Healvet

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Veterinary Immunofluorescence Quantitative Analyzer HV-FIA 3000

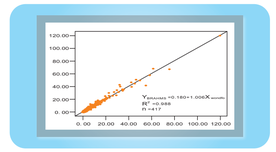
HV-FIA 3000
● Android System
●7-inch ultra-sensitive, dust-proof, waterproof capacitive touch screen
●High sensitivity and good repeatability
●Wireless connection printer
●Online update
●Compact and save space, 210*240 mm
●Chip information supports ID card reading and U disk reading
●Supports bi-directional protocol transmission

Rapid test mode to effectively meet the needs of large sample testing

Dry reagents, individually packed

Powerful information management function which can be directly connected to the medical management system

Convenient and quick, the detection time only takes 3~15 minutes



Good linear match with CLIA results

Android

Wireless connections

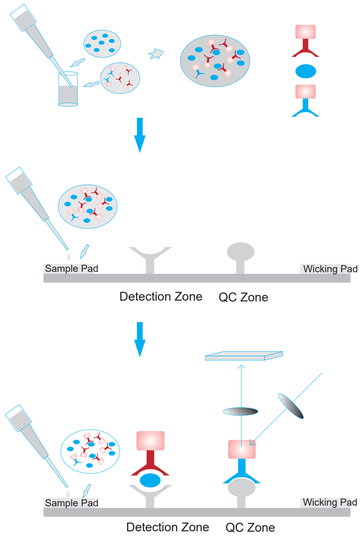
Information management

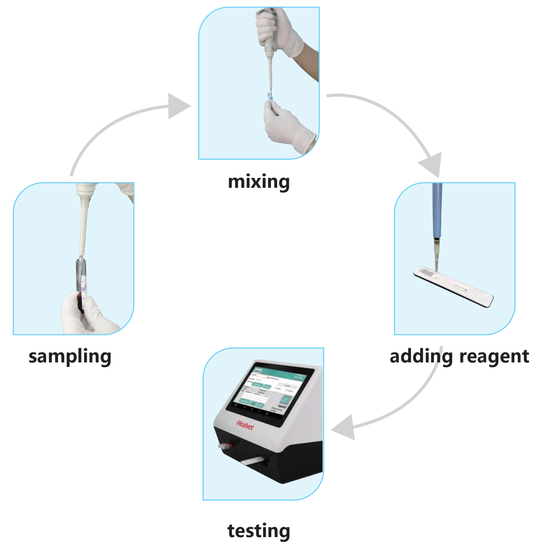
Simple and convenient operation

Accurate and reliable

Wide reagent testing menu

Test principle and operation





Healvet

Test Menu

Product category	Project	Sample Type	Sample size	Reaction time	Detection range
Inflammation (canine & feline)	cCRP	Serum,plasma or whole blood	10ul	3min	2~250mg/L
	fSAA	Serum,plasma or whole blood	10ul	3min	2~300mg/L
Cardiac marker (canine & feline)	NT-proBNP	Serum,plasma	75ul	15min	5~50000pg/mL
	fNT-proBNP	Serum,plasma	75ul	15min	50-1500pmol/L
	ccTnI	Serum,plasma	75ul	15min	0.01-20ng/mL
	fcTnI	Serum,plasma	75ul	15min	0.02-16.5ng/mL
	cNT/ccTnI	Serum,plasma	75ul	15min	
	fNT/fcTnI	Serum,plasma	75ul	15min	
Hormone (canine & feline)	cProg	Serum,plasma	75ul	15min	1-50 ng/mL
	Cortisol	Serum,plasma	75ul	15min	10~1000 nmol/L
	T4 & Feline T4	Serum,plasma	75ul	15min	6.4~120nmol/L
	TSH	Serum,plasma	75ul	15min	0.1-100 mIU/L
Diabetes (canine & feline)	cHbA1c	Whole blood	10ul	5min	4%-14.5%
	fHbA1c	Whole blood	10ul	5min	1.5%-10.5%
Pancreatitis (canine & feline)	cPL	Serum,plasma	75ul	15min	10-2000 μg/L
	fPL	Serum,plasma	75ul	15min	0.5-100 μg/L
Thrombus function (canine & feline)	D-dimer	plasma or whole blood	plasma: 15ul whole blood: 10ul	5min	50~10000 ng/mL
Renal function (canine & feline)	cCys-C	Serum,plasma	10ul	10min	0.1-10 mg/L
	fCys-C	Serum,plasma	75ul	10min	2-30 mg/dL

Product category	Project	Sample Type	Sample size	Reaction time	Detection range
Infections (canine & feline)	CPV Ag	Faeces		10min	16~8000 ng/mL
	CDV Ag	Eye, nose and mouth secretions		10min	1~120 ng/mL
	CCV Ag	Faeces		10min	0~35 ug/mL
	CPV/CCV Ag	Faeces		10min	
	FPV Ag	Faeces		10min	1~2000 ug/mL
	FCoV Ag	Faeces		10min	0~35 ug/mL
	FHV Ag	Eye, nose and mouth secretions		10min	0~200 ug/mL
	FCAV Ag	Eye, nose and mouth secretions		10min	0~200 ug/mL
Antibody (canine & feline)	CDV/CPV/ICH Ab	Serum,plasma	75ul	10min	5~1000 U
	FHV/FCAV/FPV Ab	Serum,plasma	75ul	10min	0~600 U
	Toxo Ab	Serum,plasma	75ul	10min	0-16 IU/ml
	Rabies antibody	Serum,plasma	75ul	10min	0.8-300IU/mL
Gastric function (canine & feline)	HP	Faeces		10min	0~500 ng/mL
Tumor marker (canine)	CPSE	Serum,plasma	75ul	15min	5-500 ng/mL
	cAFP	Serum,plasma	75ul	15min	10-300 ng/mL
Equine	eSAA	Serum	10ul	5min	2~8000mg/L
	Foal IgG	Serum,plasma	10ul	15min	100-3000 mg/dL

Coming soon

FHV+FCAV Ag Combined test
Equine Prog
Giardia Ag

Under development

Equine ACTH
FeLV Ag
Fructosamine
Babesia Ag
EHR-LYM-ANA(Ehrlichia-Lyme-Anaplamsa) Ab
RV(rotavirus) Ag
FIV Ag

Canine C-Reactive Protein

cCRP

CRP is an acute phase protein in serum. There are trace amounts of CRP in normal dog serum,and its concentration begins to increase within 4 to 6 hours after inflammatory infection or tissue trauma, and reaches a peakat 24 to 48 hours. After symptoms resolve, CRP levels quickly return to the normal range. Therefore, CRP can be used to diagnose acuteinflammation and trauma, to monitor the outcome of rehabilitation after surgery or various treatments, and to monitor the recurrence of disease.

Clinical Application

Suspected Inflammation

Determine if there is inflammation and its severity.

Physical Examination

Predict hidden diseases in advance.

Guide Antibiotic Use

Determine if antibiotics need to be used or discontinued.

Postoperative Monitoring

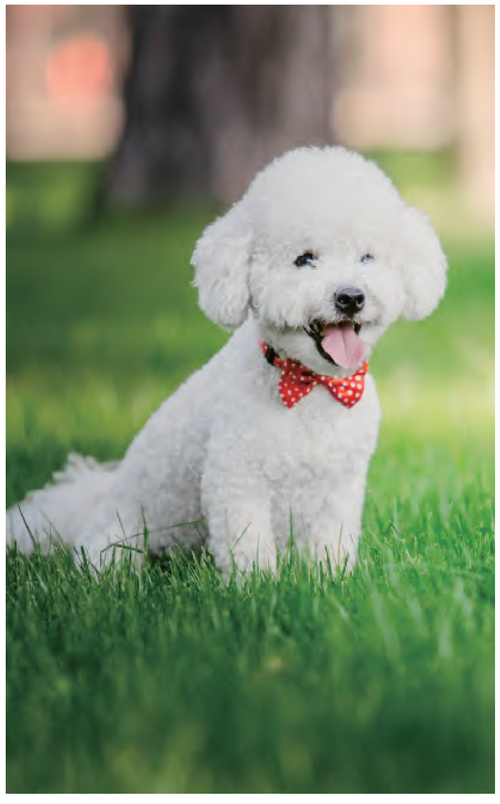
Judge the recovery and evaluate the complications.

Condition Monitoring

Judge the therapeutic effect and adjust the program in time.

Product Parameter

- **suitable animal：Dog**
- **sample type：Whole blood, serum, plasma**
- **sample volume：10μL**
- **testing range：2~250mg/L**
- **testing time：3 mins**
- **4-30°storage, 24 months shelf life**



Common Diseases

- Pyometra
- Endocarditis
- Nasal carcinoma
- Lymphoma
- Respiratory diseases
- Urolithiasis
- Renal failure
- Acute pancreatitis
- Hemangioendothelioma
- Hemorrhage and perforate
- Immune-mediated hemolytic anemia
- Immune-mediated thrombocytopenia
- Acute lymphoblastic leukemialdiopathic arthritis
- Intestinal adenocarcinomaMalignant mesothelioma
- Panniculitis
- Babesiosis
- Myocardial infarction
- Myelodysplastic
- Demodicidosis
- Chronic hepatitiss
- Malignant histiocytosis
- Cholangiocarcinoma

Feline Serum Amyloid A

fSAA

SAA is an acute phase protein secreted by the liver and bound to high-density lipoprotein(HDL) in plasma. SAA concentrations may increase up to 1000-fold when cats are in a state ofinflammation. Therefore, measuring SAA concentrations can be used to detect the presence ofinflammation. In addition, in cats, SAA is not only a marker of inflammation, but also aprognostic marker of various diseases, such as diabetes and hyperthyroidism.

Clinical Application

Suspected Inflammation

Determine if there is inflammation and its severity.

Physical Examination

Predict hidden diseases in advance.

Guide Antibiotic Use

Determine if antibiotics need to be used or discontinued.

Postoperative Monitoring

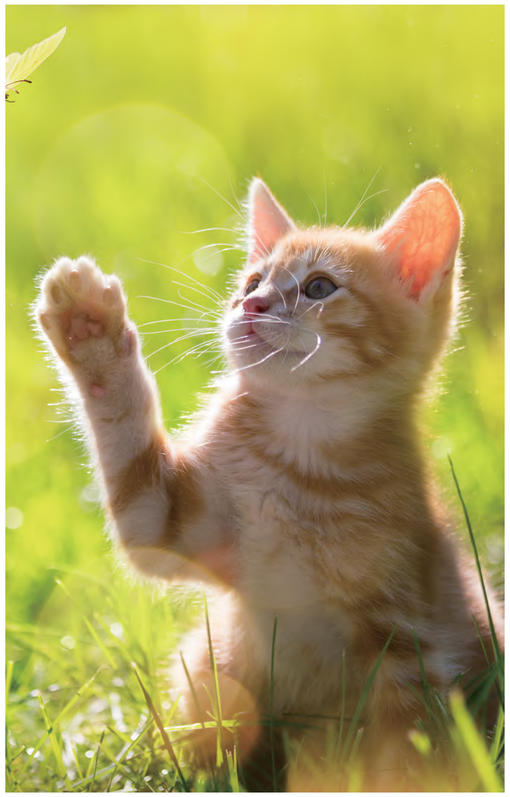
Judge the recovery and evaluate the complications.

Condition Monitoring

Judge the therapeutic effect and adjust the program in time.

Product Parameter

- **suitable animal：Cat**
- **sample type：Whole blood, serum, plasma**
- **sample volume：10μL**
- **testing range：5~300mg/L**
- **testing time：3 mins**
- **4-30°storage, 24 months shelf life**



Common Diseases

- Pyometra
- Diabetes
- Cystitis
- Kidney failure
- Virus infections
- Acute pancreatitis
- Bacterial infection
- Infectious peritonitis
- Malignant mesothelioma
- Squamous cell carcinoma
- Respiratory system diseases
- Hemorrhage and perforate
- Lymph cancer
- Adenocarcinoma
- Urolithiasis
- Cholangitis
- Hyperthyroidism
- Enterogastritis

N-Terminal prototype Brain Natriuretic Peptide

NT-ProBNP & fNT-ProBNP

N-terminal pro-brain natriuretic peptide (NT-proBNP), mainly derived from the ventricle, is a substance released by myocardial tissue when blood pressure and ventricular wall pressurerise. It is mainly used to evaluate myocardial function. Clinically, NT-proBNP is more stable,and higher concentrations are associated with higher heart disease severity.

Clinical Significance

- **Early detection of heart failure**
- **Diagnosis and classification of heart failure**
- **Distinquish heart failurefrom dyspnea causedby other factors**
- **Treatment monitoring and prognosis assessment**

Product Parameter

- **suitable animal：Dog, Cat**
- **sample type：Serum, Plasma**
- **Sample volume：75μL**
- **testing range：5-50000 pg/mL**
- **testing time：15mins**
- **4-30°storage, 24 months shelf life**

Clinical Application

- **Hypertrophic cardiomyopathy (HCM)**
- **Dilated cardiomyopathy (DCM)**
- **Valvular Inadequacy**
- **Congestive Heart Failure (CHF)**
- **Dyspnea**
- **Hypertension**
- **Physical examination for elderly dogs and cats**
- **Hyperthyroidism**

Cardiac Troponin-I

ccTnI & fcTnI

Troponin is a marker of myocardial injury and necrosis, which has important clinical significance for the diagnosis and riskstratification of acute myocardial infarction. Elevatedtroponin value indicates myocardial damage, which can be seen in acute myocardialinfarction, unstable angina, and pulmonary infarction. , heart failure shockand other diseases that cause myocardial damage such as pancreatitis, severe diabeticketoacidosis, connectivetissue diseases, etc. The higher the value, the wider the damage range, and some patients with renal insufficiency may

Product Parameter

- **suitable animal：Dog, Cat**
- **sample type：Serum, Plasma**
- **Sample volume：75μL**
- **testing range：0.1-20 ng/mL**
- **testing time：15mins**
- **4-30°storage, 24 months shelf life**

Clinical Application

Suspected Myocardial Infraction

Toxic Cardiomyopathy

Intensive Care Unit (ICU)

Myocarditis

Congestive Heart Failure (CHF)

Thyroxine &Thyroid Stimulating Hormone

T4 & TSH

Thyroxine affects the function of almost all organs in the body, such as promoting growth and development, regulatingmetabolism of three major nutrients, promoting consumption of oxygen and production of heat, and excitability of thenervous system. Disorder of T4 secretion often causes canine hypothyroidism and feline hyperthyroidism. (Commonlyknown as fat dogs, thin cats)

Clinical Application

Diagnosis of canine hypothyroidism - currently accepted T4 and TSH co-examinations are first-line trialsthat can help identify more than 80% of dogs with primary hypothyroidism;

Diagnosis of cat hyperthyroidism increased T4 and free T4 concentrations in 98% of cats

Continuous monitoring and prognosis of thyroid secretory diseases

Elderly dogs and cat's physical examination (Over 4-6 years old)

Preanesthetic examination

Progesterone

cProg

Canine progesterone is a natural progesterone secreted after the mature corpus luteum of the ovary, which has a significant effect on the morphology of the endometrium in vivo, and is an essential hormone to maintain the pregnancy of female animals.

Clinical Application

- **To determine optimal breeding dates**
- **To predict parturition dates or time a Cesarean section**
- **To detect reproductive disorders such as split heats, delayed puberty, silent estrus or hypoluteidism**
- **Natural breeding : Ideally breed every other day while the female is showing signs of standing heat. If only 2 matings will be performed, attempt to breed 4 and 6 days after the progesterone predicted LH surge.**
- **Fresh or chilled semen : Ideally inseminate 3 and 5 days after the progesterone predicted LH surge.**

Canine/Feline Cortisol

Cortisol

Cortisol is a parahormone produced by the adrenal glands instress response. Cortisol increases blood pressure, blood sugarand immune suppression. High cortisol in dogs and cats cancause Cushing's syndrome while Low cortisol is associated withAddison's syndrome. Diagnosis of canine/feline adrenocorticaldysfunction requires a combination of clinical manifestationsphysical, biochemical and related hormone tests such as ACTHstimulation tests, low - and high-dose dexamethasone inhibitiontests，and even abdominal ultrasound and pathologicalsections.

Clinical Application

- Elderly dogs and cat's physical examination (Over 4-6 years old)
- Diagnosis of Cushing's syndrome
- Diagnosis of Addison syndrome
- Therapeutic surveillance of Cushing's syndrome and Addison's syndrome

Glycated hemoglobin

HbA1c/fHbA1c

Glycated hemoglobin (HbA1c) is a non-enzymatic stable glycosylation product formed byglucose GLU in blood and hemoglobin HGB in red blood cells.Once formed, HbA1c is presentthroughout the life cycle of red blood cells and is proportional to blood glucose concentration.The HbA1c level reflects the average blood sugar level of the dog in the 90 days before the test. It has nothing to do with the blood drawing time, whether the dog is fasting, whether the dog uses insulin or not. It is a good indicator forjudging diabetes and long-term control.

Clinical Application

- Potential diabetes can be detected
- diagnosis of diabetes
- follow-up of diabetes treatment effects
- Necessary checkups before surgery
- Necessary for the health examination of middle-aged and elderly dogs and cats
- argeting high prevalence groups of diabetes (obese dogs and cats, untied females, tied male cats)

D-Dimer

D-Dimer is a specific degradation product of cross-linked fibrin under the action of plasmin.The content of D-Dimer in normal body plasma is very low. Its increase indicates that fibrinthrombosis and fibrinolysis have occurred in the body.As one of the molecular markers ofhypercoagulability and hyperfibrinolysis in vivo. D-dimer is a sensitive indicator of DIC (disseminated intravascular coagulation) and a marker of systemic thrombosis (such aspulmonary embolism), and its elevation has diagnostic significance for DIC and systemic thrombosis. In addition D-dimer is also a marker of hypercoagulable states such as tumors and heart disease.

Clinical Application

- Diagnosis of arterial thrombosis
- Pulmonary Embolism (PE)
- Deep Venous Thrombosis (DVT)
- Severe inflammation
- Postoperative & preoperative examination
- Disseminated Intravascular Coagulation (DIC)

Cystatin C

cCys-C & fCys-C

Cystatin C, a protein belonging to the cystatin protease inhibitor family, is produced at aconstant rate by all nucleated cells and is an ideal endogenous marker whose concentrationin blood is almost entirely dependent on GFR. It is freely filtered by thekidneys and brokendown after absorption in the proximal tubule;in fact, it does not return to the blood unless the proximal tubule is injured. In nephrology, this endoge□nous substance is seen as a marker of renal excretory function and is more sensitive than creatinine.

Clinical Application

- Screening for early canine chronic kidney disease
- Check renal function before anesthesia
- Clinical diagnosis of renal disease
- Detection of nephrotoxic diseases
- Assessment of renal failure in combination with blood biochemistry

Pancreas-specific Lipase

cPL

Canine acute pancreatitis is often a life-threatening sudden and serious condition, but early diagnosis and treatment are not easy because the diagnosis is challenging and symptoms are not specific. cPL is considered to be the most specific enzyme that increases in dogs with pancreatitis and measurement of cPL is highly sensitive for a diagnosis of pancreatitis. Also cPL is little affected by other drugs or digestive disorders, thus it is useful for early diagnosis of pancreatitis. Continuous quantitative measurement also helps assess the treatment response of pancreatitis and secondary damage to pancreas caused by other digestive diseases.

Clinical Application

●Clinical signs of acute pancreatitis: abdominal pain, anorexia, vomiting, dehydration, etc.

●Treatment: when considering fluid therapy, analgesics, antiemetics, and antibiotics, etc.

●A specific enzyme released only from pancreas that enables early diagnosis of acute pancreatitis.

●To monitor the treatment response by continual testing

●To assess the secondary damage to pancreas in case of other digestive diseases such as cholecystitis or enteritis, etc.

●To evaluate the prognosis by measuring CRP simultaneously.

fPL

It is more difficult to diagnose feline pancreatitis with routine clinical chemistry tests or diagnostic imaging because the sensitivities and specificities of these diagnostic methods are low. fPL is a pancreas-specific lipase that increases in pancreatitis. Measurement of fPL has the highest sensitivity and likely the highest specificity and is the only reliable test for pancreatitis currently available in cats. Also, It helps to evaluate treatment response by continuous measurement.

Clinical Application

●Nonspecific clinical signs of pancreatitis: poor or absent appetite, lethargy, weight loss, dehydration, and diarrhea

● Feline pancreas-specific lipase test correlates very well with pancreatic inflammation

●The best overall sensitivity and specificity compared to other serum markers

●To diagnose and rule out feline pancreatitis

●Time-course monitoring of pancreatitis in cats during recovery

● To assess the secondary damage to pancreas in case of other digestive disease such as cholecystitis or enteritis, etc.

Antibodies

Vaccination is one of the effective ways to prevent infectious diseases in pets.Vaccination can not only reduce the susceptibility to infectious diseases, but also improve the specific resistance of pets to infectious diseases. The success of immunization depends not only on thequality of vaccination, the route of vaccination, maternal antibodies and immunization procedures and other external conditions, but also on the internal factor of the body's immune response ability, so regular antibody determination is beneficial toKeeping pets in a healthy state can also effectively prevent over-immunity.

Clinical Application

- Before and after reimmunization
- Before and after primary immunization
- Diagnosis and treatment period
- Operation period
- Physical examination

Parameters

- FHV/FCAV/FPV Ab
- CDV/CPV/ICH Ab
- RV Ab
- TOXO Ab
- FPV Ab
- FHV Ab
- FCAV Ab
- CDV Ab
- CPV Ab

Infections

Immunofluorescence detection products suitable for in vitroquantitative detection of virus content in dog and cat samples. It can be used for epidemiological investigations of dog and cat infectious diseases, detection of dog and cat infectious diseases, etc., and feedbackaccurate disease information of animals for timelyprevention or treatment.

Specification

- **Read the results within 10 minutes.**
- **Reading the RAPID test results visually can lead to ambiguous interpretation, especially for samples that have low levels of analyte. With Healvet analyzer, a more precise and objective result is produced for better diagnosis.**

Parameters

- CDV Ag
- CPV Ag
- CCV Ag
- CPV/CCV Ag
- FPV Ag
- FCoV Ag
- FHV Ag
- FCAV Ag

Canine prostate-specific esterase

CPSE

1. The CPSE product is a major androgen dependence of canine prostatic secretion. CPSE contains more than 90% of the protein in prostate fluid, and exist in seminal plasma and blood.
2. Research has shown that people with a variety of prostate disease of dogs CPSE is higher. The serum concentration of CPSE increases when prostatic cells proliferate. It has high specificity and can be used for the early diagnosis of benign prostatic hyperplasia (BPH) in dogs.

Clinical symptoms

• Screening for early benign prostatic hyperplasia (BPH) in dogs can assist in the diagnosis of canine prostate disease.
• Physical examination of breeding male dogs and screening of healthy dogs.
• Monitoring the therapeutic effect of dogs with confirmed disease.
• Pet with frequent urination, urgent urination, hematuria, urinary retention and other symptoms, resulting in urinary system infection, prostate function test was performed to evaluate pet prostate function and reproductive health.

Canine alpha-fetoprotein

AFP

AFP is a protein that the liver makes when its cells are growing and dividing to make new cells. AFP is normally high in unborn puppies. After birth, AFP levels drop very low. Healthy puppies and adults Dog who aren't pregnant have very little AFP in their blood.
An AFP tumor marker test is a blood test that measures the level of AFP (alpha-fetoprotein) in a sample of your blood. It's usually used to help diagnose certain types of cancer and to check how well treatment is working.

Clinical symptoms

- **Auxiliary diagnosis of liver cancer in dogs**
- **Screening for acute and chronic hepatitis or cirrhosis in dogs**
- **Monitoring the curative effect of surgical treatment of liver cancer, evaluating the therapeutic effect, and checking whether the cancer recurred**
- **Physical examination of elderly dogs**

Diagnosis

1. Blood biochemical tests
2. Imaging studies
3. Liver biopsy
4. Detection of serum markers of liver cancer: alpha-fetoprotein (cAFP) Hepatitis, cholangitis and other related liver diseases have a transient increase in AFP, which usually lasts for 2-3 weeks. However, neoplastic diseases and cancer were continuously elevated and at a high level. The risk of liver cancer is higher if the dog has chronic hepatitis or cirrhosis. A very high or sudden increase in alpha-fetoprotein levels may be an early signal of HCC.

Helicobacter Pylori

HP

Helicobacter pylori infection of gastric mucosa is the main cause of gastritis, gastric ulcer, adenocarcinoma and lymphoproliferative diseases. The toxins and toxic enzymes produced can destroy the gastric mucosal barrier, cause inflammation and immune responses in the body, increase the secretion of gastrin, and eventually lead to a series of diseases.

Clinical symptoms

• Gastrointestinal symptoms

Indigestion, long-term loss of appetite, acid reflux, vomiting, etc.

•Oral symptoms

Bad breath, periodontitis, thickened tongue coating, dry oral mucosa

•Other

Tired easily, prone to lying down, not active, etc.

Remark

•Pets and people can infect each other, and the homology rate of HP isolated from pet owners and dogs and cats can be as high as 100%, which confirms that HP can be transmitted between pet owners and pets.

•Once infected with HP, it is permanently carried without drug treatment! HP cannot be eradicated only by changing eating habits and eating some health foods. It must be eradicated by regular medication, and there is a possibility of recurrence after eradication.

•The infection rate of Helicobacter pylori in humans and pets exceeds 50%.

•The incidence rate after infection with HP is about 10%, indicating that although the probability of infection with HP is high, it does not necessarily have clinical symptoms, or only very mild symptoms that are not easy to be detected. Because of this, we need to check whether pets are infected with HP, treat and eradicate them as soon as possible, and reduce the possibility of pets infecting humans.

Equine Serum Amyloid A

eSAA

Equine SAA test kit is an in vitro diagnostic test kit for the quantitative measurement of Serum Amyloid A (SAA) concentration in equine serum and plasma. In the case of normal horses, the concentration of SAA is very low in their serum and plasma, but it increases rapidly when a pathological phenomenon occurs such as infection, tissue damage or inflammatory disorder.

Clinical Application

- **Monitoring post-operative effects and recovery after surgery**
- **Measuring the inflammation response to treatment**

SpecificClinical Application

SAA concentration increases in response to a number of clinical conditions in horses, such as sepsis, viral infections, arthritis, gastrointestinal and reproductive disease. Its measurement is also useful for the ongoing monitoring of treatment response.

Infection

- Bacterial: Sepsis, abscesses, strangles
- Vira: Equine herpesvirus-1 (EHV-1), Equine influenza virus (EIV)

Gastrointestinal disease

- Diarrhea and enteritis (foal)
- Colic (adult horse)

Joint disease

- Aseptic arthritis
- Infectious arthritis

Reproductive disease

- Septic abortion
- Abortion of unknown aetiology

Foal IgG

Neonatal foals are born without antibodies and are unable to produce their own immunoglobulin G (IgG) initially. If a foal fails to consume an adequate amount of high-quality colostrum within 24 hours, its IgG levels will be low, increasing the risk of severe infections. Foal IgG test gives fast, accurate results in just minutes—enabling you to detect low levels of IgG and begin life-saving treatment immediately.

Clinical Application

- **Assessing immune levels of neonatal foals**
- **Evaluate the quality of the mare’ s colostrum after foaling**
- **Monitor the immune level serially**

Equine Progesterone

eProg

Progesterone plays a crucial role in the maintenance of pregnancy until 120 days of gestation when the placenta becomes the primary maintainer. In non-pregnant mares, progesterone can also be used in tracking heat cycles and hormone influxes. Equine progesterone is an in vitro diagnostic test kit for the quantitative measurement of equine progesterone in serum or plasma, providing fast and precise results.

Clinical Application

- **To predict estrus cycles in mares**
- **To predict progesterone levels in mares**
- **To track heat cycles**
- **To monitor and manage behavior**