	**Excellent**	Unknown	Good	No

LIVE

PoulShot® S/9R

Indication	An aid in the control and prevention of fowl typhoid caused by *Salmonella* Gallinarum
Composition and quantity	*Salmonella* Gallinarum (SG, 9R strain) ····· ≥ $2\times10^{7.0}$CFU
Administration and dosage	Administer 0.2ml subcutaneously in the neck after dissolving the vaccine in the diluent. -1st vaccination: 6~8 weeks of age -2nd vaccination: at 12 weeks of after the first vaccination

Quick Onset of Immunity and incredible Protection against virulent strain



WPV: Weeks post vaccination
WP2V: Weeks post 2nd vaccination

In the microplate agglutination test, *Salmonella* Gallinarum (SG, 9R strain) is uesd as an antigen

Group	Mortality	Re-isolation rate			
		Dead		Alive	
		Liver	Spleen	Liver	Spleen
PoulShot® S/9R	0%	NA*	NA	0%	0%
Vaccine N	0%	NA	NA	0%	0%
Control	93.3%**	100%	100%	100%	100%

* Not applicable, there is no death.
** Chickens in control group survived an average of 7.8 days after challenge with virulent strain.

KILLED

PoulShot® ND-7

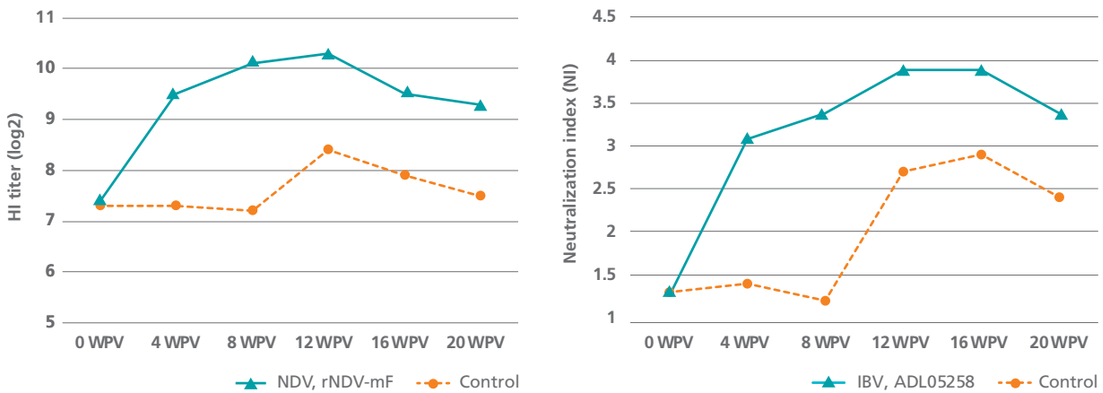
Indication	An aid in the control and prevention of Newcastle disease caused by NDV
Composition and quantity	Recombinant Newcastle disease virus (NDV, rNDV-mF strain, genotype VII) ..... ≥ $10^{8.0}EID_{50}$

PoulShot® Qx ND-7

Indication	An aid the control and prevention of Newcastle disease and infectious bronchitis infection caused by NDV and IBV
Composition and quantity	Recombinant Newcastle disease virus (NDV, rNDV-mF strain, genotype VII) ..... ≥ $10^{8.0}EID_{50}$ Infectious bronchitis virus (IBV, ADL05258 strain) ..... ≥ $10^{6.0}EID_{50}$
Administration and dosage	- Chicken can be vaccinated from one-day-old onwards. - Administer 0.2ml to the chickens within 10 days of age, 0.5ml to the chickens at least 10 days of age

PoulShot® ND-7 and PoulShot® Qx ND-7 form high-titer when compared to the control group

PoulShot® ND-7 and PoulShot® Qx ND-7 are containing ≥ 75 PD_{50} units per dose



WPV: Weeks post vaccination

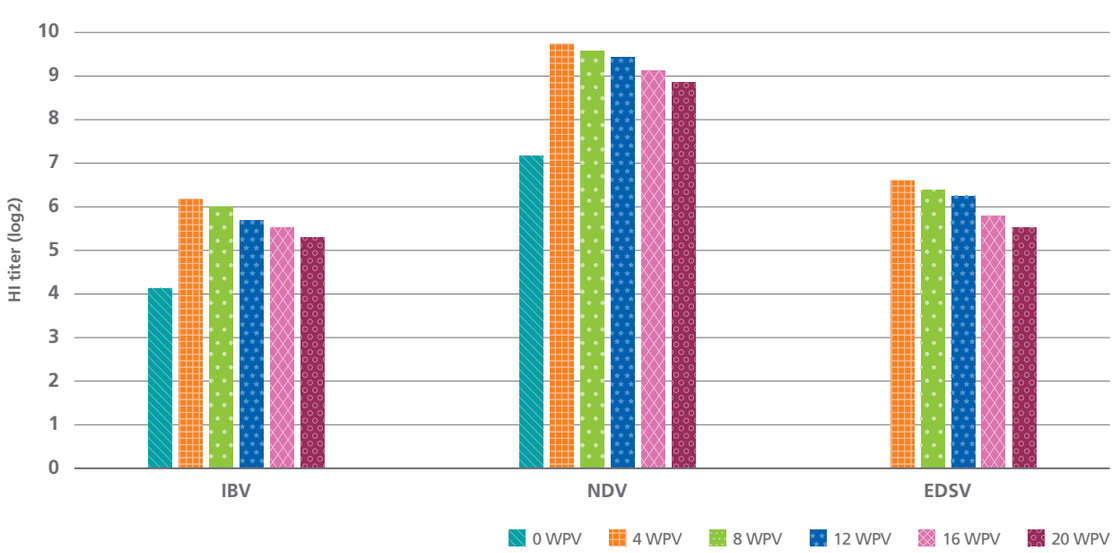
During the trial period, the control group was inoculated with IB and ND vaccine (live and killed vaccine) as per the farm's vaccination program

KILLED

PoulShot® BNE

Indication	An aid in the control and prevention of infectious bronchitis, Newcastle disease and egg production syndrome caused by IBV, NDV, and EDSV
Composition and quantity	Infectious bronchitis virus (IBV, M41 strain) ..... ≥ $10^{5.9}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ..... ≥ $10^{8.4}EID_{50}$ Egg drop syndrome virus (EDSV, K11 strain) ..... ≥ $10^{7.7}EID_{50}$
Administration and dosage	Administer 0.5ml intramuscularly not later than 3 week before egg-laying

Three Major Diseases are protected by One Vaccine that provides the Prolonged high-titer



WPV: Weeks post vaccination

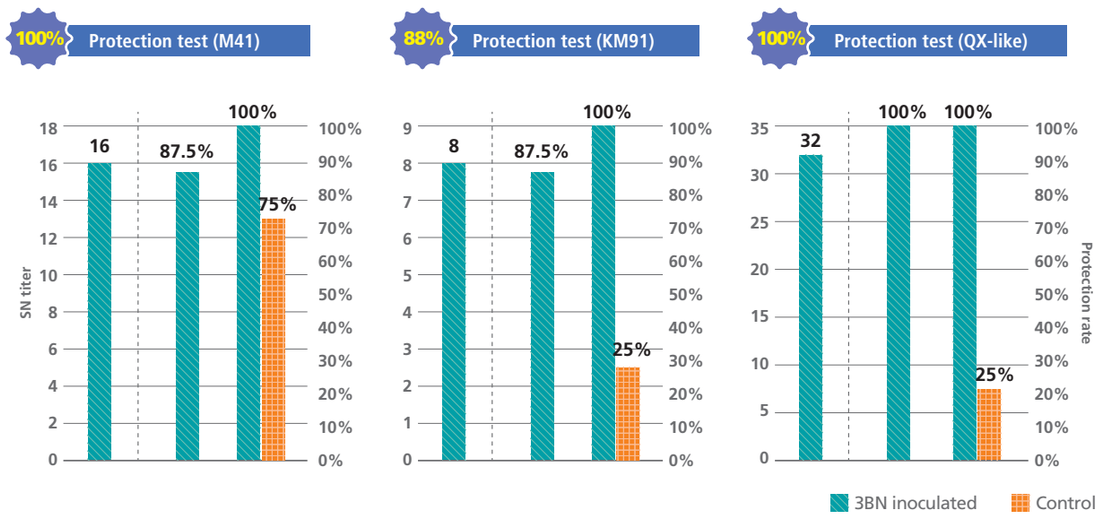
KILLED

PoulShot® 3BN

Indication	An aid in the control and prevention of Newcastle disease and infectious bronchitis caused by NDV and IBV
Composition and quantity	Infectious bronchitis virus (IBV, M41 strain, Respiratory type) ····· ≥ $10^{5.6}EID_{50}$ Infectious bronchitis virus (IBV, KM91 strain, Nephropathogenic type) ····· ≥ $10^{6.3}EID_{50}$ Infectious bronchitis virus (IBV, ADL05258 strain, Nephropathogenic type) ≥ $10^{6.3}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{8.2}EID_{50}$
Administration and dosage	Administer 0.5ml intramuscularly -1st vaccination: 8~12 weeks of age -2nd vaccination: not later than 3 weeks before egg-laying

Three different types of IBV are protected by One Vaccine that provides the Prolonged high-titer

PoulShot® 3BN protects against Nephropathogenic and Respiratory type of IBV
100% Protection against highly pathogenic NDV



Six-week-old SPF chickens were inoculated twice at two-week intervals and challenged with three IBV serotypes

KILLED

PoulShot® ING-Plus

Indication	An aid the control and prevention of Newcastle disease, infectious bronchitis and infectious bursal disease caused by NDV, IBV and IBDV
Composition and quantity	Infectious bronchitis virus (IBV, M41 strain) ····· ≥ $10^{5.8}EID_{50}$ Infectious bronchitis virus (IBV, KM91 strain) ····· ≥ $10^{6.1}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{8.4}EID_{50}$ Infectious bursal disease virus (IBDV, CAG strain) ····· ≥ $10^{6.4}TCID_{50}$
Administration and dosage	Administer 0.5ml intramuscularly not later than 3 week before egg-laying

PoulShot® ING-Plus provides stable and high potency level for the four major strains

WPV: Weeks post vaccination

KILLED

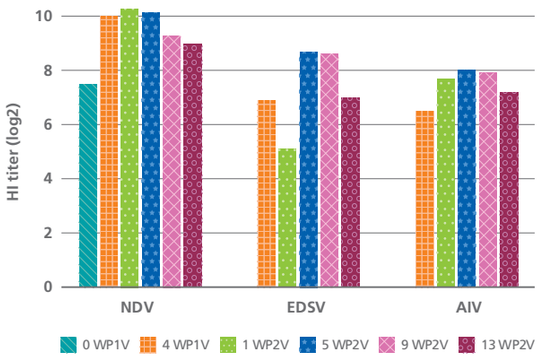
PoulShot® Qx Flu-5

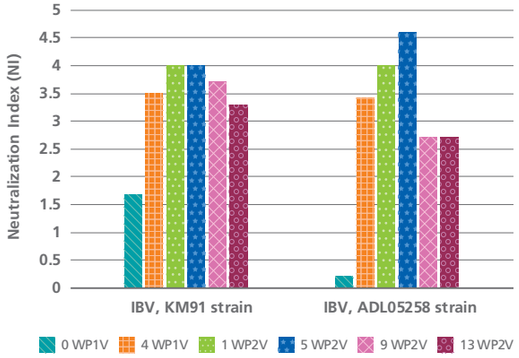
Indication	An aid in the control and prevention of Newcastle disease, infectious bronchitis, egg drop syndrome and low pathogenic avian influenza infection caused by NDV, IBV, EDSV and AIV
Composition and quantity	Infectious bronchitis virus (IBV, ADL05258 strain) ····· ≥ $10^{6.0}EID_{50}$ Infectious bronchitis virus (IBV, KM91 strain) ····· ≥ $10^{6.0}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ····· ≥ $10^{8.0}EID_{50}$ Egg drop syndrome virus (EDSV, K11 strain) ····· ≥ $10^{5.5}EID_{50}$ Avian influenza virus (AIV, H9N2) ····· ≥ $10^{8.0}EID_{50}$
Administration and dosage	Administer 0.5ml intramuscularly -1st vaccination: 8~12 weeks of age -2nd vaccination: 14~18 weeks of age

Only one vaccine can control the major diseases at a time

Group	Before vaccination	3 weeks post 2nd vaccination	Control
NDV	<1	8.2 ± 0.63*	<1
EDSV	<1	10.7 ± 0.82	<1
AIV	<1	7.9 ± 0.74	<1
IBV, KM91 strain	NT**	2.6	<1
IBV, ADL05258 strain	NT	2.7	<1

* Average HI titer ± standard deviation
** Not tested





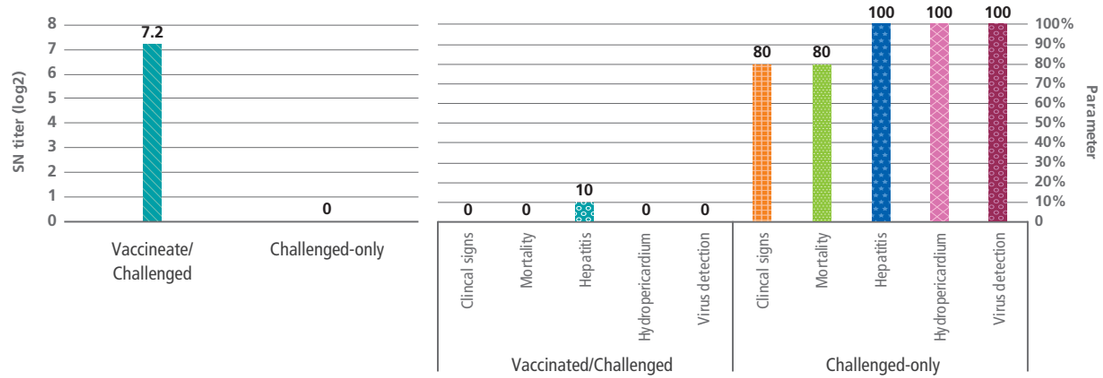
WP1V: Weeks post 1st vaccination
WP2V: Weeks post 2nd vaccination

KILLED

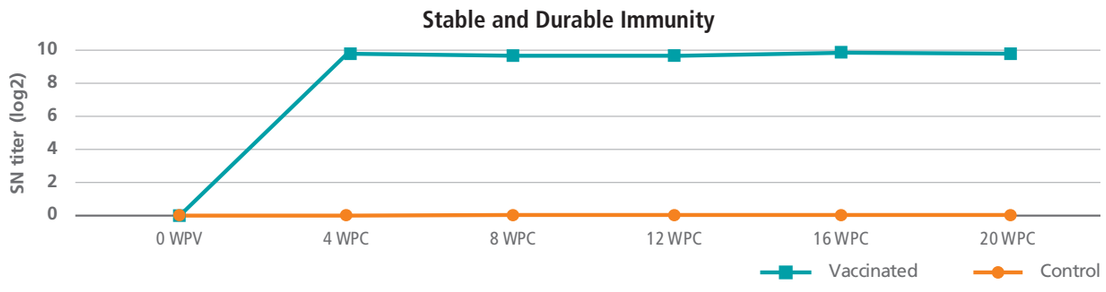
PoulShot® Adeno

Indication	An aid in the control and prevention of fowl adenovirus infection caused by FAdV
Composition and quantity	Fowl adenovirus type 4 (FAdV-4, K4 strain) ····· ≥ $10^{7.0}TCID_{50}$
Administration and dosage	Administer 0.5ml intramuscularly from 6 weeks old to 4 weeks before egg-laying in breeder and layer

PoulShot® Adeno protects from the clinical signs and gross lesion against the challenge



Stable and Durable Immunity



WPV: Weeks post vaccination
WPC: Weeks post challenge

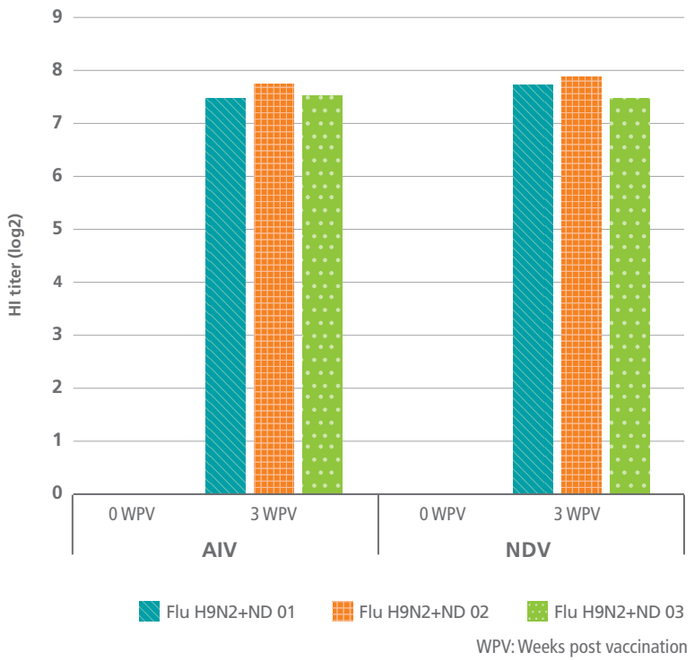
KILLED

PoulShot® Flu H9N2+ND

Indication	An aid in the control and prevention of low pathogenic avian influenza infection and Newcastle disease caused by AIV and NDV
Composition and quantity	Avian influenza virus (AIV, H9N2) ..... ≥ $10^{9.5}EID_{50}$ Newcastle disease virus (NDV, LaSota strain) ..... ≥ $10^{9.5}EID_{50}$
Administration and dosage	- Chicken can be vaccinated from one-day-old onwards - Administer 0.2ml to the chickens within 10 days of age, 0.5ml to the chickens at least 10 days of age

Induction of Rapid, High and Uniform Antibodies in a Single Vaccination

100% Defense against NDV challenge



WPV: Weeks post vaccination

PoulShot® Flu H9N2+ND
has been sold in Korea
more than 12 years!

PoulShot® Flu H9N2+ND
has already been registered in
Kuwait, Jordan, Iraq, etc.

Tailor-made AI+ND vaccine for Middle East

PoulShot®
Flu H9 ME+ND7

Coming Soon

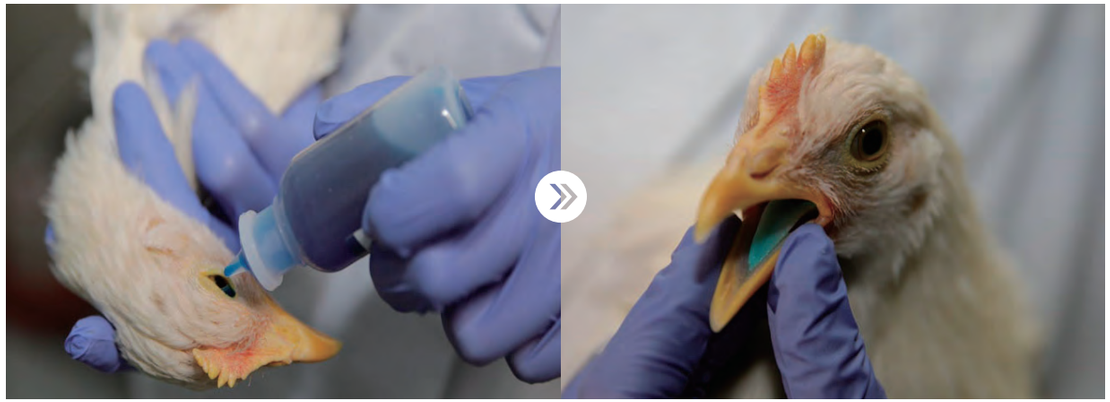
CNvac. Choong Ang Vaccine Lab.

Poultry Vaccines

APPLICATION AND CAUTIONS OF POULTRY VACCINES

Application and Cautions of Poultry Vaccines

EYE DROP



Following the instructions, dilute the vaccine with a diluent and administer single drop. Gently grab the chicken by head for a good position and drop the vaccines onto the eye that should be absorbing the drop at all for sure (make sure the chicken blinks a few time). If the vaccine is absorbed properly, color of the tongue shall be changed and if not, try it again.

DRINKING WATER

The vaccine should be dissolved in drinking water (20~24℃), and then supply the vaccine after restricting water supply for 2 hours at least. In hot weather, deal with a larger amount of water. For better effect, add skim milk powder as a stabilizer by 0.2%. Stop using antibiotics and disinfectant in order not to disturb any effect of the vaccines. Please make sure that the vaccine is absorbed properly. For hygiene reasons, always wear gloves.

Application and Cautions of Poultry Vaccines

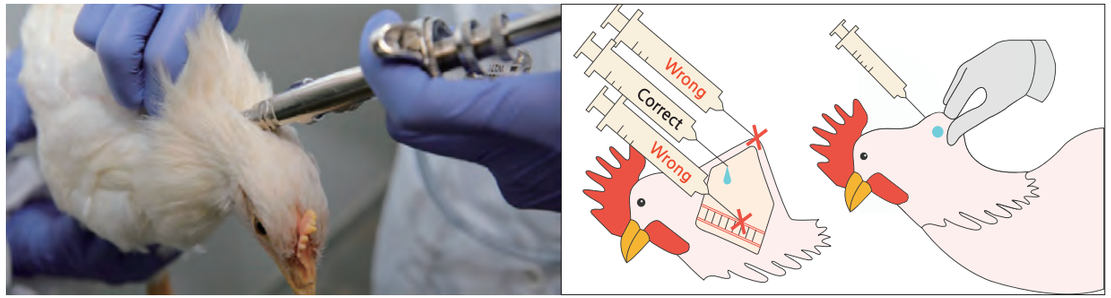
SPRAY

Vaccines are diluted with distilled water or clean water and administered by spraying from height of 50cm in order to administer in the eye and nasal cavity. The droplet size of spray should follow the administrations for use of each vaccine. The droplet size is generally 80~150μm and droplet size and spray method can be changed depending on age and construction of the farm. Before the vaccination, minimize ventilation if possible and dim the lights as low as possible to keep the chickens calm during the vaccination.

INTRAMUSCULAR INJECTION

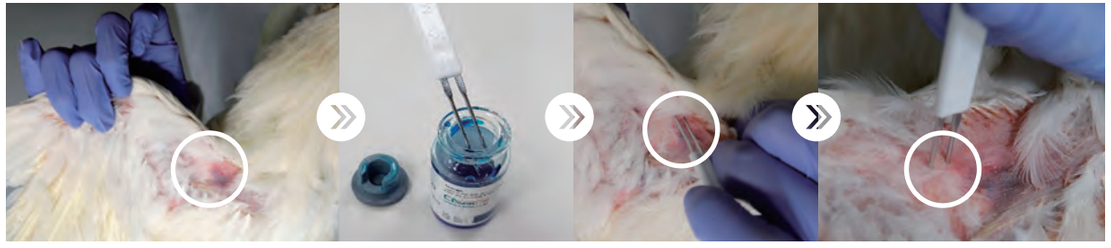
Inject vaccine following the administration for use and make sure the vaccine goes into the bird's muscle. In the breast injection (left), the needle should be directed caudally at a 45° angle to the body. This will help avoid injecting the vaccine into the abdominal cavity or liver. When using the leg muscle for vaccination (right), the injection site should be made in the lateral side of the gastrocnemius muscle. Avoid major vessels, nerve, joints and the bone. After vaccination, please check failure of vaccination.

SUBCUTANEOUS INJECTION



Preheat the vaccine that stored in the refrigerator over room temperature before use. Grasp the chicken by hoisting the skin with fingers to create a pocket between neck muscles and skin. Insert the needle at a 90° angle into the pocket of skin you made. Make sure that all of the vaccine gets injected and that the needle does not come out of the other side of the skin fold. Avoid injecting vaccine into the neck muscles, intradermaly or too close to the head of chicken. If you inject the vaccine correctly, you should notice a small bubble forming in the vaccination site.

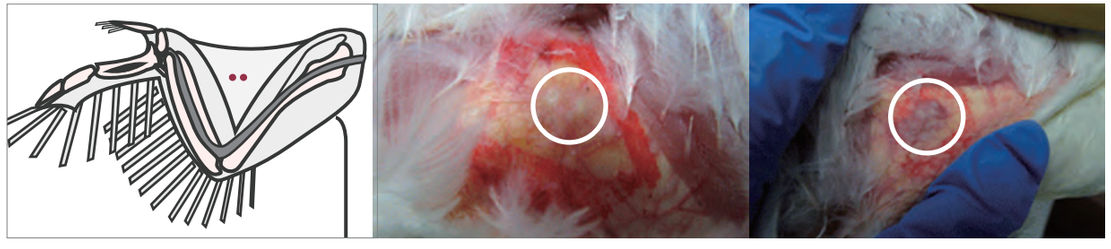
WING WEB PUNCTURE



Pull the chicken's wing, and then the vaccine is put on the puncture niddle to inoculate the center of wing's arachnoid triangle. Chicken's vein, bones, wing nerve, and any other part of the body should be avoided. If you accidentally hurt the blood vessel, please do hemostasis and administrate it correctly. After 7~10 days of vaccination, check whether the scab is generated at the inoculation site.

Anatomical structure and Scab formation

Anatomical structure of wing | 4 days after vaccination | 11 days after vaccination



CaniShot® FeliShot® RabbiShot®

COMPANION ANIMAL VACCINES

Product list

CaniShot® DHPPL

Indication An aid in the control and prevention of canine distemper, infectious canine hepatitis, parvovirus infection, infectious tracheobronchitis, and leptospirosis

Composition

CaniShot® DHPP

Canine distemper virus (CDV, Onderstepoort strain)	30%
Canine adenovirus type 2 (CAV-2, Manhattan strain)	10%
Canine parvovirus (CPV, 780916-LP strain)	20%
Canine parainfluenza virus (CPIV, D008 strain)	20%

CaniShot® Lepto

Leptospira canicola	0.5ml
Leptospira icterohaemorhhage	0.5ml

Packaging unit DHPP-1 dose × 10, Lepto-1 dose × 10

CaniShot® K5

Indication An aid in the control and prevention of canine distemper, infectious canine hepatitis, parvovirus infection, and infectious tracheobronchitis

Composition

Canine distemper virus (CDV, Rockborn strain)	$\geq 10^{3.5}TCID_{50}$
Canine adenovirus type 2 (CAV-2, Manhattan strain)	$\geq 10^{3.0}TCID_{50}$
Canine parvovirus (CPV, 780916-LP strain)	$\geq 10^{5.0}TCID_{50}$
Canine parainfluenza virus (CPIV, D008 strain)	$\geq 10^{4.0}TCID_{50}$

Packaging unit 1 dose × 10

CaniShot® RV-K

Indication An aid in the control and prevention of rabies virus infection in dogs, cats, and cow

Composition Rabies virus (RV, Pasteur strain) — $\geq 10^{7.0}FAID_{50}$

Packaging unit 1 dose × 10

CaniShot® CV

Indication An aid in the control and prevention of coronavirus infection

Composition Canine coronavirus (CCV, K378 strain) — $\geq 10^{6.0}TCID_{50}$

Packaging unit 1 dose × 20

CaniShot® PC

Indication An aid in the control and prevention of parvovirus and coronavirus infection

Composition

Canine parvovirus (CPV, 780916-LP strain)	$\geq 10^{5.0}TCID_{50}$
Canine coronavirus (CCV, K378 strain)	$\geq 10^{4.0}TCID_{50}$

Packaging unit 1 dose × 10

Product list

CaniShot® KC-Plus

Indication

An aid in the control and prevention of Kennel cough

Composition

Bordetella bronchiseptica (S-55 strain) —— ≥ $2.0X10^{8.0}$CFU
Canine parainfluenza virus (CPIV, D008 strain) —— ≥ $10^{4.0}HAD_{50}$

Packaging unit

1 dose × 10

FeliShot® PHC

Indication

An aid in the control and prevention of feline panleukopenia, feline viral rhinotracheitis and feline calicivirus infection in cats

Composition

Feline Panleukopenia virus (FPV, CU4 strain) —— ≥ $10^{4.8}TCID_{50}$
Feline Herpesvirus (FHV, FVR-Goldstein strain) —— ≥ $10^{6.2}TCID_{50}$
Feline Calicivirus (FCV, FCV-255 strain) —— ≥ $10^{6.2}TCID_{50}$

Packaging unit

1 dose × 10

RabbiShot® VHD Plus

Indication

An aid in the control and prevention of rabbit hemorrhagic disease in rabbits

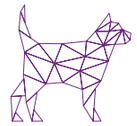
Composition

Rabbit hemorhhagic diease virus VP60 protein —— ≥ 5,000 HAU

Packaging unit

10 doses / 10ml

Vaccination program



General vaccination program

5 weeks	6 weeks	7 weeks	8 weeks	10 weeks	12 weeks	Annual booster vaccination
KC-Plus	DHPPL or K5	KC-Plus	DHPPL or K5	DHPPL or K5	DHPPL or K5	DHPPL or K5

Enforced program to prevent Parvovirus

4 weeks	6 weeks	8 weeks	10 weeks	12 weeks
PC	DHPPL or K5	PC	DHPPL or K5	DHPPL or K5

Rabies vaccine program

First	Annual booster vaccination
At the age older than 3 months	RV-K

8 weeks	11 weeks	14 weeks	Annual booster vaccination
PHC	PHC	PHC	

2 months	4 months	Annual booster vaccination
VHD Plus	VHD Plus	

BoviShot®

BOVINE VACCINES

Product list

BoviShot® Ephemer

Indication An aid in the control and prevention of bovine ephemeral fever caused by BEFV

Composition Bovine ephemeral fever virus (BEFV, BG strain) —— ≥ $10^{3.0}TCID_{50}$

Packaging unit 5 doses / 10ml

BoviShot® Brucel

Indication An aid in the control and prevention of bruceollosis caused by *Brucella abortus*.

Composition *Brucella abortus* (RB51 strain) —— ≥ $4X10^{9.0}CFU$

Packaging unit 10 doses / 10ml

BoviShot® RID

Indication An aid in the control and prevention of infectious bovine rhinotracheitis, bovine viral diarrhea, and bovine parainfluenza virus infection caused by BHV-1, BVDV and BPIV-3

Composition
Bovine herpesvirus type 1 —— 30%
Bovine viral diarrhea virus —— 30%
Bovine parainfluenza virus type 3 —— 30%

Packaging unit 2 doses / 10ml

BoviShot® Pneumoguard 4

Indication An aid in the control and prevention of respiratory disease caused by *Pasteurella multocida* and *Mannheimia haemolytica*

Composition
Pasteurella multocida type A bacterin —— ≥ $2X10^{9.0}CFU$
Pasteurella multocida type A outer membrane protein —— 200μg/ml
Mannheimia haemolytica type A bacterin —— ≥ $2X10^{9.0}CFU$
Mannheimia haemolytica type A leukotoxoid —— 10μg/ml

Packaging unit 1 dose / 2ml

BoviShot® ROCO

Indication An aid in the control and prevention of bovine rotavirus infection and bovine coronavirus caused by BRV and BCV

Composition
Bovine rotavirus (678 strain) —— ≥ $10^{5.0}TCID_{50}$
Bovine rotavirus (P44 strain) —— ≥ $10^{5.0}TCID_{50}$
Bovine coronavirus (BC94 strain) —— ≥ $10^{5.0}TCID_{50}$

Packaging unit 1 dose / 2ml

BoviShot® EC-P

Indication An aid in the control and prevention of colibacillosis caused by *Escherichia coli*

Composition *E.coli* pili (K99, F41) —— 40%

Packaging unit 1 dose / 2ml

Product list

BoviShot® Akabane

Indication An aid in the control and prevention of abortions, stillbirths and congenital defects caused by Akabane virus

Composition Akabane virus ——— 50%

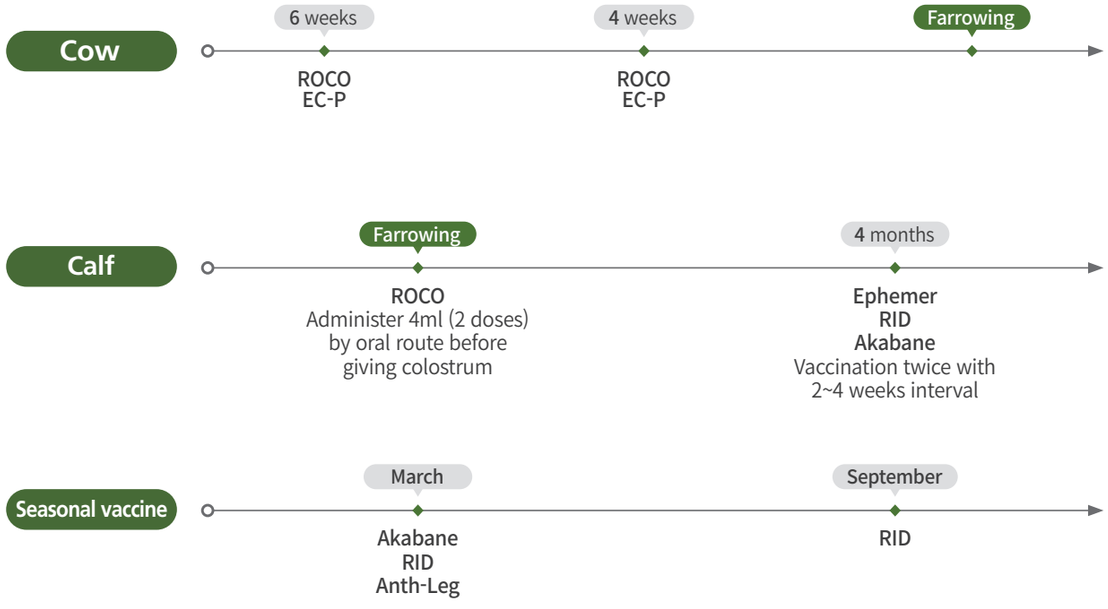
Packaging unit 3 doses / 3ml

BoviShot® Anth-Leg

Indication An aid in the control and prevention of anthrax and blackleg caused by *Bacillus anthracis* and *Clostridium chauvoei*

Composition *Bacillus arthracis* ——— 47.5 ~ 48.5%
Clostridium chauvoei ——— 47.5 ~ 48.5%

Packaging unit 10 doses / 20ml



Global NETWORK

The world is our business place and the future is our market.
On the road to the world-class, CAVAC goes hand in hand with global families from more than 20 countries.