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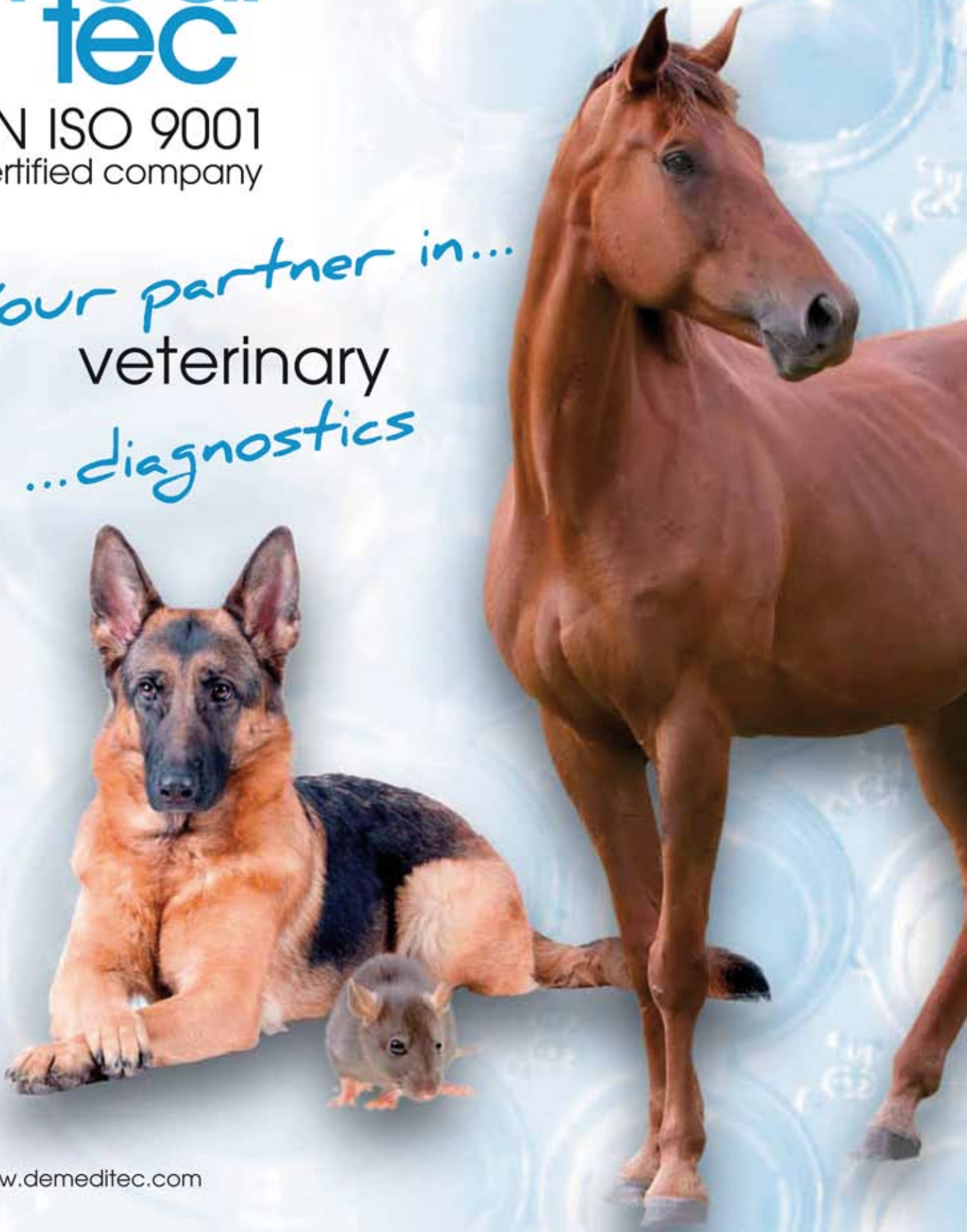
Your partner in...

veterinary

...diagnostics



www.demeditec.com

Demeditec Diagnostics GmbH is a private company located in northern Germany. Since the foundation in 1987 Demeditec has rapidly grown to become a successful and reliable manufacturer and supplier of in-vitro diagnostic test kits. Currently we are happy to present an extensive product panel of non-radioactive (ELISA, PCR and lateral flow rapid tests) and radioactive (RIA) test-systems.

Our top-selling products are covering the fields of Veterinary Diagnostics, Endocrinology (in particular Salivary Diagnostics), Infectious Disease, Autoimmunity, Allergy and Tumor Markers.

Demeditec is giving special attention to the upcoming innovations in diagnostic area. In this field we are offering testkits for detecting salivary hormones and Food Intolerances.

Our customers are located worldwide. These mainly are private laboratories, hospitals, universities as well as other research institutions and pharmaceutical companies.

To ensure the quality of our products, services and support, Demeditec has been certified for EN ISO 9001 and EN ISO 13485 since 2003. This especially brings benefits during developments of innovative test kits in our R&D department.

Dr. Arndt Stüber
General Manager

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Introduction

Dear partner,

by specializing and expanding our veterinary product range, we are able to supply new kinds of customer groups and establish our enzyme-immunoassays in numerous veterinary laboratories and pharmaceutical companies.

With this product brochure we'd like to introduce our top-selling veterinary assays to you!

Testosterone rat/mouse ELISA

Cat.-No.: DEV9911

The DEMEDITEC Testosterone rat/mouse ELISA is a competitive immunoassay for the quantitative measurement of testosterone in rat and mouse serum or plasma.

Technology	ELISA
Kit size	96
Sample material	rat/mouse serum or plasma
Sample preparation	-
Sample volume	10 µl
Standard range	0.1 - 25 ng/ml
Incubation	60 min (shaking), 30 min
Measuring system	TMB 450 nm
Sensitivity	0.066 ng/ml

Testosterone is a steroid hormone from the androgen group synthesized by the Leydig cells in the testes in males, the ovaries in females, and adrenal glands in both sexes. It exerts a wideranging influence over sexual behaviour, muscle mass and strength, energy, cardiovascular health and bone integrity.

Testosterone biosynthesis coincides with the spermatogenesis and fetal Leydig cell differentiation in the male rat. Several in vivo models including hormone-suppression, hormone-restoration and hypophysectomy were established for the study of the hormonal regulation of spermatogenesis by testosterone.

In the Brown Norway rat, serum testosterone levels decrease with aging, accompanied by increases in serum FSH. The capacity of Leydig cells to produce testosterone is higher in young than in old rats. Testosterone secreted during late gestational and neonatal periods causes significant brain sexual dimorphism in the rat. This results in both sex-specific behaviour and endocrinology in adults.

Analyses concerning the regulation of synthesis reveal that testosterone is able to regulate its own synthesis and indicate that this autoregulation is the result of rapid, specific inhibition by testosterone of 17 alpha-hydroxylase activity.

PLEASE NOTE:
According to the respective ELISA a **Rat control-kit (Cat. No. DEV99RC)** is available and can be used for internal quality control.

Corticosterone rat/mouse ELISA

Cat.-No.: DEV9922

The DEMEDITEC Corticosterone rat/mouse ELISA is a competitive immunoassay for the quantitative measurement of corticosterone in rat or mouse serum and plasma.

Technology	ELISA
Kit size	96
Sample material	rat/mouse serum or plasma
Sample preparation	-
Sample volume	10 µl
Standard range	15 – 2250 ng/ml
Incubation	2 h, 30 min at RT
Measuring system	TMB 450 nm
Sensitivity	4.1 ng/ml

Corticosterone is the principle glucocorticoid secreted by the adrenal cortices of mice and rats. Secretion of corticosterone in these species is modulated by a complex negative feedback mechanism involving the central nervous system, hypothalamus, pituitary, and adrenals.

ACTH released from the pituitary augments adrenal secretion of corticosterone while falling levels of corticosterone are associated with rising levels of ACTH. In both mice and rats there is a circadian rhythm of corticosterone release with the highest concentrations being observed between 1600 and 2200 hours in a normal laboratory environment.

Corticosterone measurements are a useful index of general and neuroendocrine response to the stress of laboratory experiments in mice and rats. Thus corticosterone concentrations rise sharply in healthy, intact animals following exposure to experimental stimuli such as drugs, barometric shock, experimental disease state, or abrupt temperature shifts, and may serve to document the neuroendocrine and endocrine integrity of the preparation while observations are being made.

PLEASE NOTE:

According to the respective ELISA a **Rat control-kit (Cat. No. DEV99RC)** is available and can be used for internal quality control.

Prolactin rat ELISA

Cat.-No.: DEV9966

The DEMEDITEC Prolactin rat ELISA is an enzyme-immunoassay for the quantitative measurement of rat prolactin in serum.

Technology	ELISA
Kit size	96
Sample material	rat serum
Sample preparation	-
Sample volume	25 µl
Standard range	5 - 80 ng/ml
Incubation	2 h (shaking), 1 h (shaking), 30 min at RT
Measuring system	TMB 450 nm
Sensitivity	0.6 ng/ml

Rat prolactin (rPRL) is a single-chain polypeptide hormone of the rat anterior pituitary with a molecule mass of approximately 23,000. Prolactin from different species exhibits significant variations in the amino acid sequence. Rat prolactin differs from human prolactin at about 50 percent of all residues.

The secretion of rPRL from the pituitary is inhibited by hypothalamic prolactin-inhibitory factor (PIF). Although dopamine was long thought to be this PIF molecule, today it seems that there is a special peptide with prolactin-inhibiting activities.

The release of prolactin is certainly stimulated by different peptides, particularly thyrotropin releasing hormone (TRH) and vasoactive intestinal peptide (VIP). There is also evidence that rat posterior pituitary lobe contains a special prolactin releasing hormone.

The most important role of prolactin is stimulation of mammary gland growth and lactation. During pregnancy, blood prolactin levels climb, but the increases can differ enormously between rats. High prolactin levels are observed during lactation. Prolactin has a wide variety of other physiological actions, for example on the ovary. In the rat, prolactin has a luteotrophic effect which is not seen in many other species. Furthermore, prolactin is a stress hormone.

In rats, as in humans, prolactin exhibits a sleep-related diurnal variation. Peak values are seen in the late afternoon and nadir values in the morning.

Because of the variety of its actions, prolactin is one of the preferred hormones to monitor when testing the influence of new therapeutic agents and drugs on the endocrine system in the rat.

PLEASE NOTE:

According to the respective ELISA a **Rat control-kit (Cat.-No. DEV99RC)** is available and can be used for internal quality control.

TSH rat ELISA

Cat.-No.: DEV9977

The DEMEDITEC TSH rat ELISA is an enzyme-immunoassay for the quantitative measurement of rat TSH in serum.

Technology	ELISA
Kit size	96
Sample material	rat serum
Sample preparation	-
Sample volume	25 µl
Standard range	2.5 – 80 ng/ml
Incubation	overnight (4°C) – 30 min at RT
Measuring system	TMB 450 nm
Sensitivity	0.1 ng/ml

Thyroid stimulating hormone (also known as thyrotropin or TSH) is a glycoprotein produced by the anterior pituitary gland. Through its action on the thyroid gland, it plays a major role in maintaining normal circulating levels of the iodothyronines, T4 and T3. The production and secretion of TSH is controlled on the one side by negative feedback from circulating T4 and T3, and on the other side by the hypothalamic thyrotropin-releasing hormone (TRH).

The TSH molecule is composed of two non-identical subunits, α and β, that are bound together in a noncovalent manner. Within a species, the TSH α unit is structurally identical to the α subunits of related glycoprotein hormones (LH, FSH). The β subunits of the related hormones are structurally hormone-specific and therefore determine their unique biological activities.

The mechanism controlling thyroid function in rats is exactly analogous to the mechanism operating in humans. This means that thyrotropin-releasing hormone stimulates the release of TSH from the pituitary gland as well as the serum concentrations of T4 and T3 influence the action of the pituitary gland.

This similarity between rat and human thyroid physiology makes the rat a very useful model for evaluating the effects of new drugs on thyrometabolic status.

PLEASE NOTE:

According to the respective ELISA a **Rat control-kit (Cat. No. DEV99RC)** is available and can be used for internal quality control.

Prolactin canine ELISA

Cat.-No.: DEV9944

The DEMEDITEC Prolactin canine ELISA is an enzyme immunoassay for the quantitative measurement of canine prolactin in serum.

Technology	ELISA
Kit size	96
Sample material	canine serum
Sample preparation	-
Sample volume	25 µl
Standard range	2.5 - 80 ng/ml
Incubation	2 h (shaking), 1 h (shaking), 30 min at RT
Measuring system	TMB 450 nm
Sensitivity	0.4 ng/ml

Canine prolactin (cPRL) is a single-chain polypeptide hormone of the canine anterior pituitary with a molecular mass of approx. 22,000. Prolactin from different species exhibits significant variations in the amino acid sequence. Canine prolactin differs from human prolactin at about 60 percent of all residues.

The secretion of cPRL from the pituitary is inhibited by hypothalamic prolactin-inhibitory factor (PIF). Although dopamine was long thought to be this PIF molecule, today it seems that there is a special peptide with prolactin-inhibiting activities. The release of prolactin is certainly stimulated by different peptides, particularly thyrotropin releasing hormone (TRH) and vasocative intestinal peptide (VIP). Estrogens and progesterone also seem to play a role in the secretion of prolactin, and neurogenic factors influence its release. Milking and suckling are immediately followed by an increase in serum cPRL.

The most important role of prolactin is stimulation of mammary gland growth and lactation. During pregnancy, prolactin levels in canine blood increase slightly; during lactation, significantly. Prolactin has a wide variety of other physiological actions. It affects water and electrolyte balance, metabolism and gonadal function; is an important stress hormone; and seems to play a role in the maintenance of the long interestrous interval in the bitch.

In dogs with pituitary-depent hyperadrenocorticism, prolactin levels in blood were higher than in healthy animals. Prolactin determinations can be used in the therapeutic control of hyperprolactinemia. During a pseudo pregnancy, prolactin is increased. Therapy with alkaloids like bromocriptine lowers PRL levels, and lactation and maternal behaviour are decreased.

The secretory capacity of the pituitary can be tested with the TRH stimulation test.

PLEASE NOTE:

According to the respective ELISA a **Prolactin canine Control (Cat.-No. DEV9944C)** is available und can be used for internal quality control.

TSH canine ELISA

Cat.-No.: DEV9955

The DEMEDITEC TSH canine ELISA is an enzyme immunoassay for the quantitative measurement of canine TSH (thyrotropin) in serum or plasma.

Technology	ELISA
Kit size	96
Sample material	canine serum or plasma
Sample preparation	-
Sample volume	100 µl
Standard range	0.2 - 5.2 ng/ml
Incubation	2 h (skaking), 30 min at RT
Measuring system	TMB 450 nm
Sensitivity	0.01 ng/ml

Thyroid stimulating hormone (TSH, thyrotropin) in dogs is similar in function to TSH found in other mammalian species, including humans. It is a glycoprotein produced by the anterior pituitary gland. Through its action on the thyroid gland, it plays a major role in maintaining normal circulating levels of the iodothyronines, T4 and T3. The production and secretion of TSH is controlled by negative feedback from circulating T4 and T3, and by the hypothalamic hormone TRH (thyrotropin releasing hormone). The TSH molecule is composed of two nonidentical subunits, a and b, that are bound together in a noncovalent manner. Within a species, the TSH a subunit is structurally identical to the a subunits of the related glycoprotein hormones (LH, FSH and chorionic gonadotropin). The b subunit of TSH and the b subunits of the related hormones are structurally hormone-specific, and confer upon them their unique biological activities.

Hypothyroidism is considered to be a common endocrine disorder in dogs, whereas hyperthyroidism in this species is nearly unknown. Most cases of canine hypothyroidism are primary in nature, involving impaired production of the thyroid hormones, T4 and T3. In this condition, elevated TSH levels are expected. Secondary or tertiary hypothyroidism, where thyroid hormone production is low as a consequence of hypothalamic or pituitary disease, is believed to account for less than 5% of canine hypothyroidism cases. In the latter conditions, lowered levels of TSH would be expected. Usually, hypothyroidism in dogs is suspected on the basis of clinical history and the presence of lowered levels of thyroid hormones. However, suppressed thyroid hormone levels are nonspecific indicators of the disease, since they are often observed in nonthyroid illnesses. The evaluation of thyroid function and the diagnosis of hypothyroidism in dogs can be greatly improved through the use of the valid assay for the determination of canine TSH.

Estrone-3-Sulfate equine ELISA

Cat.-No.: DEV9933

The DEMEDITEC Estrone-3-Sulfate equine ELISA is a competitive enzyme immunoassay for the quantitative measurement of estrone-3-sulfate in mare serum.

Technology	ELISA
Kit size	96
Sample material	mare serum
Sample preparation	-
Sample volume	20 µl
Standard range	5 - 1000 ng/ml
Incubation	1 h (shaking), 30 min (shaking), 30 min at RT
Measuring system	TMB 450 nm
Sensitivity	0.14 ng/ml

Estrone-3-Sulfate (E3S) is the predominant conjugated estrogen during pregnancy. It is produced by the fetus, possibly in association with the endometrium in the pregnant mare.

Different hormones are important for the complex events that occur during pregnancy in all mammals. In the mare these events include the maintenance of the corpus luteum function, formation of endometrial cups and development of secundary corpora lutea. Progesterone and PMSG (Pregnant Mare Serum Gonadotropine, eCG) and also free Estrogens, e.g. Estrone, are associated with these processes. It has been shown, that Estrone is rapidly conjugated after secretion and the ratio between conjugated and unconjugated estrogens is 100:1 in mare serum.

The conjugated estrogenes, especially Estrone-3-sulfate, provide the opportunity to improve the accuracy of pregnancy diagnosis, to monitor the pregnancy and to distinguish whether the fetal development is normal or impaired. The diagnosis of embryonic death is usually made by using techniques of palpation of the uterus per rectum or ultrasound echography. The determination of Estrone-3-sulfate is an aid in the non-invasive diagnosis which allows a monitoring of the feto-placental unit during pregnancy. Only in mares with normal fetal development the values of Estrone-3-sulfate show a tremendous increase between day 75 and 100 of gestation.

PLEASE NOTE:

According to the respective ELISA an **Estrone-3-Sulfate equine Control (Cat.-No. DEV9933C)** is available and can be used for internal quality control.

Controls

Estrone-3-Sulfate equine Control

Cat.-No. DEV9933C

Suitable for internal control quality of the following ELISA:
DEV9933 Estrone-3-Sulfate equine

Components	Content
Canine Prolactin Control 1/2: Two levels of prolactin in canine serum	1 Set 2 vials à 1 ml

Prolactin canine Control

Cat.-No. DEV9944C

Suitable for internal control quality of the following ELISA:
DEV9944 Prolactin canine

Components	Content
Canine Prolactin Control 1/2: Two levels of prolactin in canine serum	1 Set 2 vials à 1 ml

Rat control-kit

Cat. No. DEV99RC

Rat control sera suitable for internal control quality of the following ELISAs:
DEV9911 Testosterone rat / mouse
DEV9922 Corticosterone rat / mouse
DEV9966 Prolactin rat
DEV9977 TSH rat

Components	Content
Rat Control 1/2: Two levels of Testosterone, Prolactin, Corticosterone and TSH in rat serum	1 Set 2 vials à 1 ml

Overview

Product / Specification	Testosterone rat/mouse DEV9911	Corticosterone rat/mouse DEV9922	Estrone-3-sulfate equine DEV9933	Prolactin canine DEV9944
Technology	ELISA	ELISA	ELISA	ELISA
Determinations	96	96	96	96
Sample material	serum, plasma	serum, plasma	serum	serum
Sample preparation	none	none	none	none
Sample volume	10 µl	10 µl	20 µl	25 µl
Standard range	0.1 - 25 ng/ml	15 - 2250 ng/ml	5 - 1000 ng/ml	2.5 - 80 ng/ml
Incubation	60 min, 30 min	2 h, 30 min	1h, 30 min, 30 min	2 h, 1 h, 30 min
Measuring system	TMB 450 nm	TMB 450 nm	TMB 450 nm	TMB 450 nm
Sensitivity	0.066 ng/ml	4.1 ng/ml	0.14 ng/ml	0.4 ng/ml
„Control available“	yes	yes	yes	yes

Product / Specification	TSH canine DEV9955	Prolactin rat DEV9966	TSH rat DEV9977
Technology	ELISA	ELISA	ELISA
Determinations	96	96	96
Sample material	serum, plasma	serum	serum
Sample preparation	none	none	none
Sample volume	100 µl	25 µl	25 µl
Standard range	0.2 - 5.2 ng/ml	5 - 80 ng/ml	2.5 – 80 ng/ml
Incubation	2 h, 30 min	2 h, 1 h, 30 min	overnight – 30 min
Measuring system	TMB 450 nm	TMB 450 nm	TMB 450 nm
Sensitivity	0.01 ng/ml	0.6 ng/ml	0.1 ng/ml
„Control available“	no	yes	yes

Selection of some ELISAs

Species / Analyte	Cat.-No.	Species / Analyte	Cat.-No.
Rat :		**Mouse :**	
Angiotensinogen rat	JP27414	Adiponectin mouse	DEE091M
Adiponectin rat	DEE091R	Angiopoietin-like 3 mouse	JP27410
Corticosterone rat/mouse	DEV9922	Angiotensinogen mouse	JP27413
COX-2 rat	JP27187	Corticosterone rat/mouse	DEV9922
CRP rat	DE951CRP01R	CRP mouse	DE971CRP01M
Cystatin C rat	DE391009200R	IGFBP-3 mouse	DEE031
Endothelin-1 (Big) rat	JP27168	IGF-I mouse	DEE025
GRO/CINC-1 (IL-8) rat	JP27162	IL-1ß mouse	DE3379
GRO/CINC-2 alpha rat	JP17170	IL-2 mouse	DE3163
GRO/CINC-2 beta rat	JP17166	IL-3 mouse	DE3383
GRO/CINC-3 rat	JP27163	IL-4 mouse	DE3384
IGFBP-3 rat	DEE031	IL-5 mouse	DE3396
IGF-I rat	DEE025	IL-6 mouse	DE3386
IL-1 alpha rat	DE3281	IL-10 mouse	DE3380
IL-1β rat	DE4911	IL-12 mouse	DE4920
IL-2 rat	DE5177	IL-12 p70 mouse	DE4842
IL-6 (Native Form)	JP27197	Insulin mouse	DE3439
IL-6 rat	DE4845	Insulin ultrasensitive mouse	DE3440
IL-10 rat	DE4773	KC (IL-8) mouse	JP27137
IL-12 p70 rat	DE4001	Leptin mouse	JP27160
IL-13 rat	DE3391	MCP-1 mouse	DE5091
IL-18 rat	DE4002	MIP-2 (IL-8) mouse	JP27138
INF-gamma rat	DE4582	Osteocalcin mouse	DEBT470
Insulin ultrasensitive rat	DE2943	Osteopontin mouse	JP27351
Insulin high range rat	DE3985	Osteopontin N-half mouse	JP27259
Leptin rat	JP27295	Resistin mouse	DE4554
MIP-2 rat	DE3789	Testosterone rat/mouse	DEV9911
MCP-1 rat	JP17176	TNF alpha mouse	DE3167
Osteocalcin rat	DEBT490	**Canine:**	
Osteopontin rat	JP27360	Borellia burgdorferi Ab	DE4794
Prolactin rat	DEV9966	CAV (Canine Adeno Virus) Ab	DE2480
Rat control-kit	DEV99RC	CCV (Corona Virus) IgG / IgM Ab	DE2482 / DE2483
Resistin rat	DE4550	CDV (Distemper Virus) IgG/IgM Ab	DE2478 / DE2479
Testosterone rat/mouse	DEV9911	CHV (Herpes Virus) IgG Ab	DE2481
TNF alpha rat	JP27194	CPV (Parvo Virus) IgG / IgM Ab	DE2475 / DE2476
TSH rat	DEV9977	CRP canine	DE931CRP01D
VEGF rat	JP27101	Heartworm antigen canine	DE4795
Porcine:		Insulin canine	DE4749
IL1ß porcine	DE3181	Leishmania Ab canine	DE4796
IL-4 porcine	DE4091	Prolactin canine	DEV9944
IL-6 porcine	DE1869	Prolactin canine control	DEV9944C
IL-8 porcine	DE3183	Rabies Virus IgG / IgM Ab (Dogs)	DE2486 / DE2487
IL-10 porcine	DE3185	T4 total canine	DE2492
INF-gamma porcine	DE4828	TSH canine	DEV9955
Insulin porcine	DE4747	**Feline:**	
TNF alpha porcine	DE3187	FCoV (Feline Corona Virus)	DE2468
Trichinella spiralis Ab (pig)	DE4838	FeLV-p27 (Leukaemia Virus) Ag	DE2469
Equine:		FHV (Feline Herpes Virus) Ab	DE2472
Estrone-3-Sulfate equine	DEV9933	FPV (Feline Parvovirus) antibodies	DE2467
Estrone-3-Sulfate equine contr.	DEV9933C	Insulin feline	DE4919
PMSG equine	DE1298	T4 total feline	DE3442

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