

Veterinary Immunofluorescence
Quantitative Analyzer

Project classification	project	Sample type	reaction time	Storage conditions	term of validity	sample size	Diluted sample size	Detection range	reference value
Infected	CRP	Serum, plasma or whole blood (serum or plasma(EDTA) is recommended)	3min	4℃~30℃	24Months	10μL	75μL	2~250mg/L	Canine: 0 ~ 10 mg / L
	fSAA	Serum, plasma or whole blood (serum or plasma(EDTA) is recommended)	3min	4℃~30℃	24Months	10μL	75μL	2~300mg/L	Feline: < 8mg / L
	eSAA	Serum	5min	4℃~30℃	24Months	5μL	75μL	8~2000mg/L	Equine: < 20mg / L
diabetes	HbA1c	Whole blood	5min	4℃~30℃	24Months	10μL	75μL	4%~14.5%	Canine: 4% ~ 6%
	fHbA1c	Whole blood	5min	4℃~30℃	24Months	10μL	75μL	1.5%-10.5%	Feline: 1.5% ~ 3%
thrombus	D-Dimer	Whole blood or plasma(EDTA)	5min	4℃~30℃	24Months	Whole blood: 15 μL plasma(EDTA): 10 μL	75μL	50~10000ng/mL	0~250ng/mL
Fertility	Prog	Serum, plasma (EDTA)	15min	4℃~30℃	24Months	75μL	75μL	1~50ng/mL	ng/mL nmol/L Non oestrus or pre oestrus < 1.0 < 3.18 Before ovulation 1-5 3.18-15.9 period of ovulation 5-10 15.9-31.8 Best breeding period 10-20 31.8-63.6 Oocyte senescence > 30 > 95.4
hormone	Cortisol	Serum, plasma (EDTA)	15min	4℃~30℃	24Months	75μL	75μL	10~1000nmol/L	Please make a comprehensive diagnosis according to the clinical symptoms, diagnosis records and results, etc
	T4	Serum, plasma (EDTA)	15min	4℃~30℃	24Months	75μL	75μL	6.4~120nmol/L	Canine: 12.9 ~ 50nmol / L Feline: 10.3 ~ 60nmol / L
	TSH	Serum, plasma (EDTA)	15min	4℃~30℃	24Months	75μL	75μL	0.1~100mIU/L	Canine: 0 ~ 37miu / L Feline: 0 ~ 21miu / L
Heart marker	NT-proBNP	Serum, plasma (EDTA)	15min	4℃~30℃	24Months	75μL	75μL	5-50000pg/mL	< 4692 pg/mL < 445 pmol/L
pancreatitis	CPL	Serum, plasma (EDTA)	15min	4℃~30℃	24Months	75μL	75μL	10-1000μg/L	<200μg/L
	FPL	Serum, plasma (EDTA)	15min	4℃~30℃	24Months	75μL	75μL	0.5-100μg/L	<3.5μg/L
Infectious Diseases	CPV Ag	faeces	10min	4℃~30℃	24Months		75μL	16-8000ng/ml	0-300ng/ml
	CDV Ag	Oral, nasal and eye secretions	10min	24Months	24Months		75μL	1-120ng/ml	0-30ng/ml
Renal function	cCys C	Serum, plasma (EDTA)	10min	4℃~30℃	24Months	10μL	75μL	0.1-10mg/L	<1.2mg/L
	fCys C	Serum, plasma (EDTA)	10min	4℃~30℃	24Months	75μL	75μL	2-30mg/dL	<7mg/dL
Antibody	CDV/CPV /ICH Ab	Serum, plasma (EDTA)	10min	4℃~30℃	24Months	75μL	75μL	5-1000U	> 100U
	FHV/FPV /FCAV Ab	Serum, plasma (EDTA)	10min	4℃~30℃	24Months	75μL	75μL	0-600U	> 65U



Veterinary Immunofluorescence
Quantitative Analyzer
HV-FIA 3000

- Rapid
- Accurate
- Convenient
- Reliable
- Popular
- Extensible



T4, TSH, Cortisol, Prog,
CRP, fSAA, D-Dimer, HbA1c
fHbA1c,CPL,FPL,NT-proBNP
CPV Ag,CDV Ag, CDV/CPV/ICH Ab
eSAA,cCys C, fCys C, FHV/FCAV/FPV Ab

Choose HV-FIA 3000 For



Extra quick operating mode for large number of specimens



Powerful information management (Direct connection to LIS/HIS)



Convenient and fast. Get results in 3-15 minutes

Unique quick mode

Dry-Type Reagent

Information management

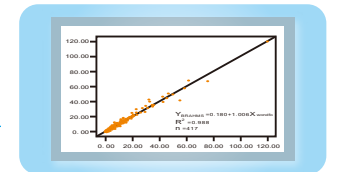
Reliable accuracy

Instant result

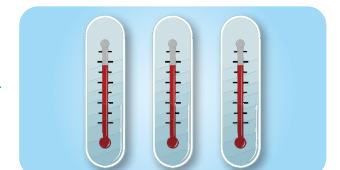
Room temperature storage



Dry-Type Reagent, individually wrapped with aluminum foil bag.



Good correlation with wet chemistry method results



Solid synthetic craft, can be stored at room temperature (4-30 °C)

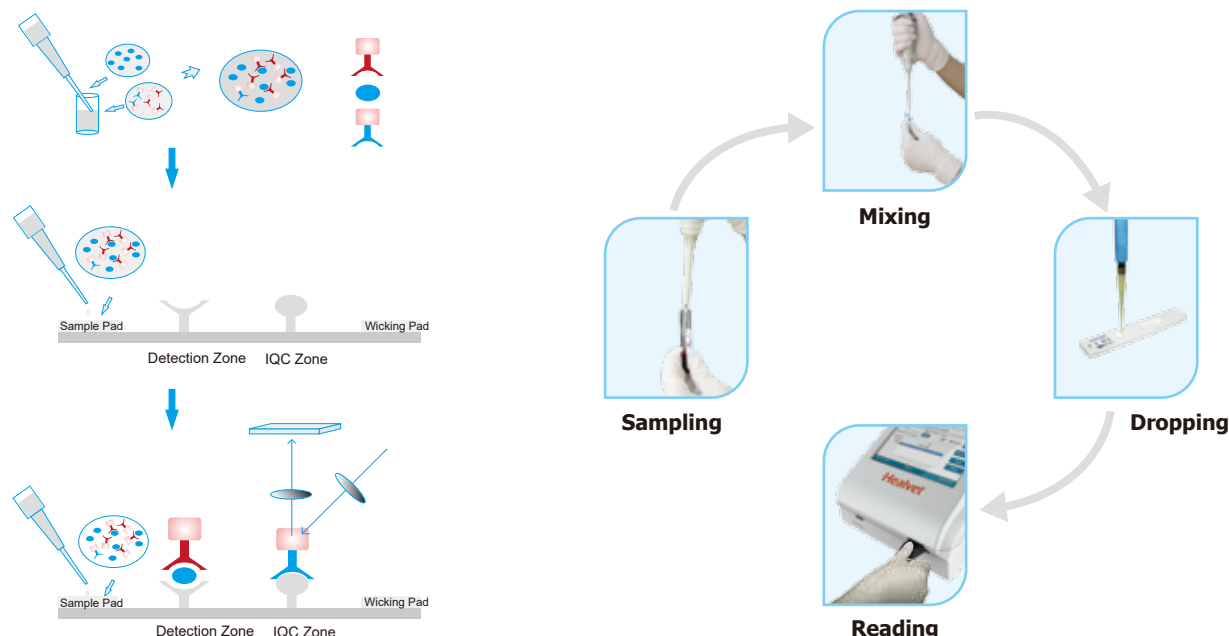
Easy-to-use Vet Diagnostic Device

- Immunofluorescence technology
- Testing time 3~15minutes
- Easy-to-use touch-screen platform, multi-language operation system
- Reagents stored at room temperature for 24 months
- Maintenance free

Test Item

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> • Hormone
T4、TSH、Cortisol • Fertility
Prog • Infection
CRP、fSAA、eSAA • Coagulation Markers
D-Dimer • Diabetic Mellitus
HbA1c、fHbA1c | <ul style="list-style-type: none"> • Pancreatitis
CPL、FPL • Heart failure
NT-proBNP • Infectious Diseases
CPV Ag、CDV Ag • Antibody
CDV/CPV/ICH Ab
FHV/FCAV/FPV Ab • Renal function
cCys C、fCys C | <ul style="list-style-type: none"> • Ongoing
cTnI、AFP、CEA |
|--|--|---|

Principle and Operation



Built-in Thermal Printer

Real-time printing

6"LCD touch screen

Dimensions:
298*248*388mm
Weight:
4kg
Power adapter:
100~240VAC, 50~60Hz

LIS Connection

Direct connection to LIS / HIS

ID Chip Port

The ID chip contains all information of test item and lot number

Test Channel

The Test Cartridge Holder

Cortisol

Cortisol is a glucocorticoid in the adrenal cortex, which can be used to diagnose

Cushing’ s Syndrome and Edison Syndrome.

Features

- Animal: Canine, Feline
- Sample type: Serum, Plasma(EDTA)
- Sample vol: 75µL
- Detection range: 10~1000 nmol/L
- Reaction time: 15 mins
- Maintenance free

Application

- Cushing’ s syndrome (Hyper):
High blood pressure,
diabetes, skin diseases
- Edison’ s disease (Hypo):
Hereditary kidney disease

LDDST

Intravenous injection of hexadecadrol 0.01mg/kg , and cortisol value was measured 4 hours and 8 hours later. The diagnosis was as follows

Type	Cortisol base value	Cortisol value after 4 hours	Cortisol value after 8 hours	Diagnostic value
LDDST	normale	< 39nmol/L (1.4ug/dL)	< 39nmol/L (1.4ug/dL)	normale
	normal or increased	> 39nmol/L and > 50% base value	> 39nmol/L and > 50% base value	Cushing's syndrom
	normal or increased	< 39nmol/L or < 50% base value	> 39nmol/L and > 50% base value	PDH
	normal or increased	> 39nmol/L or > 50% base value	> 39nmol/L and < 50% base value	PDH
	normal or increased	< 39nmol/L or < 50% base value	> 39nmol/L and < 50% base value	PDH

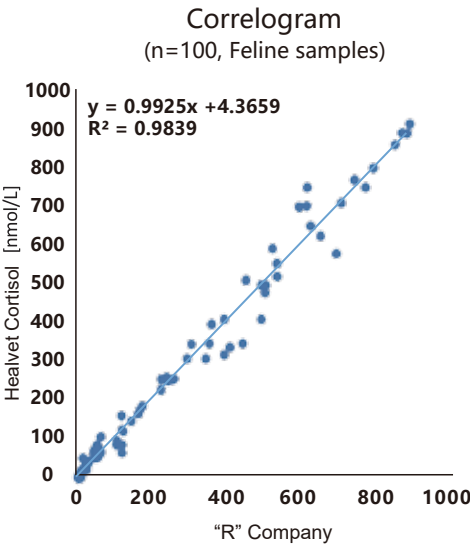
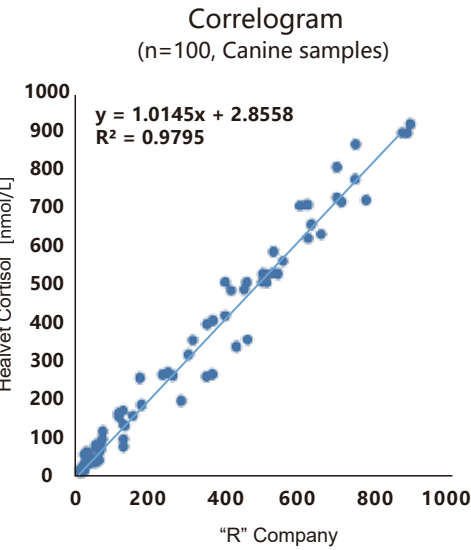
Pre-stimulus Cortisol value	Cortisol value after stimulation	Diagnostic value
< 55 nmol/L	< 55 nmol/L	It needs to be evaluated in combination with cortisol test value after stimulation, Addison's disease.
	55~166 nmol/L	Uncertain
55~166 nmol/L	55~166 nmol/L	Uncertain
	166~500 nmol/L	Basically normal
	550~663 nmol/L	Suspected Cushing's syndrome
	> 663 nmol/L	Cushing's syndrome requires high-dose dexamethasone suppression test to distinguish between ATH or PDH.

HDDST

Intravenous injection of hexadecadrol 0.1mg/kg , and cortisol value was measured 4hours and 8 hours later. The diagnosis was as follows:

Type	Cortisol base value	Cortisol value after 4 hours	Cortisol value after 8 hours	Diagnostic value
HDDST	normal or increased	< 39nmol/L or < 50% base value	> 39nmol/L and > 50% base value	PDH
	normal or increased	> 39nmol/L and > 50% base value	< 39nmol/L or < 50% base value	PDH
	normal or increased	< 39nmol/L or < 50% base value	< 39nmol/L or < 50% base value	PDH
	normal or increased	> 39nmol/L and > 50% base value	> 39nmol/L and > 50% base value	More tests are needed to distinguish PDH and primary adrenal hyperactivity

Linear contrast chart



TSH (Thyroid-stimulating hormone)

TSH (Thyroid-stimulating hormone) is a pituitary hormone that stimulates the thyroid gland to produce T4, and then T3 which stimulates the metabolism of almost every tissue in the body.

Features

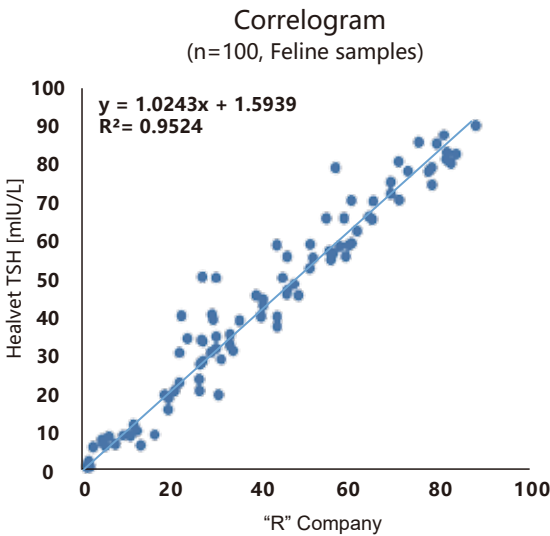
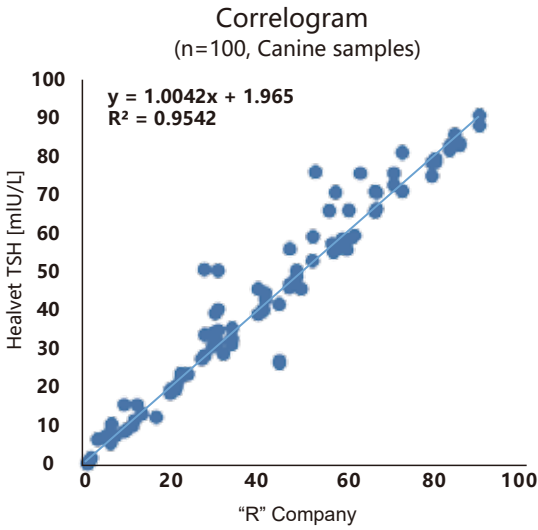
- Animal: Canine, Feline
- Sample type: Serum, Plasma(EDTA)
- Sample vol: 75µL
- Detection range: 0.1~100 mIU/L
- Reaction time: 15 mins
- Maintenance free

Application

When T4 is decreased, TSH needs to be detected to diagnose whether it is primary hypothyroidism. About 70% of hypothyroidism has a high TSH value.

T4	TSH	Clinical value
< 15 nmol/L	Canine < 37 mIU/L Feline < 21mIU/L	Not rule out Hypothyroidism
< 15 nmol/L	Canine > 37 mIU/L Feline > 21mIU/L	Suspicious of primary Hypothyroidism

Linear contrast chart



CPL (Canine pancreatic lipase)

Lipase is mainly secreted by pancreas, which appears later in serum and lasts for a long time.In acute pancreatitis, the damage of pancreatic acini leads to the release of lipase stored in the acini, the increase of lymphatic and capillary permeability of the pancreas, and the large amount of pancreatic lipase entering the blood, resulting in the increase of serum lipase.Therefore, the level of serum lipase is an important index in the diagnosis of pancreatitis.In addition, some kidney disease, peritonitis, intestinal obstruction and other diseases and drugs such as corticosteroids can also lead to the rise of lipase.

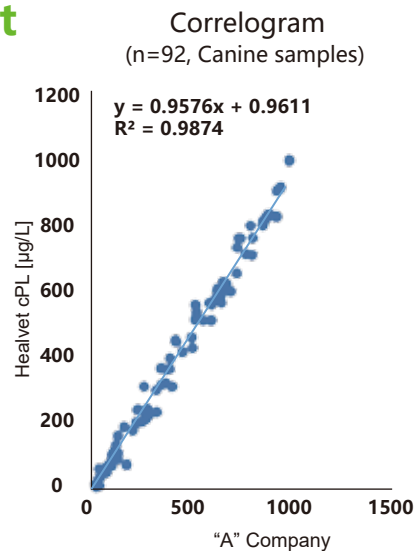
Features

- Animal: Canine
- Sample type: Plasma(EDTA), serum
- Sample vol: 75µL
- Detection range: CPL:10-1000ug/L
- Reaction time: 15 mins
- Maintenance free

Interpretation of results:

Signification	µg/L
normal (low risk)	<200
high risk	200-400
pancreatitis	> 400

Linear contrast chart



Progesterone

Progesterone is an endogenous steroid and progestogen sex hormone involved in the menstrual cycle, pregnancy and embryogenesis of animals.

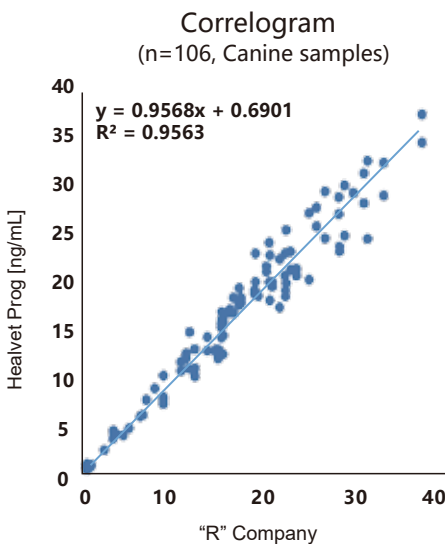
Features

- Animal: Canine
- Sample type: Serum, Plasma(EDTA)
- Sample vol: 75µL
- Detection range: 1~50 ng/mL
- Reaction time: 15 mins
- Maintenance free

Application

Signification	ng/mL	nmol/L
Not in heat or proestrus	<1.0	< 3.18
The early stage of the ovulation	1-5	3.18-15.9
Oviposit period	5-10	15.9-31.8
The best breeding period	10-20	31.8-63.6
Egg cell senescence	> 30	> 95.4

Linear contrast chart



CRP

The C-reactive protein (CRP) is synthesized by the liver in response to interleukin-6 and is well known as one of the classical acute-phase reactants. It is used as a marker of inflammation and cardiovascular diseases(CVD).

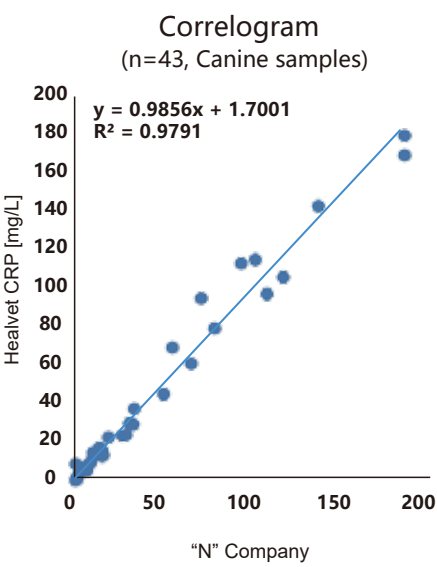
Features

- Animal: Canine
- Sample type: Serum, Plasma(EDTA)
Whole blood
- Sample vol: 10µL
- Detection range: 2~250 mg/L
- Reaction time: 3 mins
- Maintenance free

Application

- Clinical range:
0 ~ 10 ng/mL: No hint or basically normal
10~30 ng/mL: Early, mild bacterial infection or disease recovery period
30-100 ng/mL:Moderate inflammatory reaction, local infection
> 100 ng/mL:Severe inflammatory reaction
septicemia, systemic infection

Linear contrast chart



NT-proBNP

NT-proBNP, a precursor of amino terminal brain natriuretic peptide (NT -proBNP), is mainly derived from the ventricles. It is the substance released by the myocardium when the blood pressure and the pressure of the ventricular wall rise. It is mainly used to evaluate the myocardial function.NT proBNP is more stable in clinical test. The higher the concentration, the higher the severity of heart disease.

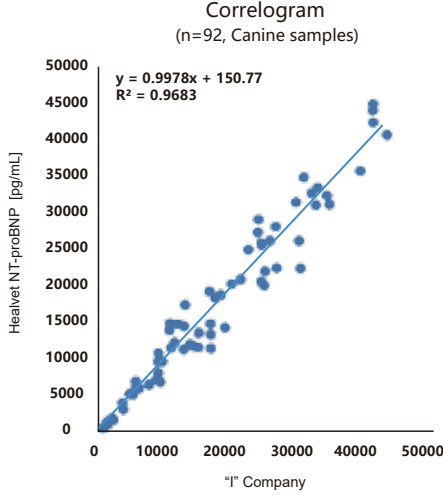
Features

- Animal: Canine
- Sample type:Serum, Plasma(EDTA)
- Sample vol: 75µL
- Detection range: 5~50000 pg/mL
- Reaction time: 15 mins
- Maintenance free

Interpretation of results:

Signification	pg / ml	pmol / L
Low risk	< 4692	< 445
Suspicion of MVD or DCM	> 4692	> 445
Suspicion of cardiomegaly	> 7170	> 680
High risk	> 8436	> 800
Heart failure	> 18981	> 1800
CHF	> 28471	> 2700

Linear contrast chart



fSAA

SAA is a member of a group of proteins called Acute Phase Proteins which have been found in many animal species and which are thought to be part of the body's basic first line defenses against infection, disease or trauma.

Features

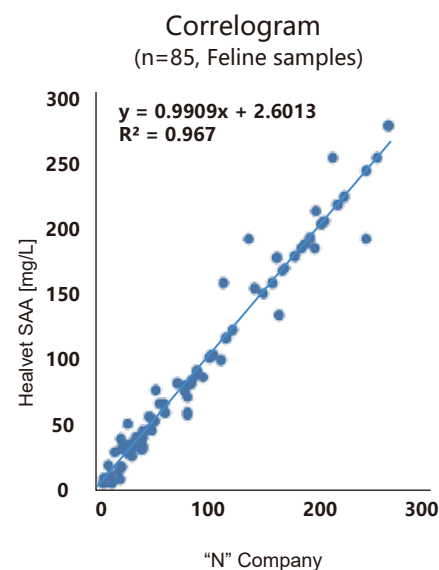
- Animal: Feline
- Sample type: Serum, Plasma(EDTA),Whole blood
- Sample vol: 10µL
- Detection range: 2 ~ 300 mg/L
- Reaction time: 3 mins
- Maintenance free

Application

- A marker for inflammation
 - The prognosis for a variety of diseases
 - Clinical range:
- 0~8 mg/L: Normal
- 8-70 mg/L: Suspected inflammation or slight infection or high
- > 70 mg/L: Obvious inflammation

The following table shows the SAA reference values for certain diseases.

Linear contrast chart



HbA1C

HbA1C is the product of the hemoglobin combining with blood glucose in red blood cells, which can reflect the average blood glucose level over the preceding 2~3 months. It is useful in the diagnostic evaluation of diabetic mellitus.

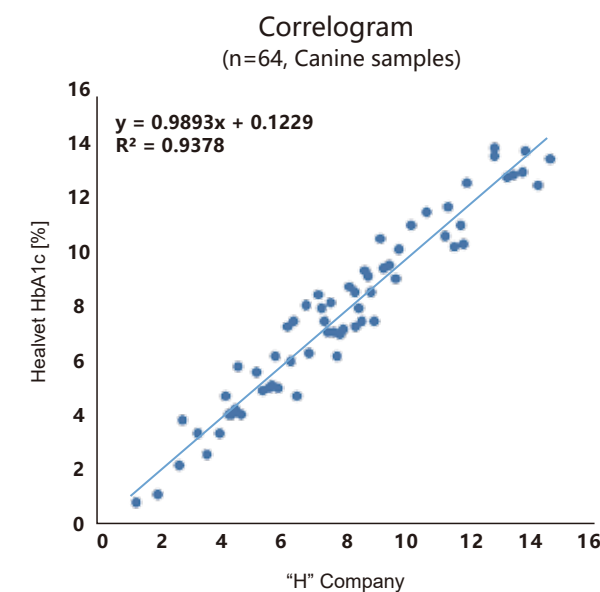
Features

- Animal: Canine
- Sample type: Whole blood
- Sample vol: 10µL
- Detection range: 4% ~ 14.5%
- Reaction time: 5 mins
- Maintenance free

Application

- Canine Clinical range:
- 4% ~ 6% : Normal
- 6% ~ 8%: Diabetes subclinical stage
- > 8% : diabetes

Linear contrast chart



T4 (Total Thyroxine)

T4 (Total Thyroxine) is the major secretory hormone of the thyroid.
 Only 0.03% of T4 is unbound and free for exchange with tissues.

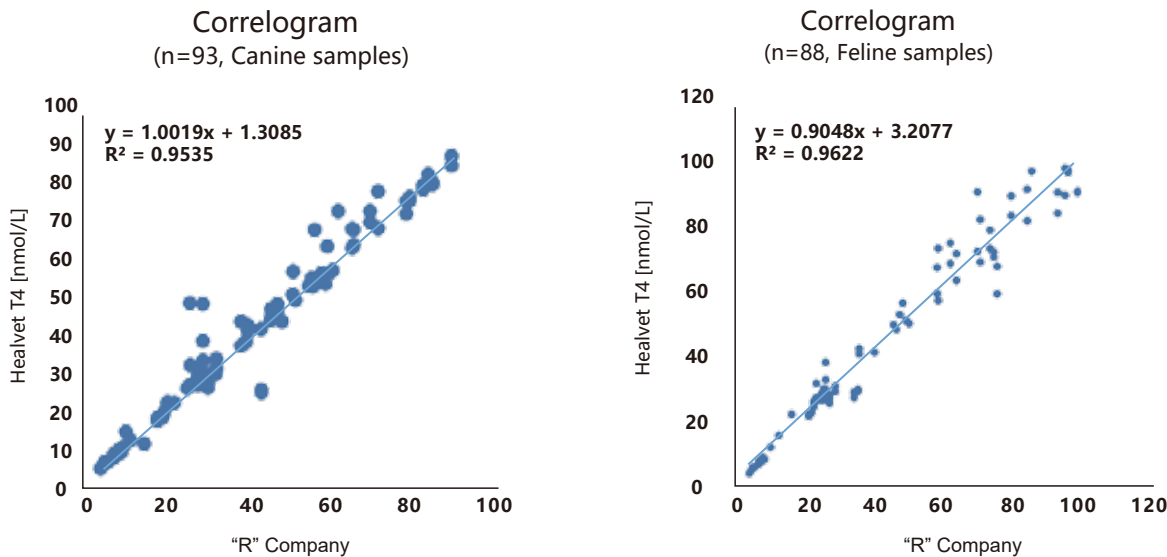
Features

- Animal: Canine, Feline
- Sample type: Serum, Plasma(EDTA)
- Sample vol: 75µL
- Detection range: 6.4~120nmol/L
- Reaction time: 15 mins
- Maintenance free

Application

	Clinical value	nmol/L	µg/dL
Canine	Low	< 12.9	< 1
	Normal	12.9-50	1-3.9
	High	> 50	> 3.9
Feline	Low	< 10.3	< 0.8
	Normal	10.3-60	0.8-4.7
	High	> 60	> 4.7

Linear contrast chart



fHbA1C

HbA1C is the product of the hemoglobin combining with blood glucose in red blood cells, which can reflect the average blood glucose level over the preceding 2~3 months. It is useful in the diagnostic evaluation of diabetic mellitus.

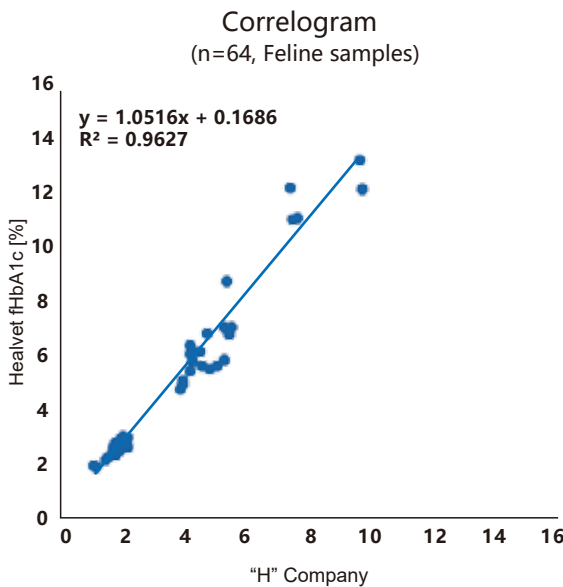
Features

- Animal: Feline
- Sample type: Whole blood
- Sample vol: 10µL
- Detection range: 1.5% ~ 10.5%
- Reaction time: 5 mins
- Maintenance free

Application

- Feline Clinical range:
 1.5%-3%: Normal
 > 3%: diabetes

Linear contrast chart



D-Dimer

D-Dimer is a small protein fragment present in the blood after a blood clot is degraded by fibrinolysis. It is useful in the diagnostic evaluation of thrombotic diseases and monitor corticosteroid treatment.

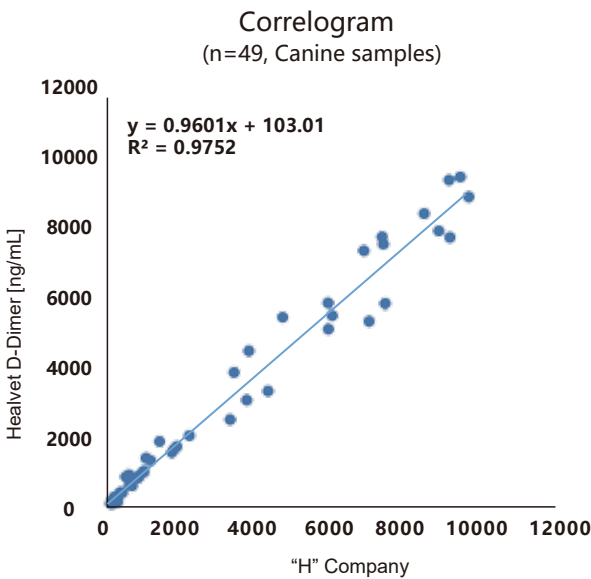
Features

- Animal: Canine, Feline
- Sample type: Whole blood15µL, Plasma (EDTA) 10µL
- Sample vol: 75µL
- Detection range: 50~10000 ng/mL
- Reaction time: 5 mins
- Maintenance free

Application

- Clinical normal range:
 < 250ng/mL:Basically normal
 250-1000ng/mL:Thrombosis cannot be ruled out
 > 1000ng/mL:Thrombus or DIC may be present and further examination is required

Linear contrast chart



FPL (Feline pancreatic lipase)

Lipase is mainly secreted by pancreas, which appears later in serum and lasts for a long time.In acute pancreatitis, the damage of pancreatic acini leads to the release of lipase stored in the acini, the increase of lymphatic and capillary permeability of the pancreas, and the large amount of pancreatic lipase entering the blood, resulting in the increase of serum lipase.Therefore, the level of serum lipase is an important index in the diagnosis of pancreatitis.In addition, some kidney disease, peritonitis, intestinal obstruction and other diseases and drugs such as corticosteroids can also lead to the rise of lipase.

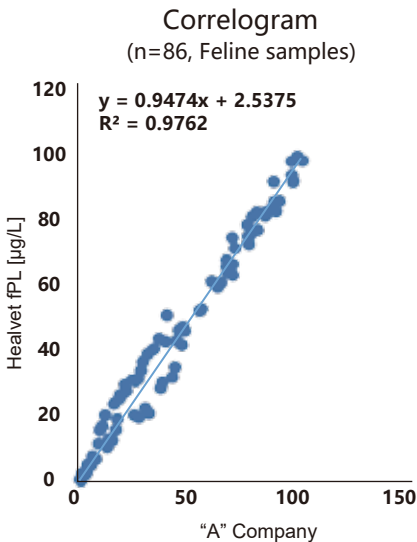
Features

- Animal: Feline
- Sample type: Plasma(EDTA), serum
- Sample vol: 75µL
- Detection range: 0.5-100ug/L
- Reaction time: 15 mins
- Maintenance free

Interpretation of results

FPL	normal (low risk)	<3.5µg/L
	high risk	3.5-5.3µg/L
	pancreatitis	>5.3µg/L

Linear contrast chart



CDV Ag

Canine distemper is a common and highly contagious viral infectious disease. Its pathogen is canine distemper virus, which mainly passes through respiratory tract infections. Sick dogs are characterized by biphasic fever, rhinitis, severe digestive tract disorders, and respiratory tract inflammation, with a high fatality rate.

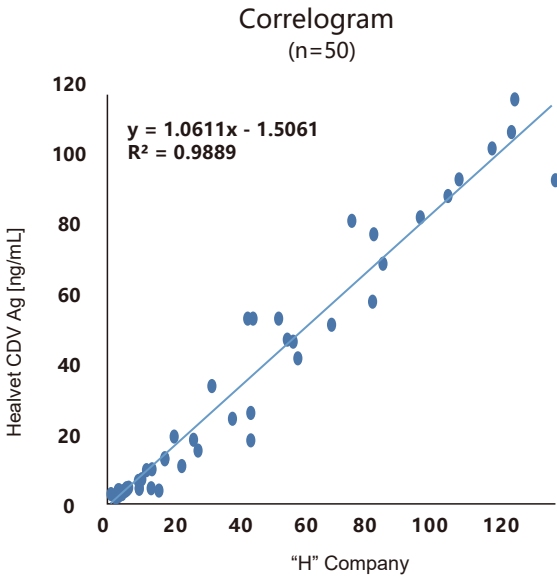
Features

- Animal: Canine
- Sample type: Oral, nasal and eye secretions
- Sample vol: 75µL
- Detection range: 1~120ng/mL
- Reaction time: 10 mins
- Maintenance free

Application

- Clinical normal range:
0~20 ng/mL :Normal
20~30 ng/mL :Suspected canine distemper virus
> 30ng/mL: Contracted canine distemper virus

Linear contrast chart



CPV Ag

After infection in healthy dogs, the virus can attack intestinal epithelial cells and cardiomyocytes, mainly manifested as gastrointestinal diseases and myocarditis, which is more common in puppies. After the onset of the disease, the mortality rate is high, often explosive epidemic, with different ages and genders. All varieties can be infected.

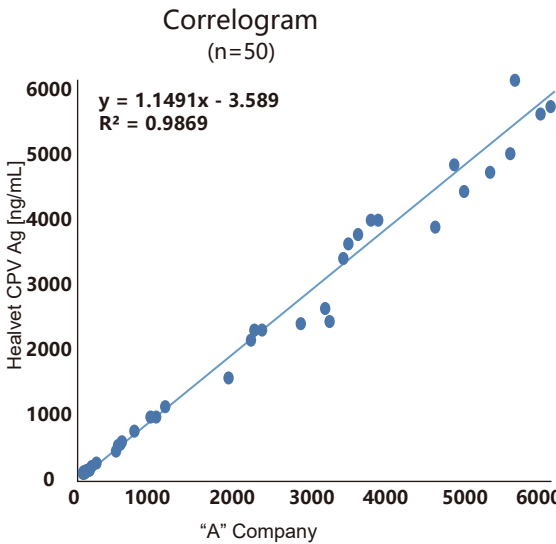
Features

- Animal: Canine
- Sample type: faeces
- Detection range: 16~8000 ng/mL
- Reaction time: 10 mins
- Maintenance free

Interpretation of results

Reference	Signification
<60ng/mL	Normal
60-300 ng/mL	Suspected canine parvovirus virus
> 300 ng/mL	Contracted canine parvovirus virus

Linear contrast chart



cCys C / fCys C

Cystatin C belongs to the family of cysteine protease inhibitors. It is produced by all nucleated cells at a constant rate. It is an ideal endogenous index, and its concentration in the blood almost completely depends on GFR. It is freely filtered by the kidney and decomposed after being absorbed by the proximal tubule; in fact, it will not return to the blood, unless the proximal tubule is injured. In nephrology, this endogenous substance is regarded as a marker of renal excretion function and is more sensitive than creatinine.

Features

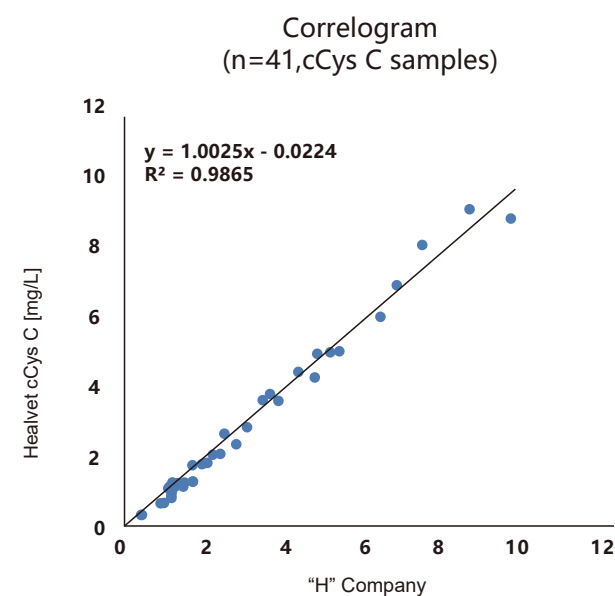
• cCys C

- Animal: Canine
- Sample type: Serum, Plasma(EDTA)
- Sample vol: 10µL
- Detection range: 0.1 - 10 mg/L
- Reaction time: 10 mins
- Maintenance free

Application

- Clinical normal range:
 - <1.2 mg/L :Normal
 - 1.2-1.5 mg/L :Suspected kidney injury
 - >1.5 mg/L: Kidney injury

Linear contrast chart



Features

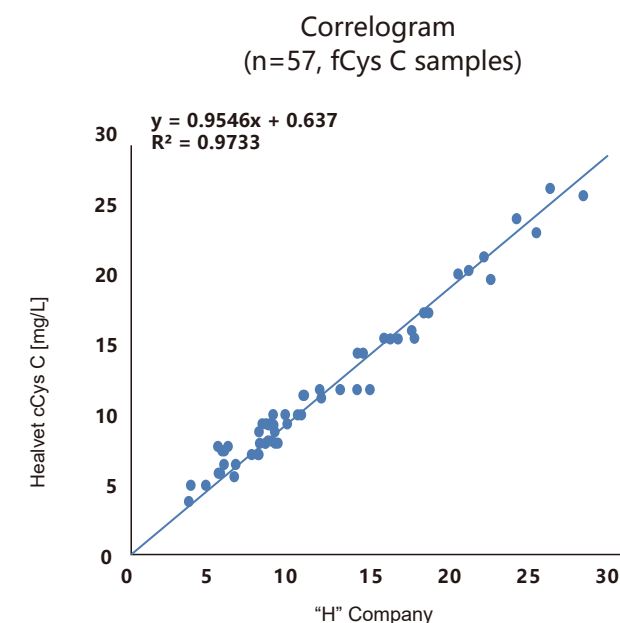
• fCys C

- Animal: Feline
- Sample type: Serum, Plasma(EDTA)
- Sample vol: 75µL
- Detection range: 2-30 mg/dL
- Reaction time: 10 mins
- Maintenance free

Application

- Clinical normal range:
 - <7 mg/dL :Normal
 - 7-10 mg/dL :Suspected kidney injury
 - >10 mg/dL: Kidney injury

Linear contrast chart



eSAA

SAA is a member of a group of proteins called Acute Phase Proteins which have been found in many animal species and which are thought to be part of the body's basic first line defenses against infection, disease or trauma.

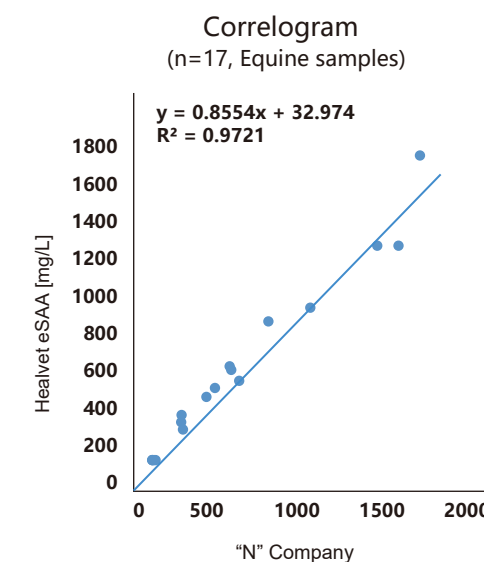
Features

- Animal: Equine
- Sample type: Serum
- Sample vol: 5µL
- Detection range: 8 ~ 2000 mg/L
- Reaction time: 5 mins
- Maintenance free

Application

- A marker for inflammation
- The prognosis for a variety of diseases
 - Clinical range:
 - <20mg/L: Normal

Linear contrast chart



CDV/CPV/ICH Ab

Infectious Canine Hepatitis (ICH), Canine Parvovirus (CPV) and Canine Distemper Virus (CDV) are recognized as important causes of illness and death in dogs. Puppies are most susceptible to ICH, CPV and CDV, especially after weaning when protective maternally derived antibody (MDA) levels decrease. Sometimes MDA may actually interfere with vaccinations that are given for immunization. In many countries, vaccination programs have significantly curtailed, but not eliminated the incidence of these diseases. Thus, ICH, CPV and CDV continue to be of great clinical concern among veterinarians worldwide and still present a diagnostic challenge.

Features

- Animal: Canine
- Sample type: Serum, Plasma(EDTA)
- Sample vol: 75µL
- Detection range: 5 - 1000 U
- Reaction time: 10 mins
- Maintenance free

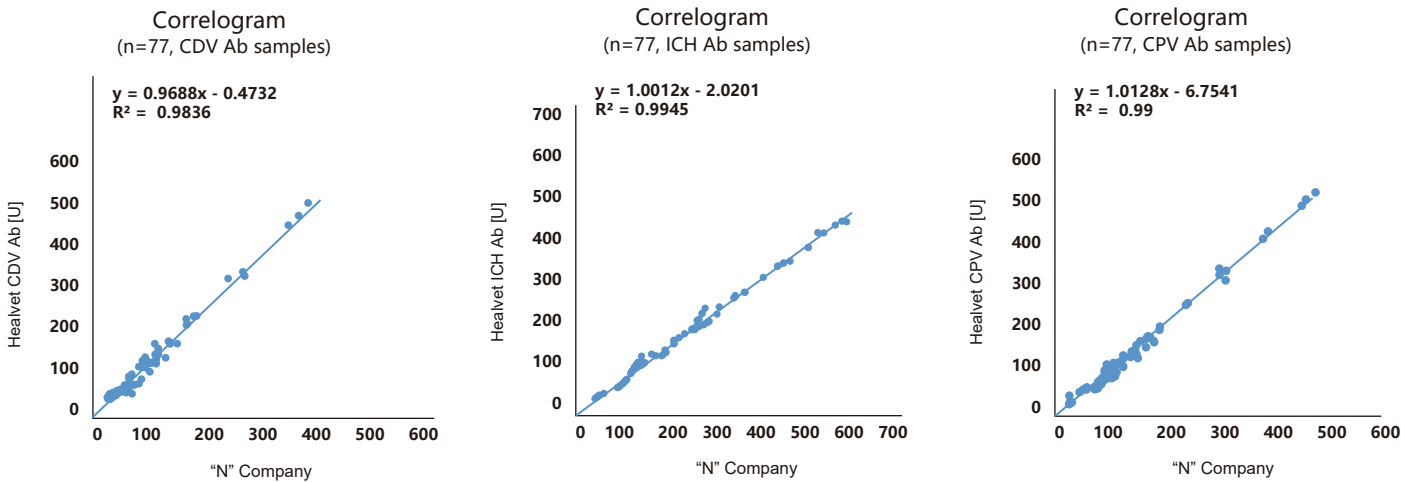
Application

Entry	Detection	Test level	Signification
CDV Ab	< 35U	S1	Not immunized or low in immunity
	35-50U	S2	Low antibody titer
	50-100U	S3	Medium antibody titer
	100-200U	S4	Relatively High antibody titer
	200-500U	S5	High antibody titer
	500-1000U	S6	Extremely high antibody titer

Entry	Detection	Test level	Signification
CPV Ab	< 30U	S1	Not immunized or low in immunity
	30-60U	S2	Low antibody titer
	60-100U	S3	Medium antibody titer
	100-200U	S4	Relatively High antibody titer
	200-500U	S5	High antibody titer
	500-1000U	S6	Extremely high antibody titer

Entry	Detection	Test level	Signification
ICH Ab	< 30U	S1	Not immunized or low in immunity
	30-60U	S2	Low antibody titer
	60-100U	S3	Medium antibody titer
	100-200U	S4	Relatively High antibody titer
	200-500U	S5	High antibody titer
	500-1000U	S6	Extremely high antibody titer

Linear contrast chart



FHV/FCAV/FPV Ab

Feline Panleukopenia Virus (FPLV), Feline Herpes Virus (FHV) and Feline Calici Virus (FCV) are recognized as important causes of illness and death in cats. Kittens are most susceptible to FPLV, FHV and FCV, especially after weaning when protective Maternally Derived Antibody (MDA) levels decrease.Sometimes MDA may actually interfere with vaccinations that are given for immunization.
In many countries, vaccination programs have significantly curtailed, but not eliminated the incidence of these diseases.Thus, FPLV, FHV and FCV continue to be of great clinical concern among veterinarians worldwide and still present a diagnostic challenge.

Features

- Animal: Feline
- Sample type: Serum, Plasma(EDTA)
- Sample vol: 75µL
- Detection range: 0-600 U
- Reaction time: 10 mins
- Maintenance free

Application

Entry	Detection	Test level	Signification
FHV Ab	< 15U	S1	Not immunized or low in immunity
	15-25U	S2	Low antibody titer
	25-65U	S3	Medium antibody titer
	65-100U	S4	Relatively High antibody titer
	100-200U	S5	High antibody titer
	200-300U	S6	Extremely high antibody titer

Entry	Detection	Test level	Signification
FCAV Ab	< 4U	S1	Not immunized or low in immunity
	4-15U	S2	Low antibody titer
	15-30U	S3	Medium antibody titer
	30-100U	S4	Relatively High antibody titer
	100-300U	S5	High antibody titer
	300-600U	S6	Extremely high antibody titer

Entry	Detection	Test level	Signification
FPV Ab	< 10U	S1	Not immunized or low in immunity
	10-20U	S2	Low antibody titer
	20-30U	S3	Medium antibody titer
	30-100U	S4	Relatively High antibody titer
	100-300U	S5	High antibody titer
	300-600U	S6	Extremely high antibody titer

Linear contrast chart

