



# 兽药残留检测

根据化学分类和治疗用途的不同，兽药涵盖了上百种药物。在畜牧业中使用兽药，不仅可以防治疾病，也可用于牲畜增重以及在运输途中保持牲畜镇定。尽管如此，对不同的兽药进行风险监控的重要性不尽相同。事实上，部分活性物的风险性取决于具体样本、产地国和目的地，以及在食品供应链中取样的阶段。



欧陆提供以风险为导向的兽药残留综合检测服务，包括组分扫描和确认检测，覆盖抗生素、抗寄生虫药、激素、 $\beta$ -激动剂、非甾体抗炎药、内分泌干扰物等250多种活性物。我们提供的单组分以及多组分的兽药分析和扫描适用于所有食品和饲料基质。

## 适用基质

- 肉（产品）
  - 鱼（产品），包括鱼油和鱼粉
  - 鸡蛋和家禽
  - 蜂蜜
- 牛奶和乳制品
  - 便利型产品
  - 食品配料
  - 饲料

## 法规

欧盟制定了一系列针对动物健康的要求。欧盟在特殊理事会指令和不同法规条目中规定了适用于贸易和进口的动物健康要求。鉴于上述兽药对应不同级别的风险监控，欧陆的专业人员会根据专业知识以及欧盟食品和饲料快速预警系统（RASFF）的评估，按照物种、产地和食品供应链的取样阶段，为客户定制分析服务。

2002年，中国农业部正式发布“《食品动物禁用的兽药及其它化合物清单》和《农业部公告第235号》，规定了动物源食品中兽药的最大残留限量（MRL）。

## 专业知识

- 单类别和单兽药分析
- 以风险为导向的多组分分析，使用LC-MS/MS同时检测9类兽药下约100种抗生素和杀寄生虫药
- 创新选用高选择性和高灵敏度的高分辨率LC-MS扫描技术，可靶向分析大量兽药残留及其降解产物
- 分析服务广泛覆盖多种兽药，配合新建质谱数据库，从整体角度有效降低兽药对健康的危害风险
- 获得DIN EN ISO/IEC 17025:2005认证的独立商业实验室
- 持续在国际与国内组织的独立实验室能力对比中表现出色

## 检测能力

抗生素	激素	杀寄生虫药	镇定剂
氨基糖苷类	$\beta$ -激动剂	阿维菌素	阿扎哌醇
酰胺醇类抗生素，包括氯霉素	雄激素	苯并咪唑	阿扎哌隆
内酰胺类	类固醇	抗球虫药	卡拉洛尔
大环内酯类	雌激素	硝基咪唑类	氯丙嗪
硝基呋喃类	促孕激素	苯基脲类农药	氟哌啶醇
喹诺酮类	二羟基苯甲酸内酯	三苯甲烷染料	甲苯噻嗪
磺胺类药	芪类化合物	尼古丁、氟虫腈	其他
四环素类	甲状腺拮抗剂		







# VETERINARY DRUG TESTING

Veterinary drugs are a complex group covering a couple of hundred substances representing different chemical classes and therapeutic areas, which are used within animal husbandry to prevent and cure diseases, but also to increase weight gain and to tranquilize during transportation. Nevertheless, not all of the veterinary drugs are of equal importance for risk monitoring. In fact, the relevance of certain actives depends on the specific sample, the country of origin and destination and the stage of sampling within the food supply chain.



Eurofins offers comprehensive risk-orientated veterinary drug residue testing package, constituting screening and confirmatory methods for more than 250 active substances, which includes antibiotics, antiparasitics, hormones,  $\beta$ -agonists, non-steroidal anti-inflammatory drugs as well as endocrine disruptors. The method portfolio from single substance to multiclass analysis and screening method can be applied to all relevant food and feed matrices.

## Regulations

The European Union (EU) has a wide range of animal health requirements. The general animal health requirements that are applicable to both trade and imports are laid down in specific Council Directives and different Regulations. Given that the above substances present varying degrees of relevance for risk monitoring, Eurofins' highly-trained staff provides customized analytical scopes based on animal species, country of origin and the stage of sampling within the food supply chain, according to own expert knowledge as well as evaluations of the European Rapid Alert Systems for Food and Feed (RASFF).

In China in 2002, Ministry of Agriculture officially released "List of banned veterinary drugs and other substances in products of animal origin", as well as Ministry of Agriculture Bulletin No. 235 , which set up maximum residue limit (MRL) of veterinary drugs in animal-origin foods.

## Expertise

- Single class and single veterinary drug analysis
- Risk-orientated multi-class analysis for the simultaneous determination of approx. 100 antibiotics and antiparasitics from 9 different substance classes by LC-MS/MS
- Innovative screening technique using High-Resolution-LC-MS with high selectivity and sensitivity, covering a large set of targeted substances including degradation products
- Broad substance scope as well as additional newly-created spectral libraries, efficiently minimizing the risk of overlooking health hazards related to veterinary drugs
- Private, independent commercial laboratory, accredited acc. to DIN EN ISO/IEC 17025:2005
- Continual successful participation in independent inter-laboratory comparisons (national/ international)

## Portfolio(including but not only)

Antibiotics	Hormones	Antiparasitics	Tranquilizer /Sedativa
Aminoglycosides	$\beta$ -Agonists	Avermectins	Azaperol
Amphenicols incl. chloramphenicol	Androgens	Benzimidazoles	Azaperon
Lactames	Corticosteroids	Coccidiostats	Carazolol
Macrolides	Estrogens	Nitroimidazoles	Chlorpromazin
Nitrofurans	Gestagens	Phenyl urea pesticides	Haloperidol
Quinolones	Resorcylic acid lactones	Triphenylmethane dyes	Xylazin
Sulfonamides	Stilbenes	Nicotine, Fipronil	Others
Tetracyclines	Thyreostats		

## Matrices

- Meat (products)
- Fish (products) incl. fish oil and meal
- Egg and poultry
- Honey
- Milk and dairy products
- Convenience products
- Food ingredients
- Feed

