TETRACYCLINE ELISA (5091TC)

General

Tetracylines are a group of antibiotics derived from *Streptomyces* spp. with a broad spectrum activity against Gram-negative and Gram-positive aerobic and anaerobic bacteria. The most commonly used tetracyclines in veterinary medicine are tetracycline (TC), oxytetracycline (OTC), chlortetracycline (CTC) and doxycycline (DC).
The EU has set MRLs for TC, OTC and CTC in all food producing species: 100 ppb in muscle and in milk, 200 ppb in egg, 300 ppb in liver and 600 ppb in kidney.

The **Tetracyclines ELISA** is a competitive enzyme immunoassay based on specific antibodies directed against tetracyclines.

Kit characteristics

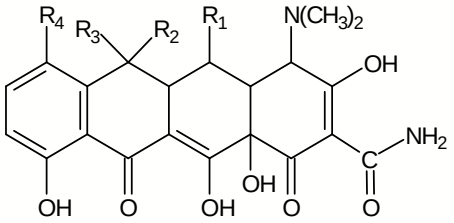
***Microtiter plate*:**
96 Wells
12 x 8 Breakapart

***Antibody cross-reactivity*:**

Tetracycline	100%	Chlortetracycline	51%
4-Epitetracycline	87%	Demeclocycline	41%
Rolitetracycline	67%	Doxycycline	23%
4-Epioxytetracycline	52%	4-Epichlortetracycline	20%
Oxytetracycline	52%	Methacycline	11%

Conjugate:
Tetracycline-HRP stabilized

Standard (lyophilized):
2 ng/ml



Chemical structure of tetracyclines

	R1	R2	R3	R4
Tetracycline	H	OH	CH_3	H
Oxytetracycline	OH	OH	CH_3	H
Chlortetracycline	H	OH	CH_3	Cl
Doxycycline	OH	H	CH_3	H

Chemical structures of the tetracyclines TC, OTC, CTC, DC

Assay characteristics

Matrices	***LOD (ppb)***
Milk	0.4
Egg	4
Butter	2.1
Honey:	1.7
Shrimps	1.3
Tissue/liver	2.9

The Limit of detection (LOD) is calculated as: Xn+3SD and is determined under optimal conditions.

Sample preparation
For milk, egg, butter, honey, shrimps and tissue/liver fast and efficient extraction methods are included in the kit manual.

Procedure
Antibody. conjugate and standard/sample are pipetted into the wells and incubated for 1 hour at 20°C - 25°C. After a washing procedure ready-to-use substrate is added and incubated for 30 minutes at 20°C - 25°C. The reaction is stopped and the absorbance is read in a spectrophotometer at 450 nm.
EuroProxima's user-friendly software converts the measured optical density into the concentration of the metabolite in the starting material.