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BIOGENIC AMINES & NEUROSCIENCE | ENDOCRINOLOGY | FOOD SAFETY



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CATECHOLAMINES

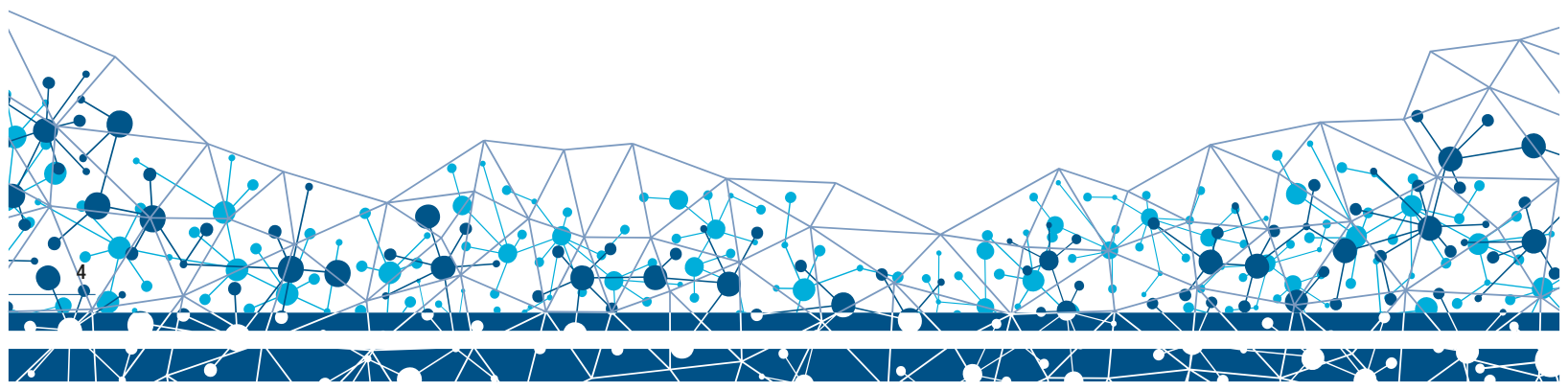
Epinephrine (adrenaline), norepinephrine (noradrenaline) together with dopamine constitute the group of catecholamines, which play an important role as hormones and neurotransmitters. After they have exerted their effects, the catecholamines are broken down via intermediate products (metanephrine, normetanephrine, 3-methoxytyramine respectively) and finally excreted in urine. Diseases which are associated with altered levels of catecholamines include hypertonia, degenerative heart diseases, and catecholamine-producing tumors (pheochromocytoma, neuroblastoma, ganglioneuroma). Of these, pheochromocytoma has the greatest significance. Around 10% of all pheochromocytomas show malignant growth and an unidentified pheochromocytoma poses a serious health risk to the patient. The determination of catecholamines is therefore essential in patients with suspected pheochromocytoma.

CUSTOMIZED ASSAYS FOR EACH KIND OF APPLICATION

- SERIAL 6000, SAMPLE MATRIX: PLASMA AND/OR URINE (ELISA OR RIA)
- SERIAL 5000, SAMPLE MATRIX: ANY BIOLOGICAL SAMPLE (RESEARCH ASSAYS; ELISA)

ADVANTAGES

- Flexible test systems for plasma, urine and other biological fluids
- Fast Track formats reduce incubation times
- Freedom from drug interferences
- Elegant and efficient extraction method
- The IVD assays are quality produced according to ISO 13485
- Excellent sensitivity / specificity
- The research assays (serial 5000) can be used with almost any biological fluid, including tissue homogenates and micro-dialysates
- 15 week shelf life on RIA's (higher counts lead to better signals)



CATECHOLAMINES IN PLASMA AND URINE *ELISA*

ADRENALINE ELISA FAST TRACK

CATALOG NO.: BA E-6100
DETERMINATIONS: 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of adrenaline (epinephrine) in plasma and urine
STANDARD RANGE: 0/1 – 200 ng/ml
SENSITIVITY: 0.9 ng/ml urine, 10 pg/ml plasma
SAMPLE VOLUME: 10 µl urine, 300 µl plasma

NORADRENALINE ELISA FAST TRACK

CATALOG NO.: BA E-6200
DETERMINATIONS: 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of noradrenaline (norepinephrine) in plasma and urine
STANDARD RANGE: 0/5 – 1000 ng/ml
SENSITIVITY: 1.7 ng/ml urine, 36 pg/ml plasma
SAMPLE VOLUME: 10 µl urine, 300 µl plasma

DOPAMINE ELISA FAST TRACK

CATALOG NO.: BA E-6300
DETERMINATIONS: 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of dopamine in plasma and urine
STANDARD RANGE: 0/4.5 – 2000 ng/ml
SENSITIVITY: 2.5 ng/ml urine, 49 pg/ml plasma
SAMPLE VOLUME: 10 µl urine, 300 µl plasma

2-CAT ELISA FAST TRACK

CATALOG NO.: BA E-6500
DETERMINATIONS: 2 × 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of adrenaline (epinephrine) and noradrenaline (norepinephrine) in plasma and urine
STANDARD RANGE: Adrenaline 0/1 – 200 ng/ml; Noradrenaline 0/5 – 1000 ng/ml
SENSITIVITY: Adrenaline: 0.9 ng/ml urine, 10 pg/ml plasma; Noradrenaline: 1.7 ng/ml urine, 36 pg/ml plasma
SAMPLE VOLUME: 10 µl urine, 300 µl plasma

3-CAT ELISA FAST TRACK

CATALOG NO.: BA E-6600
DETERMINATIONS: 3 × 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of adrenaline (epinephrine), noradrenaline (norepinephrine), and dopamine in plasma and urine
STANDARD RANGE: Adrenaline 0/1 – 200 ng/ml; Noradrenaline 0/5 – 1000 ng/ml; Dopamine 0/4.5 – 2000 ng/ml
SENSITIVITY: Adrenaline: 0.9 ng/ml urine, 10 pg/ml plasma; Noradrenaline: 1.7 ng/ml urine, 36 pg/ml plasma; Dopamine: 2.5 ng/ml urine, 49 pg/ml plasma
SAMPLE VOLUME: 10 µl urine, 300 µl plasma

CATECHOLAMINES IN PLASMA AND URINE *RIA*

2-CAT RIA FAST TRACK

CATALOG NO.:	BA R-6500
DETERMINATIONS:	2 × 96
DESCRIPTION:	Radioimmunoassay (RIA) for the quantitative determination of adrenaline (epinephrine) and noradrenaline (norepinephrine) in plasma and urine
STANDARD RANGE:	Adrenaline 0/1 – 200 ng/ml; Noradrenaline 0/5 – 1000 ng/ml
SENSITIVITY:	Adrenaline: 0.2 ng/ml urine, 4.1 pg/ml plasma; Noradrenaline: 1.1 ng/ml urine, 42 pg/ml plasma
SAMPLE VOLUME:	10 µl urine, 300 µl plasma

3-CAT RIA FAST TRACK

CATALOG NO.:	BA R-6600
DETERMINATIONS:	3 × 96
DESCRIPTION:	Radioimmunoassay (RIA) for the quantitative determination of adrenaline (epinephrine), noradrenaline (norepinephrine), and dopamine in plasma and urine
STANDARD RANGE:	Adrenaline 0/1 – 200 ng/ml; Noradrenaline 0/5 – 1000 ng/ml; Dopamine 0/4.5 - 2000 ng/ml
SENSITIVITY:	Adrenaline: 0.2 ng/ml urine, 4.1 pg/ml plasma; Noradrenaline: 1.1 ng/ml urine, 42 pg/ml plasma; Dopamine: 3 ng/ml urine, 29 pg/ml plasma
SAMPLE VOLUME:	10 µl urine, 300 µl plasma

CATECHOLAMINES RESEARCH ASSAYS *ELISA*

There is an increasing interest to elucidate the important roles catecholamines play in development, cardiovascular function, psychiatric disorders and behaviour, neurodegenerative diseases, sleep, mood, attention, learning and metabolism. Research in these areas often requires sensitive and flexible methods which are able to quantify minute amounts of analytes – methods, which give reliable results even using the smallest sample volume.

The following group of research ELISAs is designed for the high-sensitive quantification of epinephrine (adrenaline), norepinephrine (noradrenaline) or dopamine. Various kinds of biological samples can be used with a minimal sample volume as low as 1 µl. The assay sensitivities depend on sample volume – reaching the highest sensitivity with 750 µl of sample volume. Reported applications comprise different kinds of tissue homogenates (e.g. brain homogenates), micro-dialysates, cell culture, and many other biological samples.

THE ASSAYS SHOW THE FOLLOWING COMMON FEATURES

- High sensitivity
- Small sample volumes
- Flexible protocols
- Designed to test various sample types from multiple species
- Elegant and efficient extraction method
- Freedom from drug interferences
- Single and multi parameter kits available

ADRENALINE RESEARCH ELISA

CATALOG NO.:	BA E-5100R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of Adrenaline (epinephrine) in any species and various biological samples
STANDARD RANGE:	0/0.5–80 ng/ml
SENSITIVITY:	3.3 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1 – 750 µl, various biological fluids

NORADRENALINE RESEARCH ELISA

CATALOG NO.:	BA E-5200R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of noradrenaline (norepinephrine) in different species and various biological samples
STANDARD RANGE:	0/0.2–32 ng/ml
SENSITIVITY:	1.3 pg/ ml (depending on sample volume)
SAMPLE VOLUME:	1 – 750 µl, various biological fluids

DOPAMINE RESEARCH ELISA

CATALOG NO.:	BA E-5300R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of dopamine in different species and various biological samples
STANDARD RANGE:	0/0.5–80 ng/ml
SENSITIVITY:	3.3 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1–750 µl, various biological fluids

2-CAT (A-N) RESEARCH ELISA

CATALOG NO.:	BA E-5400R
DETERMINATIONS:	2 × 96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of adrenaline (epinephrine) and noradrenaline (norepinephrine) in different species and various biological samples
STANDARD RANGE:	Adrenaline: 0/0.5–80 ng/ml; Noradrenaline: 0/0.2–32 ng/ml
SENSITIVITY:	Adrenaline: 6.6 pg/ml; Noradrenaline: 2.6 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1–750 µl, various biological fluids

2-CAT (N-D) RESEARCH ELISA

CATALOG NO.:	BA E-5500R
DETERMINATIONS:	2 × 96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of noradrenaline (norepinephrine) and dopamine in different species and various biological samples
STANDARD RANGE:	Noradrenaline: 0/0.2–32 ng/ml; Dopamine: 0/0.5–80 ng/ml
SENSITIVITY:	Noradrenaline: 2.6 pg/ml; Dopamine: 6.6 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1–750 µl, various biological fluids

3-CAT RESEARCH ELISA

CATALOG NO.:	BA E-5600R
DETERMINATIONS:	3 × 96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of adrenaline (epinephrine), noradrenaline (norepinephrine), and dopamine in different species and various biological samples
STANDARD RANGE:	Adrenaline, dopamine: 0/0.5–80 ng/ml; Noradrenaline: 0/0.2–32 ng/ml
SENSITIVITY:	Adrenaline: 10 pg/ml; Noradrenaline: 4 pg/ml; Dopamine: 10 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1–750 µl, various biological fluids

METANEPHRINES

Metanephrine and normetanephrine are the 3-methoxy metabolites of epinephrine and norepinephrine, respectively. They are metabolized to vanillylmandelic acid or excreted with the urine. Patients with pheochromocytoma or other tumors derived from neuroendocrine cells show elevated levels of the total metanephrines (metanephrine and normetanephrine) in urine and elevated levels of the free metanephrines (metanephrine and normetanephrine) in plasma.

AVAILABLE KITS

- Free metanephrine and normetanephrine in plasma (ELISA or RIA)
- Metanephrine and normetanephrine in urine (ELISA or RIA)

METANEPHRINES IN PLASMA *ELISA/RIA*

Cells derived from neuroendocrine tumors (e.g. pheochromocytoma) are known to produce catecholamines which are secreted episodically via vesicles into the blood stream. But beside this a small portion of the catecholamines is metabolized inside the cells to the corresponding catecholamines metabolites – namely metanephrine, normetanephrine and 3-methoxytyramine – which are secreted at low levels continuously into the blood stream.

Recent studies and publications have shown that the quantification of the plasma free metanephrine (fMN) and plasma free normetanephrine (fNMN) is the most accurate biochemical marker for the clinical diagnosis of pheochromocytoma and follow-up of pheochromocytoma patients. LDN has developed enzyme immunoassays and isotopic assays for the quantitative determination of fMN and fNMN in human plasma.

THE ASSAYS SHOW THE FOLLOWING COMMON FEATURES

- Speed and ease of use
- Cost-effective
- For in vitro diagnostics and research applications
- Wide standard ranges
- Available as ELISA and RIA (with 15 weeks shelf-life)
- The ELISA is automatable (completely validated on Gemini)
- Freedom from drug interferences
- Excellent correlation with LC-MS/MS
- Single and multi parameter kits available

METANEPHRINE PLASMA ELISA FAST TRACK

CATALOG NO.: BA E-8100
DETERMINATIONS: 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of free metanephrine in plasma
STANDARD RANGE: 0/36–3600 pg/ml
SENSITIVITY: 14.9 pg/ml
SAMPLE VOLUME: 200 µl plasma

NORMETANEPHRINE PLASMA ELISA FAST TRACK

CATALOG NO.: BA E-8200
DETERMINATIONS: 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of free normetanephrine in plasma
STANDARD RANGE: 0/72–7200 pg/ml
SENSITIVITY: 17.9 pg/ml
SAMPLE VOLUME: 200 µl plasma

2-MET PLASMA ELISA FAST TRACK

CATALOG NO.: BA E-8300
DETERMINATIONS: 2 × 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of free metanephrine and free normetanephrine in plasma
STANDARD RANGE: Metanephrine 0/36–3600 pg/ml; Normetanephrine 0/72–7200 pg/ml
SENSITIVITY: Metanephrine: 14.9 pg/ml Normetanephrine: 17.9 pg/ml
SAMPLE VOLUME: 200 µl plasma

2-MET PLASMA RIA FAST TRACK

CATALOG NO.: BA R-8300
DETERMINATIONS: 2 × 96
DESCRIPTION: Radioimmunoassay (RIA) for the quantitative determination of free metanephrine and free normetanephrine in plasma
STANDARD RANGE: Metanephrine 0/36–3600 pg/ml; Normetanephrine 0/72–7200 pg/ml
SENSITIVITY: Metanephrine: 5.8 pg/ml; Normetanephrine: 21.4 pg/ml
SAMPLE VOLUME: 200 µl plasma

METANEPHRINES IN URINE *ELISA/RIA*

Patients with pheochromocytoma or other tumours derived from neuroendocrine cells show elevated urinary levels of total Metanephrines. As catecholamine secretion from neuroendocrine cells might show high variations urine samples collected over a period of 24 hours are used to average these fluctuations.

This group of assays is intended for the fast measurement of metanephrine and/or normetanephrine in urine samples. Using a simple hydrolysis step the total metanephrine and normetanephrine can be quantified.

METANEPHRINE URINE ELISA FAST TRACK

CATALOG NO.:	BA E-8400
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of metanephrine in urine
STANDARD RANGE:	0/20–2000 ng/ml
SENSITIVITY:	8.6 ng/ml
SAMPLE VOLUME:	25 µl urine

NORMMETANEPHRINE URINE ELISA FAST TRACK

CATALOG NO.:	BA E-8500
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of normetanephrine in urine
STANDARD RANGE:	0/30–3000 ng/ml
SENSITIVITY:	14.7 ng/ml
SAMPLE VOLUME:	25 µl urine

2-MET URINE ELISA FAST TRACK

CATALOG NO.:	BA E-8600
DETERMINATIONS:	2 × 96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of metanephrine and normetanephrine in urine
STANDARD RANGE:	Metanephrine 0/20–2000 ng/ml; Normetanephrine 0/30–3000 ng/ml
SENSITIVITY:	Metanephrine 8.6 ng/ml; Normetanephrine 14.7 ng/ml
SAMPLE VOLUME:	25 µl urine

2-MET URINE RIA FAST TRACK

CATALOG NO.:	BA R-8600
DETERMINATIONS:	2 × 100
DESCRIPTION:	Radioimmunoassay (RIA) for the quantitative determination of metanephrine and normetanephrine in urine
STANDARD RANGE:	Metanephrine 0/20–2000 ng/ml; Normetanephrine 0/30–3000 ng/ml
SENSITIVITY:	Metanephrine 9 ng/ml; Normetanephrine 10.4 ng/ml
SAMPLE VOLUME:	25 µl urine

SEROTONIN *ELISA/RIA*

Serotonin (5-hydroxytryptamine) belongs to the group of biogenic amines and is an intermediate product of the tryptophan metabolism. It plays an important role as a neurotransmitter in the regulation of different behavioural patterns such as motor activity, aggression, sexuality, appetite, depressions, and sleep. Serotonin can be found in the intestinal mucosa, in urine, and in blood as well as in the central nervous system (CNS). In blood, it is transported predominantly in the platelets. Diseases which are associated with altered serotonin concentrations include disorders of the CNS, for example autism, epilepsy, schizophrenia and depression, and carcinoid tumors of the intestine or bronchi.

The Serotonin Research ELISA offers a flexible protocol which is suitable for the high-sensitive quantitative measurement of Serotonin in any biological sample such as tissue homogenates, cell culture supernatant, cerebrospinal fluid (CSF), platelet-poor-plasma, and cell lysates.

SEROTONIN ELISA FAST TRACK

CATALOG NO.:	BA E-8900
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of serotonin in serum urin and platelets
STANDARD RANGE:	0/15 – 2500 ng/ml
SENSITIVITY:	6.2 ng/ml
SAMPLE VOLUME:	25 µl serum, urine, platelets

SEROTONIN RESEARCH ELISA

CATALOG NO.:	BA E-5900R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative ultra sensitive determination of serotonin in various species and various biological samples
STANDARD RANGE:	0/0.015 – 2.5 ng/ml
SENSITIVITY:	5 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1 – 100 µl, all biological fluids

SEROTONIN RIA FAST TRACK

CATALOG NO.:	BA R-8900
DETERMINATIONS:	100
DESCRIPTION:	Radioimmunoassay (RIA) for the quantitative determination of serotonin in serum, urine and platelets
STANDARD RANGE:	0/15 – 2500 ng/ml
SENSITIVITY:	6.6 ng/ml serum, urine, platelets
SAMPLE VOLUME:	25 µl serum, urine, platelets

HISTAMINE ELISA

In humans, histamine (β -imidazole ethylamine) is one of the most important mediators and takes part in the initial phase of an anaphylactic reaction ("immediate type" allergy). It is produced by basophils and by mast cells found in connective tissues. Of clinical interest is also the quantification of the histamine release from basophilic leucocytes in allergies. Histamine is not only a main mediator in allergic reactions but also acts as a neurotransmitter within the central nervous system (CNS). Here it modulates basic processes such as wakefulness, cognitive ability, control of pituitary gland, and food consumption.

HISTAMINE ELISA

CATALOG NO.:	BA E-1000
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of histamine in plasma and urine
STANDARD RANGE:	0/0.5–50 ng/ml
SENSITIVITY:	0.18 ng/ml plasma, 0.22 ng/ml urine
SAMPLE VOLUME:	10 μ l urine, 25 μ l plasma

HISTAMINE RELEASE

CATALOG NO.:	BA E-1100
DETERMINATIONS:	96
DESCRIPTION:	Supplementary kit for the quantitative determination of histamine release in heparinized whole blood.
STANDARD RANGE:	0/0.5–50 ng/ml
SAMPLE VOLUME:	640 μ l whole blood per allergen

HISTAMINE RESEARCH ELISA

CATALOG NO.:	BA E-5800R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative determination of histamine in different species and various biological samples
STANDARD RANGE:	0/0.5–50 ng/ml
SENSITIVITY:	0.2 ng/ml
SAMPLE VOLUME:	10 - 25 μ l, different animal species and biological samples

MELATONIN *ELISA*

In mammals, melatonin is biosynthesized in the pineal gland from the essential dietary amino acid tryptophan, with serotonin produced as an intermediate. In general melatonin acts as an endocrine hormone.

Many biological effects of melatonin are generated through activation of melatonin receptors, while others are due to its role as a powerful antioxidant, being a direct scavenger of OH[•], O₂^{•-}, and NO. The serum and saliva melatonin levels in humans show a marked circadian rhythm characterized by very low levels during day time and high levels during night time. In humans, 90% of melatonin is cleared in a single passage through the liver, a small amount is excreted in urine, and a small amount is found in saliva.

MELATONIN ELISA

CATALOG NO.:	BA E-3300
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of melatonin in serum and plasma
STANDARD RANGE:	0/3 - 300 pg/ml
SENSITIVITY:	1.6 pg/ml
SAMPLE VOLUME:	500 µl serum or plasma

MELATONIN DIRECT SALIVA ELISA

CATALOG NO.:	BA E-3400
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of melatonin in saliva
STANDARD RANGE:	0/0.5 - 50 pg/ml
SENSITIVITY:	0.3 pg/ml
SAMPLE VOLUME:	100 µl saliva

5-HIAA ELISA

5-HIAA is the major urinary metabolite of serotonin, an ubiquitous bioactive amine. Serotonin, and consequently 5-HIAA, is produced in excess by most carcinoid tumors, especially those associated with the carcinoid syndrome. The syndrome includes flushing and diarrhea, and, less frequently, heart failure and bronchoconstriction. Quantitation of urinary 5-HIAA is therefore intended to test for carcinoid.

5-HIAA ELISA

CATALOG NO.:	BA E-1900
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of 5-HIAA (5-hydroxyindoleacetic acid) in urine
STANDARD RANGE:	0/0.5 - 50 mg/l
SENSITIVITY:	0.17 mg/l
SAMPLE VOLUME:	50 µl urine

TRYPTOPHAN ELISA

L-Tryptophan is one of the essential amino acids for the human metabolism and must be part of its diet.

In humans it serves as precursor for the synthesis of the neurotransmitters serotonin and tryptamine as well as for the synthesis of nicotinic acid and the epiphyseal hormone melatonin. Tryptophan is catabolized to kynurenine through the enzyme IDO (indoleamine-2,3-dioxygenase). Increased IDO activity is an expression of neuro-endocrine-immunological dysregulation, which is often associated with depressive symptoms such as bipolar disorder (manic depression). In addition, Tryptophan and its metabolites regulate neurobehavioral effects such as appetite, sleeping-waking-rhythm and pain perception.

TRYPTOPHAN ELISA

CATALOG NO.:	BA E-2700
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of tryptophan in urine, plasma, and serum
STANDARD RANGE:	0/2.5–250 µg/ml
SENSITIVITY:	0.65 µg/ml
SAMPLE VOLUME:	20 µl urine, plasma or serum

KYNURENINE ELISA

Kynurenine is a non-proteinogenic amino acid that is produced as a metabolic intermediate during the degradation of tryptophan. The degradation of tryptophan is catalyzed by the inducible enzyme indolamine-2,3-dioxygenase (IDO). The product is kynurenine. Cytokines, in particular interferon- γ , influence the activity of the IDO, so that is why the kynurenine path is closely linked to the immune system. Kynurenine can be further converted to neuroprotective kynurenic acid, but also to neurotoxic quinolinic acid. Disorders of the tryptophan kynurenine metabolism are associated with different disease patterns, such as stress, cancer, and depression. The latter can be treated by tryptophan administration. This requires a determination of the kynurenine to tryptophan ratio, which is a reliable marker for the IDO activity. If no increased IDO activity is detected, the administered tryptophan can serve as the starting product for serotonin synthesis.

KYNURENINE ELISA

CATALOG NO.:	BA E-2200
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of kynurenine in serum and plasma
STANDARD RANGE:	0/100–10000 ng/ml
SENSITIVITY:	45.7 ng/ml
SAMPLE VOLUME:	10 µl serum or plasma

GABA ELISA

GABA (γ -aminobutyric acid) is one of the most important inhibitory neurotransmitter in the central nervous system (CNS). GABA operates through interneurons by the inhibition of the release of excitatory neurotransmitters. In the CNS GABA is synthesized from L-glutamic acid which is an excitatory neurotransmitter.

Many publications postulate, that the determination of GABA in urine is helpful for the determination of neurostress. The collective term „neurostress“ refers to many physical and psychological complaints caused due to our modern way of life, unfavourable environmental conditions, poor diet, medications, occupational and social stress, sleep deprivation, overstimulation or genetic predisposition. The resulting symptoms are burnout, depression, insomnia, chronic fatigue syndrome, fibromyalgia, multiple chemical sensitivity and other chronic pathologies.

GABA ELISA

CATALOG NO.:	BA E-2500
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of gamma-aminobutyric acid (GABA) in urine
STANDARD RANGE:	0/75 - 7500 ng/ml
SENSITIVITY:	30,4 ng/ml
SAMPLE VOLUME:	100 μ l urine

GLUTAMATE ELISA

Glutamate, also known as glutamic acid, is one of the most important excitatory neurotransmitter in the central nervous system (CNS). It is released presynaptically and it binds postsynaptically to specific receptors for glutamate. The enzyme glutamic acid decarboxylase is able to convert L-glutamate in the CNS by decarboxylation to γ -aminobutyric acid (GABA), which acts as an inhibitory neurotransmitter.

Many publications postulate, that the determination of L-glutamate in urine is helpful for the determination of neurostress. The collective term „neurostress“ refers to many physical and psychological complaints caused due to our modern way of life, unfavourable environmental conditions, poor diet, medications, occupational and social stress, sleep deprivation, overstimulation or genetic predisposition. The resulting symptoms are burnout, depression, insomnia, chronic fatigue syndrome, fibromyalgia, multiple chemical sensitivity and other chronic pathologies.

GLUTAMATE ELISA

CATALOG NO.:	BA E-2400
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of glutamate in urine
STANDARD RANGE:	0/0.6 – 60 μ g/ml
SENSITIVITY:	0.17 μ g/ml
SAMPLE VOLUME:	100 μ l urine

ENDOCRINOLOGY

AVAILABLE KIT CATEGORIES

- ANDROGEN ASSESSMENT
- FERTILITY AND REPRODUCTION
- METABOLISMUS
- MINERAL AND SALT BALANCE
- THYROID FUNCTION
- TUMOR MARKERS
- DISEASE MARKERS
- SALIVA ASSAYS
- RESEARCH ASSAYS

ADVANTAGES

- High diagnostic sensitivity and specificity
- Easily adaptable to most common automated open systems
- Colour-coded kit reagents for easy recognition
- Breakable 96 wells, economical benefit
- Controls and calibrators included
- Long shelf life
- The IVD assays are quality produced according to ISO 13485

ANDROGEN ASSESSMENT *ELISA*

ANDROSTENEDIONE ELISA

CATALOG NO.: AA E-1000
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of androstenedione in human serum and plasma
STANDARD RANGE: 0/0.1 – 10 ng/ml
SENSITIVITY: 0.021 ng/ml
SAMPLE VOLUME: 20 µl serum or plasma

DHEA-S ELISA

CATALOG NO.: AA E-1100
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of dehydroepiandrosterone-sulfate in human serum
STANDARD RANGE: 0/0.005 – 10 µg/ml
SENSITIVITY: 0.005 µg/ml
SAMPLE VOLUME: 25 µl serum

SHBG ELISA

CATALOG NO.: AA E-1200
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of sex hormone binding globulin in human serum and plasma
STANDARD RANGE: 0/4 – 260 nmol/l
SENSITIVITY: 0.408 nmol/l
SAMPLE VOLUME: 50 µl prediluted serum or plasma

TESTOSTERONE ELISA

CATALOG NO.: AA E-1300
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of total testosterone in human serum and plasma
STANDARD RANGE: 0/0.2 – 16 ng/ml
SENSITIVITY: 0.083 ng/ml
SAMPLE VOLUME: 25 µl serum or plasma

FREE TESTOSTERONE ELISA ^{2ND GENERATION}

CATALOG NO.: AA E-1800
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of free testosterone in human serum
STANDARD RANGE: 0/0.1 - 60 pg/ml
SENSITIVITY: 0.018 pg/ml
SAMPLE VOLUME: 25 µl serum

ANDROSTANEDIOL-GLUCURONIDE ELISA

CATALOG NO.: AA E-1500
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of 3a-diol G in human serum
STANDARD RANGE: 0/0.25–50 ng/ml
SENSITIVITY: 0.1 ng/ml
SAMPLE VOLUME: 50 µl serum

DHEA ELISA

CATALOG NO.: AA E-1600
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of dehydroepiandrosterone in human serum and plasma
STANDARD RANGE: 0/0.3–30 ng/ml
SENSITIVITY: 0.082 ng/ml
SAMPLE VOLUME: 25 µl serum or plasma

DHT ELISA

CATALOG NO.: AA E-1900
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of dihydrotestosterone in human serum
STANDARD RANGE: 0/25–2500 pg/ml
SENSITIVITY: 17 pg/ml
SAMPLE VOLUME: 25 µl serum

FERTILITY AND REPRODUCTION *ELISA*

ESTRADIOL ELISA

CATALOG NO.: FR E-2000
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of estradiol in human serum and plasma
STANDARD RANGE: 0/25–2000 pg/ml
SENSITIVITY: 10.6 pg/ml
SAMPLE VOLUME: 25 µl serum or plasma

FREE ESTRADIOL ELISA

CATALOG NO.: FR E-2100
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of free estradiol in human serum
STANDARD RANGE: 0/0.3–40 ng/ml
SENSITIVITY: 0.021 ng/ml
SAMPLE VOLUME: 10 µl serum

ESTRONE ELISA

CATALOG NO.: FR E-2300
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of estrone in human serum and plasma
STANDARD RANGE: 0/15–2400 pg/ml
SENSITIVITY: 8.1 pg/ml
SAMPLE VOLUME: 25 µl serum or plasma

PROGESTERONE ELISA

CATALOG NO.: FR E-2500
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of progesterone in human serum and plasma
STANDARD RANGE: 0/0.3–40 ng/ml
SENSITIVITY: 0.045 ng/ml
SAMPLE VOLUME: 25 µl serum or plasma

PREGNENOLONE ELISA

CATALOG NO.: FR E-2700
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of pregnenolone in human serum
STANDARD RANGE: 0/0.1–25.6 ng/ml
SENSITIVITY: 0.05 ng/ml
SAMPLE VOLUME: 50 µl serum

17-OH-PROGESTERONE ELISA

CATALOG NO.: FR E-2800
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of 17-OH-progesterone in human serum and plasma
STANDARD RANGE: 0/0.1–25 ng/ml
SENSITIVITY: 0.014 ng/ml
SAMPLE VOLUME: 25 µl serum or plasma

AMH ELISA

CATALOG NO.: FR E-2900
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of Anti-Mülleriane Hormone (AMH) in human serum and plasma
STANDARD RANGE: 0/0.1–25 ng/ml
SENSITIVITY: 0.014 ng/ml
SAMPLE VOLUME: 25 µl serum or plasma

METABOLISM *ELISA*

C-PEPTIDE ELISA

CATALOG NO.: ME E-0100
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of C-peptide in human serum, plasma and urine
STANDARD RANGE: 0/0.2–16 ng/ml
SENSITIVITY: 0.064 ng/ml
SAMPLE VOLUME: 100 µl serum, plasma or urine

GROWTH HORMONE HGH ELISA

CATALOG NO.: ME E-0200
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of human growth hormone in human serum
STANDARD RANGE: 0/1 – 50 ng/ml
SENSITIVITY: 0.2 ng/ml
SAMPLE VOLUME: 25 µl serum

LEPTIN ELISA

CATALOG NO.: ME E-0300
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of leptin in human serum
STANDARD RANGE: 0/1 – 100 ng/ml
SENSITIVITY: 0.5 ng/ml
SAMPLE VOLUME: 20 µl serum

IGFBP-1 ELISA

CATALOG NO.: ME E-0400
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of human insulin-like growth factor binding protein 1 in human serum
STANDARD RANGE: 0/1 – 250 µg/l
SENSITIVITY: 0.5 µg/l
SAMPLE VOLUME: 25 µl serum

IGF-1 ELISA

CATALOG NO.: ME E-0500
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of human insulin-like growth factor 1 in human serum
STANDARD RANGE: 0/10 – 600 ng/ml
SENSITIVITY: 9.75 ng/ml
SAMPLE VOLUME: 50 µl serum

INSULIN ELISA

CATALOG NO.:	ME E-0900
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative determination of Insulin in human serum and plasma
STANDARD RANGE:	0/6.25–100 µIU/ml
SENSITIVITY:	1.76 µIU/ml
SAMPLE VOLUME:	25 µl serum or plasma

MINERAL AND SALT BALANCE *ELISA***CORTISOL ELISA**

CATALOG NO.:	MS E-5000
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative determination of cortisol in human serum and plasma
STANDARD RANGE:	0/20–800 ng/ml
SENSITIVITY:	1.3 ng/ml
SAMPLE VOLUME:	20 µl serum or plasma

CORTISOL URINE ELISA

CATALOG NO.:	MS E-5100
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative determination of cortisol in urine
STANDARD RANGE:	0/1–200 ng/ml
SENSITIVITY:	0.47 ng/ml
SAMPLE VOLUME:	10 µl urine

ALDOSTERONE ELISA

CATALOG NO.:	MS E-5200
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative determination of aldosterone in human serum, plasma, and urine
STANDARD RANGE:	0/20–1000 pg/ml
SENSITIVITY:	5.7 pg/ml
SAMPLE VOLUME:	50 µl serum, plasma or prediluted urine*

**For the urine sample preparation the supplementary kit aldosterone urine (MS U-5200) has to be used*

ACTIVE RENIN ELISA

CATALOG NO.:	MS E-5300
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative determination of active renin in plasma and serum
STANDARD RANGE:	0/4–128 pg/ml
SENSITIVITY:	0.80 pg/ml
SAMPLE VOLUME:	50 µl plasma or serum

CORTICOSTERONE ELISA

CATALOG NO.: MS E-5400
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of corticosterone in serum and plasma
STANDARD RANGE: 0/5–240 nmol/l
SENSITIVITY: 1.63 nmol/l
SAMPLE VOLUME: 20 µl serum or plasma

PLASMA RENIN ACTIVITY (PRA) ELISA

CATALOG NO.: MS E-5600
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of plasma renin activity in human plasma
STANDARD RANGE: 0/0.2–60 ng/ml
SENSITIVITY: 0.14 ng/ml
SAMPLE VOLUME: 500 µl plasma

25-OH VITAMIN D (TOTAL) ELISA

CATALOG NO.: MS E-5800
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of total 25-OH vitamin D (vitamin D2 and vitamin D3) in serum and plasma
STANDARD RANGE: 0/5–120 ng/ml
SENSITIVITY: 3.224 ng/ml
SAMPLE VOLUME: 50 µl serum or plasma

THYROID FUNCTION ELISA

TSH ELISA ^{2ND GENERATION}

CATALOG NO.: TF E-2000
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of thyroid stimulating hormone (TSH) in human serum or heparin plasma
STANDARD RANGE: 0/0.25–15 mIU/l
SENSITIVITY: 0.06 mIU/l
SAMPLE VOLUME: 25 µl serum or plasma

FT3 ELISA ^{2ND GENERATION}

CATALOG NO.: TF E-2100
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of free triiodothyronine (ft3) in human serum
STANDARD RANGE: 0/2–40 pg/ml
SENSITIVITY: 0.3 pg/ml
SAMPLE VOLUME: 25 µl serum

FT4 ELISA 2ND GENERATION

CATALOG NO.: TF E-2200
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of free thyroxine (FT4) in human serum
STANDARD RANGE: 0/2–80 pg/ml
SENSITIVITY: 1.0 pg/ml
SAMPLE VOLUME: 25 µl serum

T3 ELISA 2ND GENERATION

CATALOG NO.: TF E-2300
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of total triiodothyronine (T3) in human serum and plasma
STANDARD RANGE: 0/0.5–10 ng/ml
SENSITIVITY: < 0.1 ng/ml
SAMPLE VOLUME: 50 µl serum or plasma

T4 ELISA 2ND GENERATION

CATALOG NO.: TF E-2400
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of total thyroxine (T4) in human serum and plasma
STANDARD RANGE: 0/25–250 nmol/l
SENSITIVITY: 8.0 nmol/l
SAMPLE VOLUME: 10 µl serum or plasma

Reverse T3 (rT3) ELISA

CATALOG NO.: TF E-2500
DETERMINATIONS: 96
DESCRIPTION: ELISA for the direct quantitative determination of reverse triiodothyronine (rT3) in human serum and plasma
STANDARD RANGE: 0/0.02–2 ng/ml
SENSITIVITY: 0.014 ng/ml
SAMPLE VOLUME: 25 µl serum or plasma

TUMOR MARKERS ELISA**CEA ELISA**

CATALOG NO.: TM E-4100
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of carcinoembryonic antigen in human serum and plasma
STANDARD RANGE: 0/5–100 ng/ml
SENSITIVITY: < 0.596 ng/ml
SAMPLE VOLUME: 50 µl serum or plasma

CA 125 ELISA

CATALOG NO.: TM E-4300
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of ovarian cancer antigen (CA 125) in human serum and plasma
STANDARD RANGE: 0/25–600 U/ml
SENSITIVITY: 0.25 U/ml
SAMPLE VOLUME: 50 µl serum or plasma

CA 15-3 ELISA

CATALOG NO.: TM E-4400
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of CA 15-3 in human serum and plasma
STANDARD RANGE: 0/25–200 U/ml
SENSITIVITY: 0.50 U/ml
SAMPLE VOLUME: 10 µl serum or plasma

CA 19-9 ELISA

CATALOG NO.: TM E-4500
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of CA 19-9 in human serum and plasma
STANDARD RANGE: 0/15–240 U/ml
SENSITIVITY: 0.26 U/ml
SAMPLE VOLUME: 50 µl serum or plasma

β₂-MICROGLOBULIN ELISA

CATALOG NO.: TM E-4600
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of β₂-microglobulin (β₂-M) in human serum
STANDARD RANGE: 0/0.2–10 mg/l
SENSITIVITY: 0.1 mg/l
SAMPLE VOLUME: 20 µl serum

h-NSE ELISA

CATALOG NO.: TM E-4700
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of neuron specific enolase in human serum
STANDARD RANGE: 0/4–100 ng/ml
SENSITIVITY: 0.19 ng/ml
SAMPLE VOLUME: 25 µl serum

CHROMOGRANIN A ELISA

CATALOG NO.: TM E-9000
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of chromogranin A in human serum
STANDARD RANGE: 0/30–900 µg/l
SENSITIVITY: 1.4 µg/l
SAMPLE VOLUME: 20 µl serum (1+20 prediluted)

DISEASE MARKERS *ELISA*

CRP ELISA

CATALOG NO.:	DM E-4600
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative determination of C-reactive protein in human serum
STANDARD RANGE:	0/100 – 10000 ng/ml
SENSITIVITY:	10 ng/ml
SAMPLE VOLUME:	20 µl of prediluted (1:20) serum

Interleukin-1 β ELISA

CATALOG NO.:	IL E-3000
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative determination of Interleukin-1 β (IL-1 β) in serum or plasma
STANDARD RANGE:	0/24 – 1166 pg/ml
SENSITIVITY:	0.35 pg/ml
SAMPLE VOLUME:	200 µl serum or plasma

Interleukin-6 ELISA

CATALOG NO.:	IL E-3100
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative determination of Interleukin-6 (IL-6) in serum
STANDARD RANGE:	0/23.3 – 2560 pg/ml
SENSITIVITY:	2 pg/ml
SAMPLE VOLUME:	100 µl serum

Tumor Necrosis Factor α ELISA

CATALOG NO.:	IL E-3200
DETERMINATIONS:	96
DESCRIPTION:	ELISA for the quantitative measurement of human Necrosis Factor α (TNF- α) in serum
STANDARD RANGE:	0/6.8 – 518 pg/ml
SENSITIVITY:	0.7 pg/ml
SAMPLE VOLUME:	200 µl serum

SALIVA ELISA

CORTISOL SALIVA ELISA^{FREE}

CATALOG NO.: SA E-6000
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of cortisol in saliva
STANDARD RANGE: 0/0.1 – 30 ng/ml
SENSITIVITY: 0.019 ng/ml
SAMPLE VOLUME: 50 µl saliva

TESTOSTERONE SALIVA ELISA^{FREE}

CATALOG NO.: SA E-6100
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of testosterone in saliva
STANDARD RANGE: 0/10 – 1000 pg/ml
SENSITIVITY: 2.2 pg/ml
SAMPLE VOLUME: 100 µl saliva

ESTRADIOL SALIVA ELISA^{FREE}

CATALOG NO.: SA E-6200
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of estradiol in saliva
STANDARD RANGE: 0/1 – 100 pg/ml
SENSITIVITY: 0.21 pg/ml
SAMPLE VOLUME: 100 µl saliva

PROGESTERONE SALIVA ELISA^{FREE}

CATALOG NO.: SA E-6300
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of progesterone in saliva
STANDARD RANGE: 0/10 - 2400 pg/ml
SENSITIVITY: 1.1 pg/ml
SAMPLE VOLUME: 100 µl saliva

17-OH-PROGESTERONE SALIVA ELISA^{FREE}

CATALOG NO.: SA E-6400
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of 17-OH-progesterone in saliva
STANDARD RANGE: 0/10 – 1000 pg/ml
SENSITIVITY: 2.5 pg/ml
SAMPLE VOLUME: 25 µl saliva

DHEA-S SALIVA ELISA ^{FREE}

CATALOG NO.: SA E-6500
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of DHEA-S in saliva
STANDARD RANGE: 0/0.2–12 ng/ml
SENSITIVITY: 0.05 ng/ml
SAMPLE VOLUME: 50 µl saliva

ANDROSTENEDIONE SALIVA ELISA ^{FREE}

Catalogue No.: SA E-6700
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of androstenedione in saliva
STANDARD RANGE: 0/20–1000 pg/ml
SENSITIVITY: 5 pg/ml
SAMPLE VOLUME: 50 µl saliva

IGA SALIVA ELISA

Catalogue No.: SA E-6800
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of immunoglobulin A in saliva
STANDARD RANGE: 0/6.9–400 µg/ml
SENSITIVITY: 0.5 µg/ml
SAMPLE VOLUME: 25 µl saliva

DHEA SALIVA ELISA

CATALOG NO.: SA E-7000
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of DHEA in saliva
STANDARD RANGE: 0/10–2560 pg/ml
SENSITIVITY: 3.7 pg/ml
SAMPLE VOLUME: 100 µl saliva

ESTRONE SALIVA ELISA

CATALOG NO.: SA E-7100
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of estrone in saliva
STANDARD RANGE: 0/3–333 pg/ml
SENSITIVITY: 1.073 pg/ml
SAMPLE VOLUME: 100 µl saliva

SALI SET 100/ 500

CATALOG NO.: SA D-6100/ SA D-6500
DETERMINATIONS: 100/ 500 sets for the collection of saliva samples

RESEARCH ASSAYS ELISA

TESTOSTERONE RAT/MOUSE ELISA

CATALOG NO.: AR E-8000R
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of testosterone in rat or mouse serum and plasma
STANDARD RANGE: 0/0.1 – 25 ng/ml
SENSITIVITY: 0.066 ng/ml
SAMPLE VOLUME: 10 µl serum or plasma

CORTICOSTERONE RAT/MOUSE ELISA

CATALOG NO.: AR E-8100R
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of corticosterone in rat or mouse serum and plasma
STANDARD RANGE: 0/15 – 2250 ng/ml
SENSITIVITY: 6.1 ng/ml
SAMPLE VOLUME: 10 µl serum or plasma

ESTRONE-3-SULFATE EQUINE ELISA

CATALOG NO.: AR E-8300R
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of estrone-3-sulfate in equine serum
STANDARD RANGE: 0/5 – 1000 ng/ml
SENSITIVITY: 0.14 ng/ml
SAMPLE VOLUME: 20 µl serum

TSH CANINE ELISA

CATALOG NO.: AR E-8500R
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of TSH in canine serum and plasma
STANDARD RANGE: 0/0.2 – 5.2 ng/ml
SENSITIVITY: 0.01 ng/ml
SAMPLE VOLUME: 100 µl serum or plasma

TSH RAT ELISA

CATALOG NO.: AR E-8600R
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of TSH in rat serum
STANDARD RANGE: 0/2.5 – 80 ng/ml
SENSITIVITY: 0.081 ng/ml
SAMPLE VOLUME: 25 µl serum

PROGESTERONE RAT/MOUSE ELISA

CATALOG NO.: AR E-8700R
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of progesterone in rat or mouse serum and plasma
STANDARD RANGE: 0/0.4–100 ng/ml
SENSITIVITY: 0.156 ng/ml
SAMPLE VOLUME: 10 µl serum or plasma

ESTRADIOL RAT ELISA

CATALOG NO.: AR E-8800R
DETERMINATIONS: 96
DESCRIPTION: ELISA for the quantitative determination of estradiol in rat serum
STANDARD RANGE: 0/5–1280 pg/ml
SENSITIVITY: 2.5 pg/ml
SAMPLE VOLUME: 75 µl serum

RAT CONTROL SET

CATALOG NO.: AR K-8000R
DETERMINATIONS: 96
DESCRIPTION: Two levels of testosterone, corticosterone, prolactin, TSH, progesterone and estradiol in rat serum
SAMPLE VOLUME: 2 vials à 1 ml

CANINE CONTROL SET

CATALOG NO.: AR K-8500R
DETERMINATIONS: 96
DESCRIPTION: Two levels of canine prolactin and TSH
SAMPLE VOLUME: 2 vials à 1 ml

GLUTAMATE ELISA

CATALOG NO.: BA E-2400R
DETERMINATIONS: 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of glutamate in urine and various biological samples
STANDARD RANGE: 0/0.6–60 µg/ml
SENSITIVITY: 0.17 µg/ml
SAMPLE VOLUME: e.g. 100 µl serum or plasma

GABA ELISA

CATALOG NO.: BA E-2500R
DETERMINATIONS: 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of gamma-aminobutyric acid (GABA) in urine and various biological samples
STANDARD RANGE: 0/25 - 2500 ng/ml or 0/75 - 7500 ng/ml
SENSITIVITY: 30.4 ng/ml
SAMPLE VOLUME: e.g. 100 or 300 µl plasma

KYNURENINE ELISA

CATALOG NO.: BA E-2200R
DETERMINATIONS: 96
DESCRIPTION: Enzyme immunoassay (ELISA) for the quantitative determination of kynurenine in serum, plasma and various biological samples
STANDARD RANGE: 0/100–10000 ng/ml
SENSITIVITY: 45.7 ng/ml
SAMPLE VOLUME: e.g. 10 µl serum or plasma

ADRENALINE RESEARCH ELISA

CATALOG NO.: BA E-5100R
DETERMINATIONS: 96
DESCRIPTION: Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of adrenaline (epinephrine) in different species and various biological samples
STANDARD RANGE: 0/0.5–80 ng/ml
SENSITIVITY: 3.3 pg/ml (depending on sample volume)
SAMPLE VOLUME: 1 – 750 µl, various biological fluids

NORADRENALINE RESEARCH ELISA

CATALOG NO.:	BA E-5200R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of noradrenaline (norepinephrine) in different species and various biological samples
STANDARD RANGE:	0/0.2–32 ng/ml
SENSITIVITY:	1.3 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1 – 750 µl, various biological fluids

DOPAMINE RESEARCH ELISA

CATALOG NO.:	BA E-5300R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of dopamine in different species and various biological samples
STANDARD RANGE:	0/0.5–80 ng/ml
SENSITIVITY:	3.3 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1 – 750 µl, various biological fluids

2-CAT (A-N) RESEARCH ELISA

CATALOG NO.:	BA E-5400R
DETERMINATIONS:	2 × 96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of adrenaline (epinephrine) and noradrenaline (norepinephrine) in different species and various biological samples
STANDARD RANGE:	Adrenaline: 0/0.5–80 ng/ml; Noradrenaline: 0/0.2–32 ng/ml
SENSITIVITY:	Adrenaline: 6.6 pg/ml; Noradrenaline: 2.6 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1 – 750 µl, various biological fluids

2-CAT (N-D) RESEARCH ELISA

CATALOG NO.:	BA E-5500R
DETERMINATIONS:	2 × 96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of dopamine and noradrenaline (norepinephrine) in different species and various biological samples
STANDARD RANGE:	Noradrenaline: 0/0.2–32 ng/ml; Dopamine: 0/0.5–80 ng/ml
SENSITIVITY:	Noradrenaline: 2.6 pg/ml; Dopamine: 6.6 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1 – 750 µl, various biological fluids

3-CAT RESEARCH ELISA

CATALOG NO.:	BA E-5600R
DETERMINATIONS:	3 × 96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative and ultra sensitive determination of adrenaline (epinephrine), noradrenaline (norepinephrine), and dopamine in different species and various biological samples
STANDARD RANGE:	Adrenaline, Dopamine: 0/0.5–80 ng/ml; Noradrenaline: 0/0.2–32 ng/ml
SENSITIVITY:	Adrenaline: 10 pg/ml; Noradrenaline: 4 pg/ml; Dopamine: 10 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1 – 750 µl, various biological fluids

HISTAMINE RESEARCH ELISA

CATALOG NO.:	BA E-5800R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative determination of histamine in different species and various biological samples
STANDARD RANGE:	0/0.5–50 ng/ml
SENSITIVITY:	0.2 ng/ml
SAMPLE VOLUME:	10 - 25 µl, different animal species and biological samples

SEROTONIN RESEARCH ELISA

CATALOG NO.:	BA E-5900R
DETERMINATIONS:	96
DESCRIPTION:	Research enzyme immunoassay (ELISA) for the quantitative ultra sensitive determination of serotonin in different species and various biological samples
STANDARD RANGE:	0/0.015–2.5 ng/ml
SENSITIVITY:	5 pg/ml (depending on sample volume)
SAMPLE VOLUME:	1 – 100 µl, various biological fluids

GUIDELINES FOR THE VALIDATION OF LDN'S IMMUNOASSAYS FOR BIOLOGICAL SAMPLES

All of LDN's Biogenic Amines assays are based on an extraction and/or derivatization procedure yielding highly specific test systems. As the Biogenic Amines chemical structure is totally conserved all throughout nature there is, in principle, no limit for the use of these assays with any sample. Over the years LDN has gathered a lot of experience with many different specimens, which is demonstrated by a vast number of publications and a well-experienced laboratory staff. In any case, if you set-up a validation protocol for any off-label use please contact us – we might be able to give you some helpful support. In many cases the kit will work without modification but in some cases some modification has to be introduced for optimal performance.

1. The first step in the validation for a specific sample is to demonstrate parallelism. The specimen has to be diluted serially with the matrix of the kit (the zero-standard). The results of the serial dilutions are plotted on a graph and if the dilutions parallel the standard curve the matrix is compatible.
2. Next the performance of recovery studies is highly recommended. Ideally an increasing amount of the analyte is added to the native sample and with the increasing concentration of the analyte the read concentrations should increase linearly.
3. Depending on the target of the study it might be necessary to establish a normal range for that special specimen. Also, in many cases the sensitivity of the assay system has to be improved. This may be accomplished by modification of incubation time and/or temperature, sample volume, or dilution of some reagents.

FOOD SAFETY

Histamine is a product of decomposition of histidine caused by the growth of certain bacteria in seafood. Fish containing high levels of histamine has been associated with many examples of poisoning commonly referred to as “scombroid poisoning”, a major health problem for consumers. LDN’s trademark HistaSure™ stands for a group of assays based on ELISA or lateral flow technologies for the quantitative and/or semi- quantitative determination of Histamine in all kind of food – with focus on different kinds of fish samples, seafood and fish sauce.

The corresponding sample preparation protocols are based on simple extractions with water and follow the AOAC Official Method 937.07. On a regular base LDN participates at external quality assessment schemes.

HISTAMINE FOOD ELISA

CATALOG NO.:	FC E-3100
DETERMINATIONS:	96
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of histamine in food
STANDARD RANGE:	depends on kind of sample
SENSITIVITY:	0.18 µg/l (depending on kind of sample)
SAMPLE VOLUME:	1 g fish meal; 10 g fresh fish, sausage, cheese; 10 µl milk; 20 µl wine

HISTASURE™ ELISA FAST TRACK



DETERMINATIONS:	48 tests (FC E-3600) 480 tests (FC E-3900)
DESCRIPTION:	Enzyme immunoassay (ELISA) for the quantitative determination of histamine in fish and fish meal
STANDARD RANGE:	0/3.0 – 300 ppm
SENSITIVITY:	0.44 ppm
SAMPLE VOLUME:	10 g fresh fish, frozen fish, canned fish, and fish meal

HISTAMINE CONTROLS

3 different concentration levels for histamine testing in fish samples. Each vial contains 0.5 ml of an extracted fish sample (tuna) with the following defined histamine concentrations:

FC C-0051:	0 ppm
FC C-0052:	50 ppm
FC C-0053:	100 ppm

APPLICATION GUIDE CATECHOLAMINE ASSAYS

CATECHOLAMINE ASSAYS RESEARCH APPLICATION

SAMPLE	AVAILABLE SAMPLE VOLUME	RECOMMENDED ASSAY	AVAILABLE ASSAY TYPE	ALTERNATIVES: ASSAYS WITH MORE SENSITIVITY
URINE	10 µl →	Serial BA 6000	RIA/ELISA →	Serial BA 5000
	< 10 µl →	Serial BA 5000	ELISA →	contact: support@ldn.de
PLASMA	300 µl →	Serial BA 6000	RIA/ELISA →	Serial BA 5000
	< 300 µl or > 600 µl →	Serial BA 5000	ELISA →	contact: support@ldn.de
OTHER	1–750 µl →	Serial BA 5000	ELISA →	As the sensitivity depends on the sample volume a detailed knowledge of the applicable sample volume is advisable. Please contact support@ldn.de and our specialists will assist you to implement the best protocol.

The sensitivity of the catecholamine research ELISAs is determined by the the extracted sample volume

CATECHOLAMINE ASSAYS FOR CLINICAL USE

SAMPLE	REQUIRED SAMPLE VOLUME	RECOMMENDED ASSAY	AVAILABLE ASSAY TYPE	TOTAL ASSAY TIME
URINE AND/OR PLASMA	10 µl urine / 300 µl plasma	Serial BA 6000	RIA/ELISA	RIA 4 h or ON; ELISA 5 h

OVERVIEW IVD AND RUO KITS

PRODUCT	CATALOGUE NO.	AVAILABLE AS
17-OH-Progesterone ELISA	FR E-2800	CE or RUO labelled kit
17-OH-Progesterone Saliva ELISA	SA E-6400	CE or RUO labelled kit
25-OH-Vitamin D (total) ELISA	MS E-5800	CE or RUO labelled kit
2-CAT (A-N) Research ELISA	BA E-5400R	RUO labelled kit
2-CAT (N-D) Research ELISA	BA E-5500R	RUO labelled kit
2-CAT ELISA FAST TRACK	BA E-6500	CE or RUO labelled kit
2-CAT RIA FAST TRACK	BA R-6500	CE or RUO labelled kit
2-MET Plasma ELISA FAST TRACK	BA E-8300	CE or RUO labelled kit
2-MET Plasma RIA FAST TRACK	BA R-8300	CE or RUO labelled kit
2-MET Urine ELISA FAST TRACK	BA E-8600	CE or RUO labelled kit
2-MET Urine RIA FAST TRACK	BA R-8600	CE or RUO labelled kit

Within the European Economic Area CE-labelled products/kits are in vitro diagnostics (IVD). Outside of the European Union the classification of the products/kits into IVD or for Research Use Only (RUO) depends on that respective nation's regulations.

In contrast to kits for in-vitro-diagnostic (IVD), kits meant for research use only (RUO) do have a R in the last position of the catalogue number.

The corresponding classification is indicated on the kit label.

3-CAT ELISA <small>FAST TRACK</small>	BA E-6600	CE or RUO labelled kit
3-CAT Research ELISA	BA E-5600R	RUO labelled kit
3-CAT RIA <small>FAST TRACK</small>	BA R-6600	CE or RUO labelled kit
5-HIAA ELISA	BA E-1900	CE or RUO labelled kit
Active Renin ELISA	MS E-5300	CE or RUO labelled kit
Adrenaline ELISA <small>FAST TRACK</small>	BA E-6100	CE or RUO labelled kit
Adrenaline Research ELISA	BA E-5100R	RUO labelled kit
Aldosterone ELISA	MS E-5200	CE or RUO labelled kit
AMH ELISA	FR E-2900	CE or RUO labelled kit
Androstenediol-Glucuronide ELISA	AA E-1500	CE or RUO labelled kit
Androstenedione ELISA	AA E-1000	CE or RUO labelled kit
Androstenedione Saliva ELISA	SA E-6700	CE or RUO labelled kit
CA 125 ELISA	TM E-4300	CE or RUO labelled kit
CA 15-3 ELISA	TM E-4400	CE or RUO labelled kit
CA 19-9 ELISA	TM E-4500	CE or RUO labelled kit
CEA ELISA	TM E-4100	CE or RUO labelled kit
Chromogranin A ELISA	TM E-9000	CE or RUO labelled kit
Corticosterone ELISA	MS E-5400	CE or RUO labelled kit
Corticosterone Rat/Mouse ELISA	AR E-8100R	RUO labelled kit
Cortisol ELISA	MS E-5000	CE or RUO labelled kit
Cortisol Saliva ELISA	SA E-6000	CE or RUO labelled kit
Cortisol Urine ELISA	MS E-5100	CE or RUO labelled kit
C-Peptide ELISA	ME E-0100	CE or RUO labelled kit
CRP ELISA	DM E-4600	CE or RUO labelled kit
DHEA ELISA	AA E-1600	CE or RUO labelled kit
DHEA Saliva ELISA	SA E-7000	CE or RUO labelled kit
DHEA-S ELISA	AA E-1100	CE or RUO labelled kit
DHEA-S Saliva ELISA	SA E-6500	CE or RUO labelled kit
DHT ELISA	AA E-1900	CE or RUO labelled kit
Dopamine ELISA <small>FAST TRACK</small>	BA E-6300	CE or RUO labelled kit
Dopamine Research ELISA	BA E-5300R	RUO labelled kit
Estradiol ELISA	FR E-2000	CE or RUO labelled kit
Estradiol Rat	AR E-8800R	RUO labelled kit
Estradiol Saliva ELISA	SA E-6200	CE or RUO labelled kit
Estrone ELISA	FR E-2300	CE or RUO labelled kit
Estrone Saliva ELISA	SA E-7100	CE or RUO labelled kit
Estrone-3-Sulfate Equine ELISA	AR E-8300R	RUO labelled kit
Free Estrinol ELISA	FR E-2100	CE or RUO labelled kit
Free Estrinol Saliva ELISA	SA E-6600	CE or RUO labelled kit
Free Testosterone ELISA	AA E-1800	CE or RUO labelled kit
fT3 ELISA <small>2ND GENERATION</small>	TF E-2100	CE or RUO labelled kit
fT4 ELISA <small>2ND GENERATION</small>	TF E-2200	CE or RUO labelled kit
GABA ELISA	BA E-2500	CE or RUO labelled kit
Glutamate ELISA	BA E-2400	CE or RUO labelled kit
Growth Hormone HGH ELISA	ME E-0200	CE or RUO labelled kit
Histamine ELISA	BA E-1000	CE or RUO labelled kit
Histamine Research ELISA	BA E-5800R	RUO labelled kit
IgA Saliva ELISA	SA E-6800	CE or RUO labelled kit
h-NSE ELISA	TM E-4700	CE or RUO labelled kit

IGF-1 ELISA	ME E-0500	CE or RUO labelled kit
IGFBP-1 ELISA	ME E-0400	CE or RUO labelled kit
Insulin ELISA	ME E-0900	CE or RUO labelled kit
Interleukin-1β ELISA	IL E-3000	CE or RUO labelled kit
Interleukin-6 ELISA	IL E-3100	CE or RUO labelled kit
Kynurenine ELISA	BA E-2200	CE or RUO labelled kit
Leptin ELISA	ME E-0300	CE or RUO labelled kit
Metanephrine Plasma ELISA <small>FAST TRACK</small>	BA E-8100	CE or RUO labelled kit
Metanephrine Urine ELISA <small>FAST TRACK</small>	BA E-8400	CE or RUO labelled kit
Noradrenaline ELISA <small>FAST TRACK</small>	BA E-6200	CE or RUO labelled kit
Noradrenaline Research ELISA	BA E-5200R	RUO labelled kit
Normetanephrine Plasma ELISA <small>FAST TRACK</small>	BA E-8200	CE or RUO labelled kit
Normetanephrine Urine ELISA <small>FAST TRACK</small>	BA E-8500	CE or RUO labelled kit
Plasma Renin Activity (PRA) ELISA	MS E-5600	CE or RUO labelled kit
Pregnenolone ELISA	FR E-2700	CE or RUO labelled kit
Progesterone ELISA	FR E-2500	CE or RUO labelled kit
Progesterone Rat/Mouse	AR E-8700R	RUO labelled kit
Progesterone Saliva ELISA	SA E-6300	CE or RUO labelled kit
Reverse T3 (rT3) ELISA	TF E-2500	CE or RUO labelled kit
Sali Set 100	SA D-6100	CE or RUO labelled kit
Sali Set 500	SA D-6500	CE or RUO labelled kit
Serotonin ELISA <small>FAST TRACK</small>	BA E-8900	CE or RUO labelled kit
Serotonin Research ELISA	BA E-5900R	RUO labelled kit
Serotonin RIA <small>FAST TRACK</small>	BA R-8900	CE or RUO labelled kit
SHBG ELISA	AA E-1200	CE or RUO labelled kit
T3 ELISA <small>2ND GENERATION</small>	TF E-2300	CE or RUO labelled kit
T4 ELISA <small>2ND GENERATION</small>	TF E-2400	CE or RUO labelled kit
Testosterone ELISA	AA E-1300	CE or RUO labelled kit
Testosterone Mouse/Rat ELISA	AR E-8000R	RUO labelled kit
Testosterone Saliva ELISA	SA E-6100	CE or RUO labelled kit
Tryptophan ELISA	BA E-2700	CE or RUO labelled kit
TSH Canine ELISA	AR E-8500R	RUO labelled kit
TSH ELISA <small>2ND GENERATION</small>	TF E-2000	CE or RUO labelled kit
TSH Rat ELISA	AR E-8600R	RUO labelled kit
Tumor Necrosis Factor α ELISA	FC E-3100	CE or RUO labelled kit
β2-Microglobulin ELISA	TM E-4600	CE or RUO labelled kit

FOOD SAFETY

PRODUCT	CATALOGUE NO.
Histamine Food ELISA	FC E-3100
HistaSure™ ELISA Fast Track	FC E-3600, FC E-3900

ABOUT US

WHO WE ARE AND WHAT WE DO

LDN was founded in 1996 in Nordhorn, Germany, with the aim to develop, manufacture and supply specialty in vitro diagnostics test systems and innovative technologies to the clinical and research laboratory markets. From the beginning the determination of biogenic amines with immunological test systems was in the core of our business – where we are nowadays the world wide market leader. Integral part of this success are e.g. our assays for the quantitative determination of free metanephrines in plasma, the catecholamines, histamine and serotonin. This positive outcome encouraged us to expand our business to related diagnostic areas such as food control, neurotransmitters and amino acids. Next, LDN introduced a comprehensive endocrinological panel, especially also for niche parameters e.g. free testosterone, 17-OH-progesterone, chromogranin A, DHT, estrone.

We continue to innovate on a consistent base new assays for the medical and scientific lab.

LDN products are distributed in over 90 countries by a network of OEM partners and distributors and in North America through our partner company Rocky Mountain diagnostics.

Our focus aside from selling great products is to support them. Our concern is your satisfaction and confidence in using the latest and newest technologies from our company. Our team is highly trained and experienced as both end user and developer. We believe this philosophy gives our support, in addition to efficiency, a personal touch exclusive to our products. We guarantee a 24-hour turnaround time on most all technical inquiries. Our company is privately owned, thus making our customers the number one priority. As such, we provide our customers with the best possible products and services.

We have meanwhile finished our facility expansion which increased our laboratory, office and warehouse space from 3,600 to 16,000 sq.ft.. Aside from spacious production facilities, R&D and QC laboratories, we have also doubled our refrigeration capacity from 900 to 1,600 sq.ft.. At our disposal is also a seminar room and a fully equipped customer training area.

We look forward to having you as our guests in our headquarters!



WE ARE ABLE TO OFFER OUR CUSTOMERS THE LATEST PRODUCTS AND SERVICES INCLUDING:

- Immunodiagnostic assays for the research and routine laboratory
- Research reagents
- Contract manufacturing
- Specialized contract analysis of biomedical samples

QUALITY AND RELIABILITY

LDN has developed an extensive internal quality assurance program and our facilities are DIN EN ISO 13485 and 9001 certified. LDN participates on a regular in national (e.g. INSTAND) and international quality assessment programs. All in vitro diagnostics fulfil the regulations of the European Directive 98/79/EC (CE).

OUR MISSION STATEMENT

LDN is dedicated to exceeding our customers' expectations in terms of the quality of the products and services we provide.

LDN'S MISSION IS TO:

- Maintain a quality management system that meets the EN ISO 13485 and 9001 certification standards.
- Dedicate ourselves to a strategy of continuous improvement.
- Constantly seek to understand the expectations of our customers and strive to exceed those expectations at every juncture.
- Ensure that all LDN employees thoroughly understand and adhere to the spirit and the letter of the company's quality policy, as well as the directives of the quality manual and its subordinate documents.
- Innovate – true to the motto: We lead – others follow!

GENERAL TERMS AND CONDITIONS

I In General

By placing an order the customer accepts our General Terms and Conditions (GTC). Each agreement which deviates from the GTC requires our confirmation in written form. The delivery contract between the customer and LDN becomes legal with our written order confirmation.

II License Requirements for RIA Customers

In compliance with German Regulations, a copy of the customer's current radioisotope license must be on file with LDN. The license may either be mailed or faxed to the Order Entry Department at LDN. Orders cannot be shipped until the license is received by Order Entry (Radiation Protection Act of June 30, 1989).

III Prices

Prices are quoted – unless otherwise agreed – ex works and do not include applicable taxes, costs for customs clearing or shipment. All prices are subject to change without prior notice.

IV Terms of Payment

For customers located in Germany the invoices have to be paid at 30 days net unless other arrangements have been made with LDN prior to shipment. International orders require payment in advance until a credit history has been established with LDN or unless other arrangements have been made with LDN prior to shipment. Payment is not valid until we have the total amount on our account. If the terms of payment are not followed LDN keeps the right to stop the delivery.

V Proprietary Rights

LDN keeps the ownership of the goods delivered until our claims have been fully paid. Preventive transference and preventive sale or mortgage of goods being reserved as our property is inadmissible.

VI Deliveries

All deliveries are being affected at the buyer's risk. LDN does not take on any responsibility for damages during transport and its consequences and refuse any compensation. LDN is exempt from any delivery obligations in cases of circumstances, which to sort is beyond our control and which make it impossible or unacceptable for us to execute delivery. Further claims, especially entitlements to compensation due to non-delivery or late delivery as well as for any other real or legal reason are rejected.

VII Claims and Returns

All incidents of shortage, breakage, or any other product damage have to be reported to us within 5 days of receipt of goods. LDN will not honour any claims reported after the five-day period. Customers are responsible for cargo insurance and all other charges incurred. In the event of a claim for lost, delayed or damaged shipments, the customer must file the claim with the carrier and not hold LDN accountable. Report all shipping errors to LDN immediately. Should damage occur during shipping, please report the damage to both the carrier and LDN. LDN assumes no liability for loss or delay caused by strikes, accidents, delays of carrier, or other causes beyond LDN's control. No products may be returned to LDN unless prior authorization and shipping instructions have been obtained from LDN.

VIII Jurisdiction

The court of jurisdiction is Nordhorn, Germany.

Nordhorn, November 2021

IODINATION RELEASES 2022

(Note: Our RIAs have a shelf-life of 15 weeks!)

In 2020 there will be the following lot releases for isotopic assays:

Monday, March 28 th	2022
Monday, May 30 th	2022
Monday, August 29 th	2022
Monday, November 28 th	2022

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