

2024

**LIST OVER PROHIBITED
SUBSTANCES AND
WITHDRAWAL TIMES**

**FOR RACEHORSES PARTICIPATING IN
SCANDINAVIAN RACES**

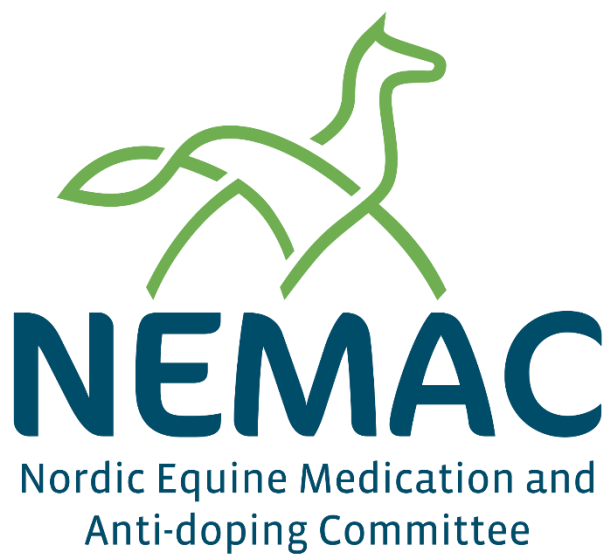


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List over prohibited substances and withdrawal times in Scandinavia, valid from **January 1st, 2024.**

This list has been developed in collaboration with the Scandinavian countries through NEMAC (Nordic Equine Medication and Anti-doping Committee).

The List of prohibited substances and withdrawal times consists of three parts:

- A-list, listing substances and treatment methods that are prohibited for horses in competition and in training for competition
- B-list, listing substances that are prohibited in competition, the withdrawal times for these substances as well as treatment methods with withdrawal times
- C-list, listing the minimum racing ban for the horse in case of violation of the provisions in the A- and B-list.

The list may be reviewed several times per year. This list is valid, starting from **January 1st, 2024**, and is enforced until a new list takes effect. A valid list of withdrawal times can be found at any time on each of the NEMAC member countries official websites:

- The Norwegian Trotting Association (DNT) www.travsport.no
- The Norwegian Horseracing Authority (NG) www.ovrevoll.no
- The Swedish Trotting Association (ST) www.travsport.se
- The Swedish Horseracing Authority (SG) www.svenskgalopp.se
- The Danish Trotting Association (DTC) www.trav.dk
- The Danish Jockey Club (DG) www.danskgalop.dk

General information:

Medical records

According to UET's international agreement on trotting races, the trainer is responsible for all treatments the horse receives. All treatment should be given with the intention to attend to the horse's health and well-being. Any treatment that require a withdrawal time shall be kept in up-to-date medical records and be made available for inspection when requested at the racetrack as well as in the stables. The medical records must at least contain: the name of the veterinary surgeon/the person responsible for the actual treatment, the identity of the horse, start and end date and time of the medication or treatment, description of the treatment/medication/active substance, route of administration, dosage/amount of the medication given, and the withdrawal time. Passport and medical records must be available for presentation with the horse at all times. Omitting, incompletely or improperly listing treatments in the medical record constitutes a breach of the Doping Regulations.

Doping and medication control on race day

According to the Nordic countries' rules and regulations, any horse registered for race can be brought in for doping and medication control both before the start of the race or be hold back for as long time as needed to obtain the desired sample. Blood samples, urine samples and/or hair samples can be taken. One of the stable/trainers crew must accompany the horse during

the procedure. The horse's passport and medical record (Norway and Denmark) must be disclosed to the racing official. The horse is allowed to drink fresh water during the medication control, but no other supplements can be given until the doping and medication control is finished.

Out of competition testing (OOC-testing)

To ensure fair competition, transparency, horse welfare and to control that medical records are kept up to date, the NEMAC member-countries carry out OOC-testing. This implies that doping control and control of the medical records can take place at any time during the horse's life. Trainers must therefore notify their domestic racing jurisdiction when moving a horse to or from the stables, so that the inspectors appointed by the racing organization can find the horse on the registered location at any time when carrying out unannounced inspections and OOC-testing.

Contamination by pharmaceutical products

Generally, great care must be taken to ensure that horses that are under medical treatment are kept in a stall of their own, and that buckets, cribs and stalls are carefully cleaned after the treatment period. Horses undergoing drug treatment will excrete medication through urine and faeces and potentially transfer residues of the drugs to other horses through feed stuff, shavings or straw. Persons handling the horses must ensure that any medication for personal use is kept away from the horses at all times. No person may urinate in the horse's immediate environment (such as the stall, box or horse trailer) as medication excreted in urine from humans may transfer to the horse through contaminated feed or bedding.

Use of supplements

You should assume that any supplement, including herbal substances, that has, or claims to have an effect on horses (or any other species) is prohibited in competition unless you have a specific advice that states otherwise.

A. LIST OF PROHIBITED SUBSTANCES

1. The following substances are prohibited in competition:

- Substances that may affect or have an effect, or both, on the following organ systems:
 - The nervous system
 - The cardiovascular system
 - The respiratory system
 - The digestive system
 - The urinary system
 - The reproductive system
 - The muscular and skeletal systems
 - Blood and blood forming organs
 - The immune system
 - The endocrine system

- Endogenous hormones or similar synthetic substances
- Substances with a masking effect
- Substances which directly or indirectly manipulate the expression of genes
- Stimulants
- Narcotics, including optical isomers (*d* and *l* -form where relevant)
- Cannabinoids

Either a finding of the substance itself, the finding of a metabolite of the substance, or the finding of a prodrug of the substance indicates the finding of such substances. Administration of or exposure to such substances may constitute a positive finding of the substance.

2. Genetic and cellular manipulation

Modification of the genome of a horse at any point in the horse's life will result in a lifetime disqualification from competition.

Any gene therapy or cellular manipulation applied to in a horse intended to race must not be capable of:

- Positively or negatively affect the horse's inherent performance capacity
- Modifying a horse's heritable genome
- Pose a threat to the welfare of the horse

3. Specified prohibited methods

Prohibited methods include, but are not limited to:

- Neurectomy and denervation (surgical and/or chemical).
- Manipulation of blood and blood components, including administration or retransfer of homologous or heterologous blood or products of red blood cells to the circulatory system, except those performed for life-saving purposes.
- Artificially increasing oxygen uptake and/or oxygen transport in the tissue, including but not limited to the use of modified hemoglobin products.
- Any kind of intravascular artificial manipulation of blood or blood components
- Manipulation of inhaled air with the aim to increase the volume of red blood cells (e.g., high-altitude barns, hyper- and hypobaric chambers)
- Any kind of infusion to the blood stream if done by other than a veterinarian
- Application of a substance or use of a procedure to cause vesiculating and/or inflammation of the skin and/or underlying tissue.
- The application of thermocautery to the skin over the musculoskeletal structures to cause counter-irritant effect, i.e., firing, including freeze firing, when the aim is to affect the underlying tissues. Freeze firing of periostitis with production of new bone (exostoses) and curb (distal plantar desmitis) is exempt from prohibition. Treatment must only be administered by an authorized veterinary surgeon.
- Cryotherapy to achieve pain relief before racing.
- Insertion of naso-gastric tube if done by other than a veterinarian.
- Withholding drinking water before racing.
- Racing a pregnant mare after day 120 of pregnancy.
- Racing a mare earlier than 180 days after foaling.

4. Substances that have no place in the management of a horse intended to race

The following substances, including other substances with a similar chemical structure or similar biological effect, and their releasing factors, are prohibited to use, store, manufacture, import, export, sell, distribute, acquire, send or transfer at any time:

4.1 Non-approved substances.

Substances which are not listed in any of the classes below, and which have not been approved by any national or international medicines agency, may not be administered to a racehorse.

4.2 Anabolic substances

- a) Anabolic androgenic steroids
- b) Other anabolic substances, including but not limited to selective androgen receptor modulators (SARMs)

- c) Beta-2 agonists, except in cases where such substance is prescribed by a veterinary surgeon for use in bronchodilation treatment and used in dosages marketed and approved for such treatment.

4.3 Peptide hormones, growth factors, and similar substances

- a) Erythropoietin stimulating agents, including but not limited to erythropoietin (EPO), epoetin alfa, epoetin beta, darbepoetin alfa, methoxy polyethylene glycol-epoetin beta, peginesatide, hypoxia-inducible factor (HIF-1) stabilizers (e.g., cobalt and nickel) and activators (e.g., xenon, argon or HIF «breakdown» inhibitors (e.g., IOX2)).
- b) Growth hormones or growth hormone inducing factors, insulin-like growth factor (IGF-1), fibroblast growth factor (FGF), hepatocyte growth factor (HGF), mechanogrowth factor (MGF), platelet derived growth factor (PDGF) and other growth factors (e.g., Tymosin/TB-500, TB-1000, SDF-1000).
- c) Synthetic proteins and peptides and synthetic analogues of endogenous proteins and peptides that are not approved for use in human or veterinary medicine.

4.4 Hormones and metabolic modulators

- a) Aromatase inhibitors
- b) Selective estrogen receptor modulators (SERMs) and other anti-estrogen substances
- c) Substances which may modify myostatin function, including but not limited to myostatin inhibitors.
- d) Insulin, except when used for treatment of life-threatening conditions in the neonatal period
- e) Peroxisome proliferator-activated receptor gamma agonists, including but not limited to GW 1516
- f) AMPK activators, including but not limited to AICAR (5-aminoimidazole-4-carboxamide-1- β -D-ribofuranoside)

4.5 Synthetic oxygen carriers

- a) Included but not limited to perfluorocarbons (PFCs) and diaspirin crosslinked hemoglobin
- b) Synthetic allosteric hemoglobin effectors, including but not limited to Myo Inositol Tri Pyrophosphate (ITPP)
- c) Substances likely to induce a concentration of available carbon dioxide above the internationally defined thresholds

4.6 Various other prohibited treatments and substances

- Nicotinic acetylcholine receptor blockers, included but not limited to cobratoxin
- Capsaicin

- Pitcher plant extracts (e.g Sarapin, Saralgyl)
- Polyacrylamide hydrogel
- Application of substances containing eg. arsenic, lead, mercury, croton oil or cedar oil.
- Use of radioactive implants and gold implants.
- Treatment with Ozone
- Supplying unphysiological high doses of naturally occurring substances
- All administration of DMSO (Dimethylsulfoxide) intravenously, intraarticularly, intrasynovially, subcutaneously, intramuscularly, or perorally is prohibited. DMSO added as an excipient in therapeutics with a marked authorization for use in horses or other species is exempt from prohibition (RenuTend® and Artic-Cell Forte®).
For topical use are only licensed products containing DMSO permitted (Ekyflogyl®). Specific withdrawal times and international thresholds/residue limits apply.

5. Drugs authorized for marketing for equine use but prohibited to use in racehorses

- GnRH vaccine, or other substances causing immunologic castration
- hCG (Human chorionic gonadotropin) used in stallions
- Pergolide
- Treatment with bisphosphonates in horses younger than 4 years, or bisphosphonates administered in other ways than the drug is approved/registered for. The use of bisphosphonates without a marketing authorization for horses is also prohibited. This includes all amino-bisphosphonates (e.g. zoledronate, alendronate, pamidronate)

B. LIST OF WITHDRAWAL TIMES

The withdrawal times listed here should be considered minimum requirements and are counted as lasting from the last administration of a medication or substance, or termination of other treatment, until the start of the first race of the day. When a substance or drug is detected in biological material from the horse, it is considered prohibited even if the substance or drug was administered earlier than the listed withdrawal time.

1. Withdrawal times for substances and treatments

The times listed below are valid unless a specific withdrawal time is given for the particular substance or treatment.

- a) No withdrawal time

- Topical application on skin of substances which only have a protective, disinfecting, softening, absorbing, astringent, drying or keratolytic effect
- Cooling off the horse with liquid water
- Use of saline- and/or lubricating laxatives (e.g. Glauber's salt)
- Any disinfectants, e.g. chloramine, chlorhexidine, cetylpyridinium chloride
- Intrauterine implants for delaying oestrus ("marbles", iUpod®)

b) Prohibited on the day of the racing

The day of the race is defined as starting at midnight, 00:00, and ends when the horse has finished its race/races.

- Nothing but ordinary feed should be given on the day of the race.
- Nasal strips
- Inhalation therapy
- Insertion of nasoesophageal/nasogastric tube
- Rectal fluid therapy
- Cooling by means other than liquid water, mud or topical preparations/liniments which do not have a withdrawal time
- Use of electric massagers and other electrical devices
- Physical treatment including chiropractic-, light- naprapathic-, osteopathic-, ultrasound- and magnetic field treatment

c) 24 hours minimum

- Alkalizing substances (e.g. bicarbonate and citrates)

d) 96 hours minimum

- Injection or infusion, regardless of preparation
- Antifungal drugs
- Local antimicrobial treatment with cloxacillin, chloramphenicol, zinc bacitracin or fusidic acid preparations
- **Local anesthesia of the eye with oxybuprocaine, proximethacaine or tetracaine**
- Equipment for treatment or treatment methods marketed with claim for analgesic effect ("medical claim")
- Laser
- Transcutaneous nerve stimulation (TNS)
- Acupuncture
- Herbal medication (for oral administration)

e) 5 days minimum

- Vaccination

f) 7 days minimum

- Expectorant medication, e.g. bromhexine, dembexine, acetylcysteine
- Hyposensitization therapy (allergy immunotherapy AIT/ASIT)

g) 8 days minimum

- Antimicrobial drugs for systemic administration (with the exception of procaine benzylpenicillin which has a withdrawal time of 14 days)

h) 10 days minimum

- Shock wave or pulsed wave therapy (NOTE: Treatment must only be administered by an authorized veterinary surgeon)

i) 14 days minimum

- Injections in the joints or bursae, joint/synovial puncture
- Glucocorticoids (cortisone) with a short-term effect and rapid excretion. In the case of injections in the joints, tendon sheaths or bursae with any other glucocorticoid than dexamethasone sodium phosphate, the withdrawal time is 28 days
- Bronchodilator medication (e.g. salbutamol, salmeterol, beclomethasone, budesonide, theophylline)
- Anti-inflammatory medication
- NSAID, except NSAID with long elimination, e.g. firocoxib 30 days w.t.
- Topical use of licensed products containing DMSO
- ACTH
- IRAP
- Cyclosporine and other immunosuppressing substances

j) 28 days minimum

- Arti-Cell Forte®
- RenuTend®
- Any glucocorticoids (cortisone) with the exception of those mentioned in section i) above.

Long-acting glucocorticoids such as triamcinolone acetonide, betamethasone phosphate/betamethasone acetate and methylprednisolone acetate are authorized for marketing for human use, but not for equine use. Therefore, there rests a greater responsibility upon the veterinary surgeon when prescribing these medications for use in horses.

The recommended withdrawal times after injection of such medication in joints, bursae or tendon sheaths are based on dosages empirically established as common in clinical practice, injected in one or two joints. However, if higher doses are used or more than two joints/bursae/tendon sheaths are treated with injections, the withdrawal times should be extended significantly beyond the 28 days. In such cases, an appropriately long withdrawal time must be determined by the veterinary surgeons professional judgment. Methylprednisolone acetate has a particularly long-lasting effect and is very slowly eliminated. It is therefore not recommended for use in racing horses. Triamcinolone acetonide and other depot formulations may have a very long elimination time even after intramuscular injection.

k) 30 days minimum

- Castration – Racing is prohibited up to 30 days after surgical castration of a stallion

l) 60 days minimum

- Bisphosphonates (Tildren® and Osphos®) are not allowed to use in horses younger than 4 years of age (until 31st of December as three years old). Veterinary examination and evaluation is required before bisphosphonates are administered. The products have to be administered on the indications and with the routes of administration approved by the manufacturer and the relevant authorities. Bisphosphonates without a marketing authorization for horses, including all amino-bisphosphonates, are also prohibited.

m) One year

- Long-acting hormone therapy to delay oestrus (e.g., Progesterone)

2. Withdrawal times for drugs authorized for marketing for equine use in Scandinavian countries

The withdrawal times for drugs listed in the Danish, Norwegian or Swedish Pharmaceutical Product Compendium for veterinary medicine are valid only when adhering to the manufacturer's recommendation regarding dosage, dosage intervals, administration method and duration of treatment. In the case of deviations from those, prolonging the withdrawal times may be necessary.

Name of active substance and withdrawal time for drugs authorized for marketing for equine use:

Active substance	Min. WT time	Important info
Acepromazine	7 days	Not recommended for racehorses
Acetylcysteine	7 days	
Adrenaline	96 hours	
Altrenogest	14 days	
Benzylpenicillin	8 days	
Benzylpenicillin procaine	14 days	
Benzylpenicillin procaine + dihydrostreptomycin	14 days	
Benzylpenicillin procaine + dihydrostreptomycin + sulfadimidine	14 days	
Buprenorphine	6 days	
Buserelin acetate	96 hours	
Butorphanol	6 days	
Butylscopolamine	96 hours	
Cetirizine	8 days	

Ciclesonide	14 days	
Clenbuterol	28 days	
Clodronate	60 days	Not permitted to use in horses under 4 years, see page 8, 1.1 for more information
Cloprostenol	96 hours	
Chlortetracycline	96 hours	For eye treatment/local treatment
Cromoglycate	14 days	
Detomidine	96 hours	
Dexamethasone	28 days	
Dexamethasone sodium phosphate	14 days	
Dihydrostreptomycin	8 days	
Dinoprost	96 hours	
Enrofloxacin	8 days	
Etamsylate	6 days	
Febantel	96 hours	
Fenbendazole	96 hours	
Firocoxib	30 days	
Flunixin	14 days	
Gentamicin	8 days	
Heparin	96 hours	
Hydroxietyl salicylate	96 hours	
Isoflurane	96 hours	
Ivermectin	96 hours	
Ivermectin and praziquantel	96 hours	
Ketamine	96 hours	
Ketanserin	0 hours	
Ketoprofen	14 days	
Levomethol	96 hours	
Lidocaine	96 hours	
Lidocaine + adrenaline	96 hours	
Luprostiol	96 hours	
Meloxicam	14 days	
Menbutone	96 hours	
Mepivacaine	6 days	
Metamizole/Dipyrone	7 days	
Misoprostol	96 hours	
Moxidectin	96 hours	
Moxidectin/praziquantel	96 hours	
Omeprazole	96 hours	Oral medication only
Oxytetracycline	8 days	
Oxytetracycline + Polymyxin B	96 hours	
Oxytocin	96 hours	
Pergolide mesylate	Prohibited	Not permitted in racing horses. See p. 5
Phenylbutazone	14 days	

Polysulfated glycosaminoglycan	14 days	Not permitted to use in horses under 4 years, see page 8, 1.1 for more information
Praziquantel	96 hours	
Prednisolone	14 days	
Procaine	96 hours	
Pyrantel pamoate	96 hours	
R-cloprostenol	96 hours	
Romifidine	5 days	
Scopolamine	96 hours	
Sodium hyaluronate	14 days	
Sucralfate	96 hours	
Sulfadiazine	8 days	
Sulfadoxine	8 days	
Suxibuzone	14 days	
Tetanus vaccine	96 hours	
Teophylline	14 days	
Tiludronic acid	60 days	
Trimethoprim	8 days	
Trimethoprim + sulfadiazine	8 days	
Trimethoprim/sulfadoxine	8 days	
Vaccinations against horse flu, tetanus, herpes, rabies and ringworm	5 days	
Vedaprofen	14 days	
Vitamin A, D2 og E (for injection)	96 hours	
Vitamin B (for injection)	96 hours	
Vitamin E (for injection)	96 hours	
Xylazine	6 days	

3. Withdrawal times for medication administered through an inhaler

The use of inhalation apparatus is not permitted on race day.

Salbutamol, salmeterol, beclomethasone, budesonide, ciclesonide	14 days
Mast cell stabilizers (e.g. cromoglicate)	14 days
Saline	Not permitted on race day
Other medication for use by inhalation	Depending on the withdrawal time of the drug

4. Withdrawal times for products for external use, feed and supplements

Preparations which only have a protective, disinfectant, softening, absorbing, adstringent, drying or keratolytic effect, used topically on the skin, have no withdrawal time. Ointments or liniments containing antibacterial or antifungal substances have a minimum withdrawal time of 96 hours, with the exception of preparations containing procaine benzylpenicillin, NSAIDs, or glucocorticoids, which have a withdrawal time of 14 days. Equipment for treatment or treatment methods marketed with claim for analgesic effect (“medical claim”) has a minimum of 96 hours withdrawal time.

Nothing but ordinary feed should be given on the day of the race.

a) Withdrawal time 48 hours:

Herbal medicines, e.g.:

- Aesculus hippocastanum (horse chestnut)
- Agnus castus (monk’s pepper)
- Echinacea purpurea (purple coneflower)
- Hypericum perforatum L. (St John’s wort)
- Symphytum officinale L. (common comfrey)
- Valeriana officinalis (valerian)

b) Withdrawal time 96 hours:

- Alpha casozepine
- Benzocaine
- Boswellia
- Caffeine (including Guarana products)
- Confidence EQ
- Harpagophytum procumbens (Devil’s claw)
- Heparin
- Levomenthol, menthol
- MSM (methylsulfonylmethane)
- Salicylates
- Tamarind
- Turmeric (curcumin)

5. Threshold values for certain endogenous and/or naturally occurring substances

If the concentration in a sample exceeds these thresholds, the sample will be considered as a positive sample of a prohibited substance.

THRESHOLD NAME	THRESHOLD
Arsenic	- 0.3 microgram total arsenic per millilitre in urine
Boldenone	- 0.015 microgram free and conjugated boldenone per millilitre i urine from male horses (other than geldings)
Carbon dioxide	- 36 millimoles available carbon dioxide per litre in plasma

Cobalt	- 0.1 microgram (= 100 ng) total cobalt per millilitre in urine - 0.025 microgram (= 25 ng) total cobalt (free and protein bound) per milliliter in plasma
Estranediol in male horses (other than geldings)	- 0.045 microgram free and glucuroconjugated 5 α -estrane-3 β , 17 α -diol per millilitre in urine when, at the screening stage, the free and glucuroconjugated 5 α -estrane-3 β , 17 α -diol exceeds the free and glucuroconjugated 5,10 estrene-3 β ,17 α -diol in the urine
Hydrocortisone	- 1 microgram hydrocortisone per milliliter in urine
Methoxytyramine	- 4 micrograms free and conjugated 3-metoxytyramine per millilitre in urine
Salicylic acid	- 750 micrograms salicylic acid per millilitre in urine, or - 6.5 micrograms salicylic acid per millilitre in plasma
Testosterone	- 0.02 microgram free and conjugated testosterone per millilitre in urine from geldings when, at the screening stage, the free and conjugated testosterone exceeds five times the free and conjugated epi-testosterone, or - 100 picograms free testosterone per millilitre in plasma from geldings, fillies and mares (unless in foal), or - 0.055 microgram free and conjugated testosterone per millilitre in urine from fillies and mares (unless in foal)
Prednisolone	- 0.01 microgram free prednisolone per millilitre in urine

N.B.: The conjugated substance is the substance that can be liberated from conjugates. Each threshold, including those for the same substance in urine and plasma, can be applied independently. No determination and consideration of the specific gravity of a horse urine sample is required when comparing its concentration with a urinary threshold.

6. List of substances with adopted screening- and residue limits

Substances that have established screening limits are listed below. Substances for which there are screening limits in both urine and plasma are marked with an asterisk *. The actual screening limits are not public according to decisions made in the European Horserace Scientific Liaison Committee (EHSLC) and the Nordic Equine Medication and Anti-doping Committee (NEMAC).

- Acepromazine*
- Altrenogest*
- Atropine
- Betamethasone
- Bromhexine/ambroxol
- Bufotenine
- Buprenorphine
- Butorphanol*
- Butylscopolamine (N-butylscopolamine) *
- Caffeine*
- Camphor
- Carprofen*
- Cetirizine*
- Clenbuterol
- Clodronate
- Dantrolene (metabolite)*
- Demborexine*
- Detomidine (3'-hydroxydetomidine) *
- Dexamethasone
- Diclofenac*
- Dimethyl sulfoxide (DMSO) *
- Dimethyltryptamine (DMT)
- Dipyrone (as 4-MAA) (=metamizole) *
- Eltenac

- Etamiphylline
- Firocoxib*
- Flunixin*
- Furosemide*
- Guaifenesin
- Hordenine
- Hydroklortiazid*
- Ibuprofen
- Ipratropium
- Ketoprofen *
- Lidocaine (3-hydroxy lidocaine) *
- Meclofenamic acid*
- Meloxicam*
- Menthol
- Mepivacaine *
- Methylsulfonylmethane (MSM)
- Morphine (morphine glucuronide)
- Naproxen
- Nimesulide
- Omeprazole*
- Oxazepam
- Oxytetracycline*
- Phenylbutazone*
- Procaine *
- Romifidine*
- Salbutamol
- Scopolamine
- Teophylline*
- Theobromine
- Tiludronic acid
- Triamcinolone acetonide
- Trimethoprim*
- Vedaprofen*
- Xylazine (metabolite/s)

NOTE: If two or more similar substances are found in a sample, the screening limits will not apply (due to the so-called “cocktail rule”). This is to ascertain that multiple similar medications are not used in combination in smaller doses to avoid exceeding the screening limits. The screening limits do not apply for out-of-competition testing.

Exceptions to the “cocktail rule” are findings of the following combinations:

- Detomidine, romifidine or xylazine in combination with butorphanol
- Atropine and scopolamine
- Butylscopolamine and dipyrone/metamizole

C. RACING BAN FOR THE HORSE

Any use of prohibited substances or methods will impose a racing ban for the horse. The Scandinavian countries have specified the minimum racing ban for each substance or method based on its effect and severity.

NEMAC emphasizes that any use of prohibited substances or methods involves a violation of the antidoping regulations in the country where the horse resides or have raced, and the horse’s trainer may face prosecution. Therefore it is crucial to distinguish between a racing ban

and the minimum withdrawal times that are published for substances and methods included in the part B of the List of prohibited substances and withdrawal times in Scandinavia

Use of prohibited substances/methods (breach of the A-list) will, for the horse, result in these minimum racing ban (1-3):

1. Lifetime ban from racing

- Modification of the genome of a horse at any point in the horse's life, this includes gene therapy or cellular manipulation applied with the ability to:
 - Positively or negatively affect the horse's inherent performance capacity
 - Negatively affect the horse's welfare
- Neurectomy and denervation (surgical and/or chemical).
- The application of thermocautery to the skin over the musculoskeletal structures to cause counter-irritant effect, **done after 01.03.2021**, i.e., firing, including freeze firing, when the aim is to affect the underlying tissues. Freeze firing of periostitis with production of new bone (exostoses) and curb (distal plantar desmitis) is exempt from prohibition.
- Anabolic substances:
 - Anabolic androgenic steroids
 - Other anabolic substances, including but not limited to selective androgen receptor modulators (SARMs)
 - Beta-2 agonists, except in cases where such substance is prescribed by a veterinary surgeon for use in bronchodilation treatment and used in dosages marketed and approved for such treatment
- Growth hormones or growth hormone inducing factors, insulin-like growth factor (IGF-1), fibroblast growth factor (FGF), hepatocyte growth factor (HGF), mechanogrowth factor (MGF), platelet derived growth factor (PDGF) and other growth factors (e.g., Tymosin/TB-500, TB-1000, SDF-1000).
- Polyacrylamide hydrogel
- Use of radioactive implants and gold implants.

2. Minimum 12 months ban from racing

- Manipulation of blood and blood components, including administration or retransfer of homologous or heterologous blood or products of red blood cells to the circulatory system, except those performed for life-saving purposes.
- Artificially increasing oxygen uptake and/or oxygen transport in the tissue, including but not limited to the use of modified hemoglobin products
- Any kind of intravascular artificial manipulation of blood or blood components
- Manipulation of inhaled air with the aim to increase the volume of red blood cells (e.g., high-altitude barns, hyper- and hypobaric chambers)
- The application of a substance to cause vesiculating of the skin and/or underlying tissue
- Peptide hormones, growth factors, and similar substances:

- Erythropoietin stimulating agents, including but not limited to erythropoietin (EPO), epoetin alfa, epoetin beta, darbepoetin alfa, methoxy polyethylene glycol-epoetin beta, peginesatide, hypoxia-inducible factor (HIF-1) stabilizers (e.g., cobalt and nickel) and activators (e.g., xenon, argon or HIF «breakdown» inhibitors (e.g., IOX2)).
- Synthetic proteins and peptides and synthetic analogues of endogenous proteins and peptides that are not approved for use in human or veterinary medicine.
- Myo-Inositol Tri-Pyrophosphate (ITPP)
- Hormones and metabolic modulators:
 - Aromatase inhibitors
 - Selective estrogen receptor modulators (SERMs) and other anti-estrogen substances
 - Substances which may modify myostatin function, including but not limited to myostatin inhibitors.
 - Insulin
 - Peroxisome proliferator-activated receptor gamma agonists, including but not limited to GW 1516
 - AMPK activators, including but not limited to AICAR (5-aminoimidazole-4-carboxamide-1- β -D-ribofuranoside)
- Cobratoxin and other toxins with similar structure and effect
- Capsaicin
- Pitcher plant extracts (e.g Sarapin, SaralgyI)
- Application of substances containing eg. arsenic, lead, mercury, croton oil or cedar oil.
- Treatment with Ozone
- Stimulants
- Narcotics, including optical isomers (*d* and *l* -form where relevant)
- Cannabinoids
- Synthetic oxygen carriers
 - Included but not limited to perfluorocarbons (PFCs) and diaspirin crosslinked hemoglobin
 - Synthetic allosteric hemoglobin effectors, including but not limited to Myo Inositol Tri Pyrophosphate (ITPP)
 - Substances likely to induce a concentration of available carbon dioxide above the internationally defined thresholds
- hCG (Human chorionic gonadotropin) used in stallions
- GnRH vaccine
- Treatment with bisphosphonates in horses younger than 4 years, or bisphosphonates administered in other ways than the drug is approved/registered for. The use of bisphosphonates without a marketing

authorization for horses is also prohibited. This includes all amino-bisphosphonates (e.g. zoledronate, alendronate, pamidronate)

- a) 0-2 year (until 01.01 of the year the horse turns 2 years), ban min. 12 months and unable to race until age 3, following a clear elective test.
- b) 2-3 years (from 01.01 of the year the horse turns 2 years, until 31.12 of the year it turns 3 years), ban min. 12 months, clear elective test.
- c) >4 years (from 01.01 the year the horse turns 4 years) ban min. 3 months if treated with legal product and indication. Off-label treatment/not registered product: min. 12 months

3. Minimum 6 months ban from racing

- Non-approved substances:
 - Substances which are not listed in any of the classes, and which have not been approved by any national or international medicines agency, may not be administered to a racehorse.
- Any kind of infusion to the blood stream if done by other than a veterinarian
- Insertion of naso-gastric tube if done by other than a veterinarian
- Cryotherapy to achieve pain relief before racing
- Withholding drinking water before racing
- Racing a pregnant mare after day 120 of pregnancy
- Racing a mare earlier than 180 days after foaling
- Racing a gelding before 30 days after castration
- Supplying unphysiological high doses of naturally occurring substances
- Pergolide
- DMSO

4. Minimum 3 months ban from racing

Violation of the provision of the B-list will result in minimum 3 months ban from racing for the horse.

International collaboration

DTC/DG, DNT/NJ, and ST/SG are members of the Nordic Equine Medication and Anti-doping Committee (NEMAC) and joint members European Horserace Scientific Liaison Committee (EHSLC).

NEMAC is responsible for developing lists of withdrawal times valid for the Scandinavian countries. Make sure you always use the latest version of this document – you will find it on the NEMAC member's official homepages.