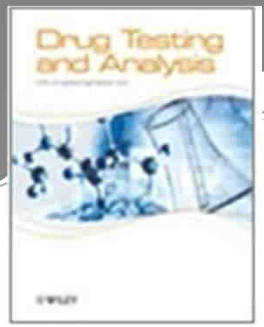
OSSERVAZIONE:

ALLE SFIDE

NON CI SI PUO'

PRESENTARE

DISARMATI



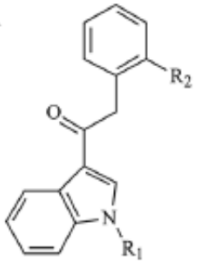
A. Salomone et al. Drug Testing and Analysis (2014) 6, 126-134

23 analiti ricercati

Periodo di investigazione
(anni 2011-12)

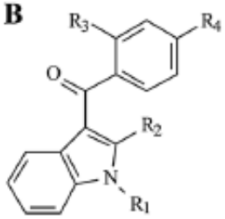
Confrontare la diffusione dei cannabimimetici fra differenti popolazioni di consumatori di sostanze stupefacenti e alcol

A



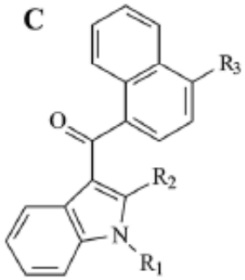
	Compound	R_1	R_2
11	JWH-203	pentyl	chloro
9	JWH-250	pentyl	methoxy
12	JWH-251	pentyl	methyl
17	RCS-8	2-cyclohexylethyl	methoxy

B



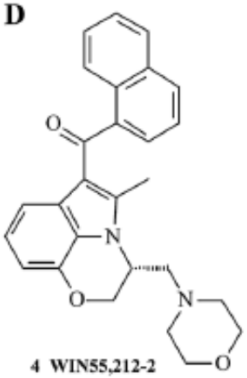
	Compound	R_1	R_2	R_3	R_4
5	AM-694	5-fluoropentyl	H	iodo	H
8	RCS-4	pentyl	H	H	methoxy
1	WIN 48,098	4-ethylmorpholino	methyl	H	methoxy

C



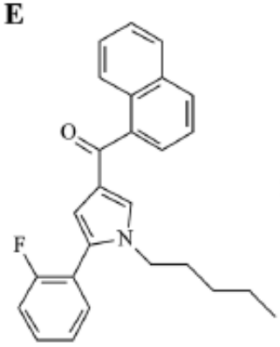
	Compound	R_1	R_2	R_3
2	AM-1220	1-methylpiperidin-2-yl-methyl	H	H
6	AM-2201	5-fluoropentyl	H	H
15	JWH-007	pentyl	methyl	H
7	JWH-015	propyl	methyl	H
13	JWH-018	pentyl	H	H
19	JWH-019	hexyl	H	H
23	JWH-020	heptyl	H	H
10	JWH-073	butyl	H	H
14	JWH-081	pentyl	H	methoxy
18	JWH-122	pentyl	H	methyl
3	JWH-200	2-morpholin-4-yl-ethyl	H	H
21	JWH-210	pentyl	H	ethyl
22	JWH-398	pentyl	H	chloro

D



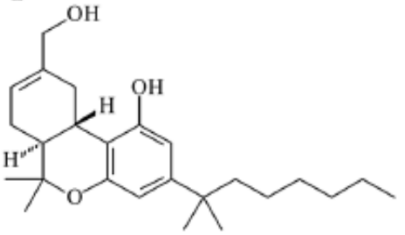
4 WIN55,212-2

E



16 JWH-307

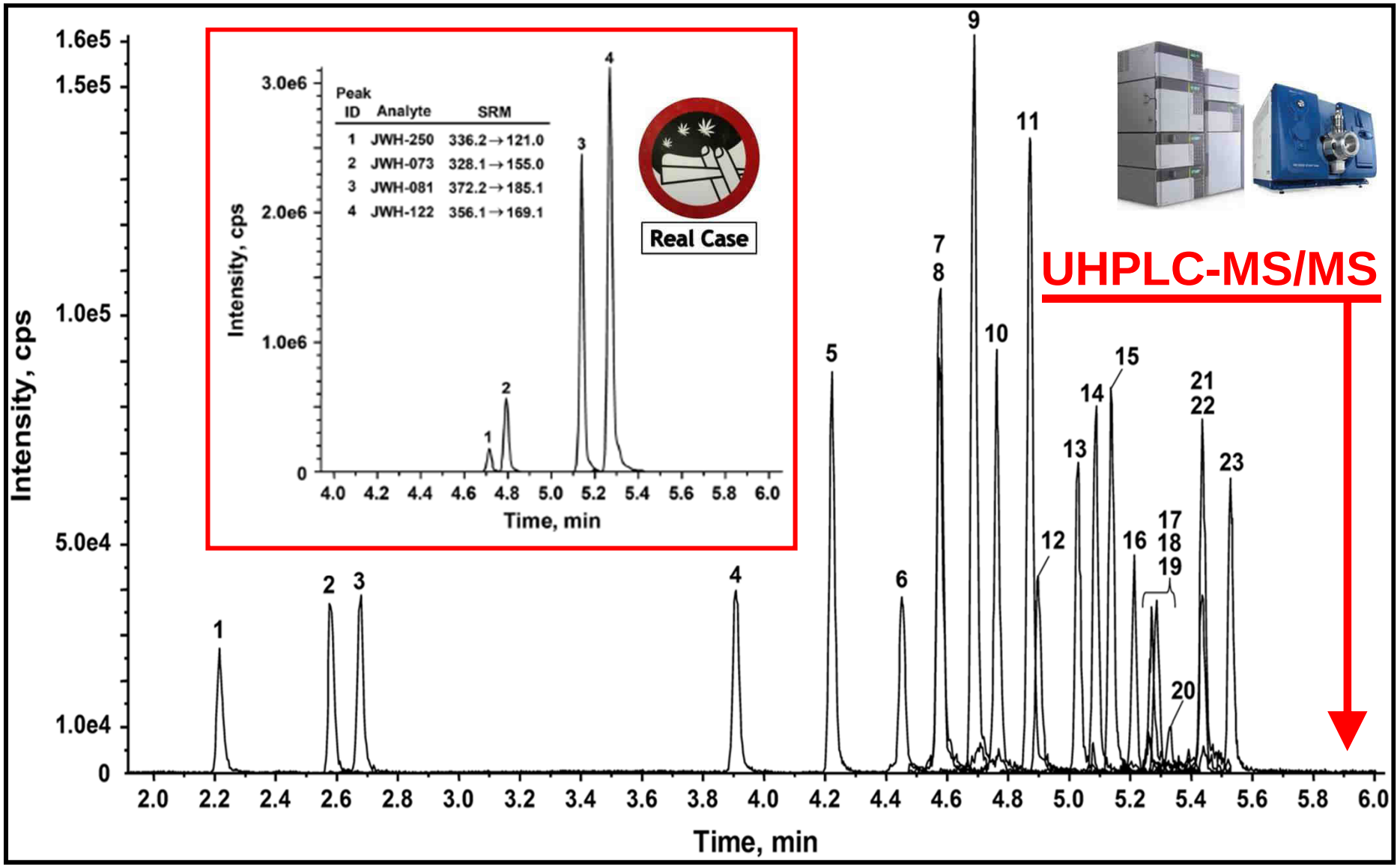
F



20 HU-210

A. Salomone et al. Drug Testing and Analysis (2014) 6, 126-134

Determinazione di 23 cannabinoidi sintetici in campioni di capelli



A. Salomone et al. Drug Testing and Analysis (2014) 6, 126-134

➢ 344 campioni di capelli

- 264 già positivi a sost. stupefacenti
- 80 già positivi ad alcol (EtG > 30)

Table 3. Synoptic summary of real samples positive to synthetic cannabinoids

Positive case	Group	Age	Gender	Type of hair	JWH-018 (pg/mg)	JWH-073 (pg/mg)	JWH-250 (pg/mg)	JWH-081 (pg/mg)	JWH-122 (pg/mg)	JWH-210 (pg/mg)	JWH-019 (pg/mg)	AM-1220	Other findings[a]
1	A	24	M	head	-	1.6	-	-	-	-	-	-	THC: 0.05 ng/mg; MDMA: 0.56 ng/mg
2	A	27	F	head	17.3	7.6	83.4	12.3	-	-	-	-	THC: 0.07 ng/mg
3	A	22	M	head	-	1.9	26.9	-	-	-	-	-	THC: 0.05 ng/mg; MDMA: 0.57 ng/mg
4	A	32	F	head	-	1.8	-	-	-	-	-	-	THC: 0.28 ng/mg
5	A	23	M	head	-	5.2	5.8	-	11.7	-	-	-	THC: 0.09 ng/mg
6	A	20	M	head	10.4	2.0	6.0	-	2800	2.3	-	1.3	THC: 0.14 ng/mg
7	A	25	M	head	-	1.8	-	-	-	-	-	-	THC: 0.27 ng/mg; AMP: 3.05 ng/mg; MDMA: 0.56 ng/mg
8	A	26	M	head	-	-	-	8.0	-	-	-	-	THC: 4.57 ng/mg; MDMA: 0.17 ng/mg
9	A	18	M	head	-	50.5	6.4	194	710	-	-	-	THC: 0.09 ng/mg
10	A	23	M	head	-	1.6	-	-	760	-	-	-	THC: 0.11 ng/mg
11	A	21	M	head	3.1	1.6	-	81.4	-	5.1	-	-	THC: 0.24 ng/mg
12	A	23	M	head	-	9.0	4.8	-	40.9	-	-	-	THC: 0.15 ng/mg
13	B	21	M	head	-	-	-	-	7.4	-	-	-	COC: 1.76 ng/mg; BZE: 0.22 ng/mg
14	B	32	F	head	-	-	-	-	11.2	-	3.8	-	COC: 0.60 ng/mg; BZE: 0.09 ng/mg; MOR: 0.08 ng/mg; 6-AM: 0.25 ng/mg
15	B	22	M	head	-	-	-	47.8	15.8	-	4.1	-	COC: 0.61 ng/mg; AMP: 0.53 ng/mg; MDMA: 0.89 ng/mg

[a]THC: Δ^9-tetrahydrocannabinol; MDMA: 3,4-methylenedioxymethamphetamine; AMP: Amphetamine; COC: Cocaine; MOR: Morphine; 6-AM: 6-acetylmorphine.

Synthetic or not, Kellen Winslow's drug arrest could lead to suspension

New York Jets tight end Kellen Winslow faces suspension in wake of arrest for synthetic week. *(Al Bello / Getty Images)*

By A.J. Perez/NJ.com
Email the author | Follow on Twitter
on January 17, 2014 at 1:38 PM, updated January 17, 2014 at 2:52 PM

Print

New York Jets tight end Kellen Winslow faces suspension for violating the league's drug policy -- even if the NFL doesn't list synthetic marijuana on its banned list.

MORE JETS

Super Bowl 2014: Best story lines for Broncos vs. Seahawks

Winslow allegedly told authorities he uses the drug because the league doesn't test for such cannabimimetics, the scientific name for synthetic marijuana.

Winslow appears to be correct: The NFL doesn't yet test for synthetic weed and the typical urine test for marijuana won't detect it.

« DRUG-FACILITATED CRIMES »

Reati di violenza sessuale - Legislazione in Italia

L'articolo 609-bis punisce la violenza sessuale con la reclusione da 5 a 10 anni.

Pene aggiuntive per:

- **L'utilizzo di armi , sostanze alcoliche, narcotiche o stupefacenti**
- ….

Effetti delle « droghe da stupro » o "Rape drugs":

- Sonnolenza e diminuzione dell'attenzione
- Sedazione
- Sottomissione e annullamento della volontà
- Amnesia anterograda
- Facilmente reperibili
- Facilmente somministrabili (incolore, inodore, insapore, solubili in acqua e alcol)

« DRUG-FACILITATED CRIMES »

singola assunzione di sostanza psicoattiva!

- **Tipiche “rape drugs”:**
  - **Benzodiazepine – Ipnotici – Sedativi**
  - **Ketamina**
  - **GHB**
  - **Narcotici**

REQUISITI

- **Metodo versatile**
- **Estrema sensibilità**
- **Analisi segmentale**

Case report

- ✓ Lunghezza: 16 cm
- ✓ 0-6 cm: 6 segmenti di 1 cm (A→F)
- ✓ 6-16 cm: 5 segmenti di 2 cm (G→M)

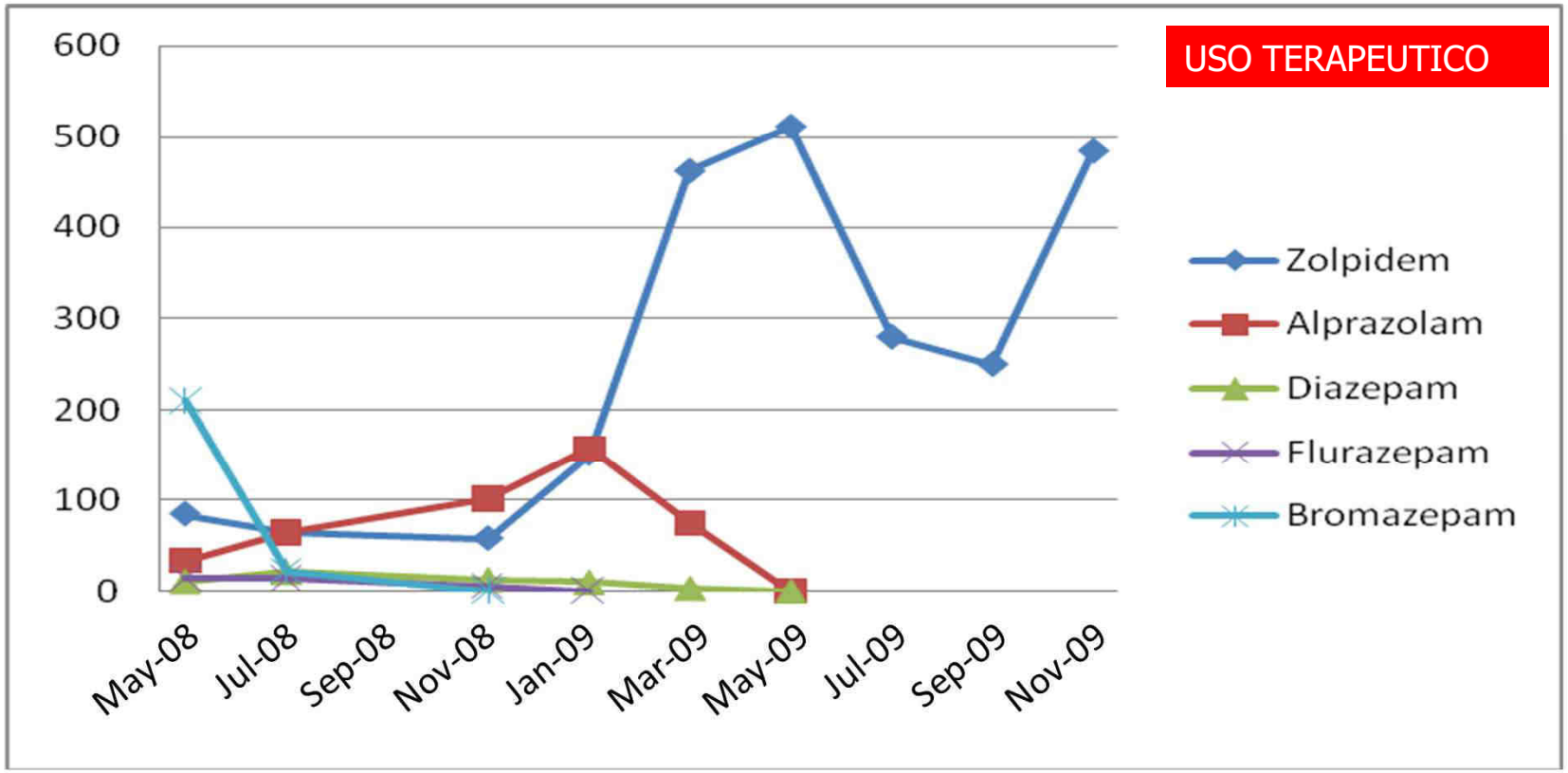
- ✓ Lunghezza: 27 cm
- ✓ 0-10 cm: 1 segmento di 10 cm (A)
- ✓ 10-20 cm: 11 segmenti di 1 cm (B→M)
- ✓ 20-27 cm: 1 segmento di 7 cm (N)

- ✓ Lunghezza: 18 cm
- ✓ 0-18 cm: 9 segmenti di 2 cm (A→I)

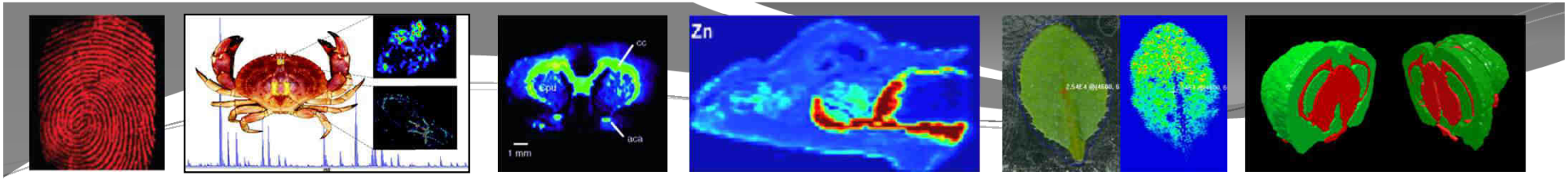
- ✓ Lunghezza: 5 cm
- ✓ 0-5 cm: 2 segmenti di 2.5 cm (A→B)

Risultati

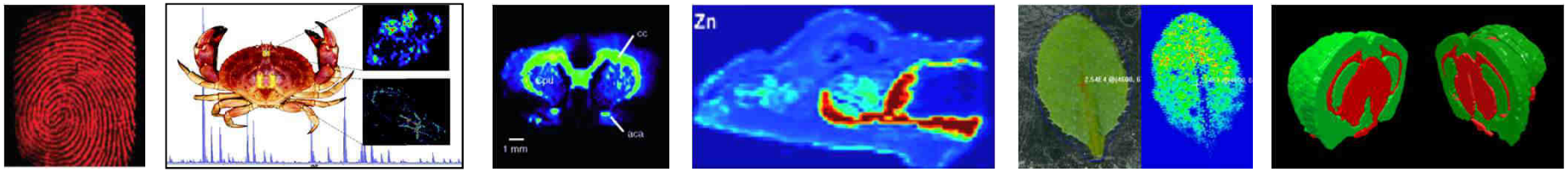
Segmento	Finestra diagnostica (Crescita stimata dei capelli: 1 cm/mese)	Lunghezza (cm)	Risultato (pg/mg)	
A	Ottobre 2009-Novembre 2009	1		Δ^9-THC (24)
B	Settembre 2009-Ottobre 2009	1		Δ^9-THC (24)
C	Agosto 2009-Setttembre 2009	1	Zolpidem (2.8)	Δ^9-THC (50)
D	Luglio 2009-Agosto 2009	1		Δ^9-THC (56)
E	Giugno 2009-Luglio 2009	1		Δ^9-THC (47)
F	Maggio 2009-Giugno 2009	1	Zolpidem (1.6)	Δ^9-THC (166)
G	Marzo 2009-Maggio 2009	2	Zolpidem (0.9)	
H	Gennaio 2009-Marzo 2009	2		
I	Novembre 2008-Gennaio 2009	2		
L	Seytembre 2008-Novembre 2008	2		
M	Luglio 2008-Settembre 2008	2		


USO TERAPEUTICO
600
500
400
300
200
100
0
May-08
Jul-08
Sep-08
Nov-08
Jan-09
Mar-09
May-09
Jul-09
Sep-09
Nov-09
Zolpidem
Alprazolam
Diazepam
Flurazepam
Bromazepam


A
B
C
D
E
F
G
H
I
cm 2
4
6
8
10
12
14
16
18
Nov 2009
ZOLPIDEM
250-511 pg/mg
ZOLPIDEM
ALPRAZOLAM
ZOLPIDEM
ALPRAZOLAM
FLURAZEPAM
ZOLPIDEM
ALPRAZOLAM
FLURAZEPAM
BROMAZEPAM
May 2008
USO TERAPEUTICO

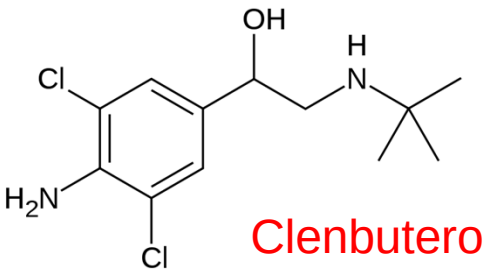


NUOVE STRATEGIE: TRE ESEMPI



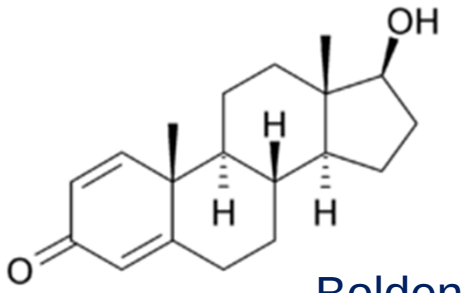
UN CASO EMBLEMATICO:
evoluzione delle sostanze illecite in zootecnia

ESOGENE CERTE → **MINIMAMENTE ENDOGENE**

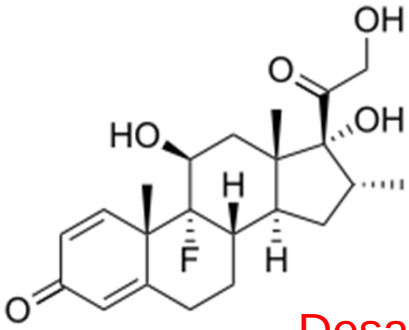


Clenbutero lo

agenti anabolizzanti

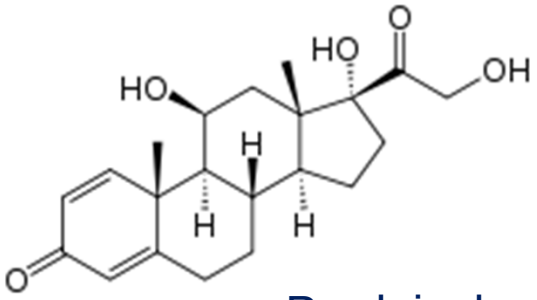


Boldenone



Desametasone

corticosteroidi



Prednisolone

IL CASO "PREDNISOLONE"

Condizioni di forte stress nei bovini

→

Produzione endogena di minime quantità di prednisolone

↓

Il legislatore fissa un nuovo cut-off pari a 5 ppb nelle urine

→

Impunità garantita per gli allevatori disonesti

←

Trattamenti "dopanti" con prednisolone producono residui < 2 ppb nelle urine dei bovini trattati

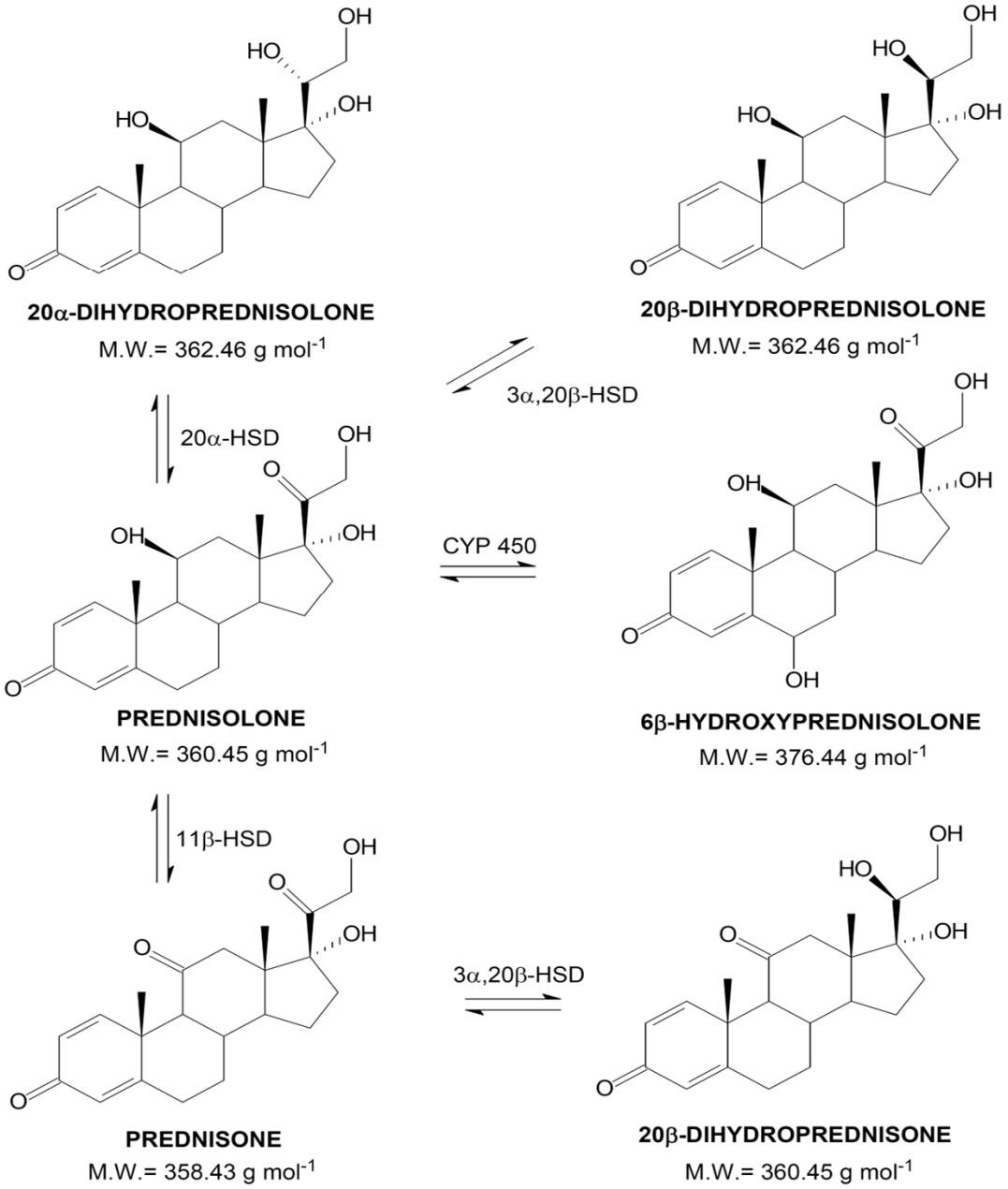
↓

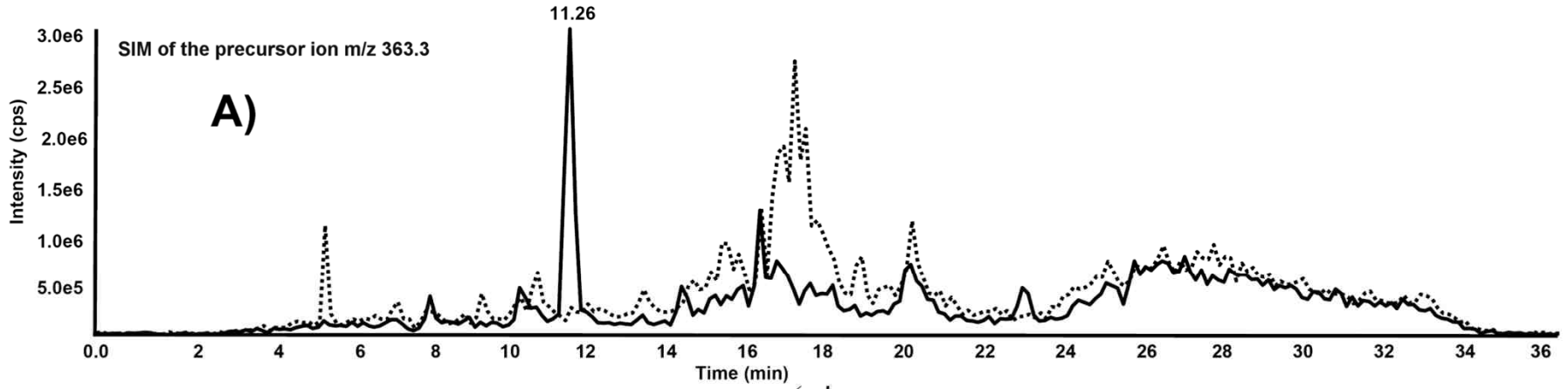
METABOLISMO?

Effects of low-dose dexamethasone & prednisolone long term administration in beef calf: chemical & morphological investigation
F.T. Cannizzo, P. Capra, S. Divari, V. Ciccotelli, B. Biolatti, M. Vincenti
Analytica Chimica Acta, 2011, 700, 95-104

METABOLISMO DEL PREDNISOLONE

METODO DI ANALISI DEI METABOLITI





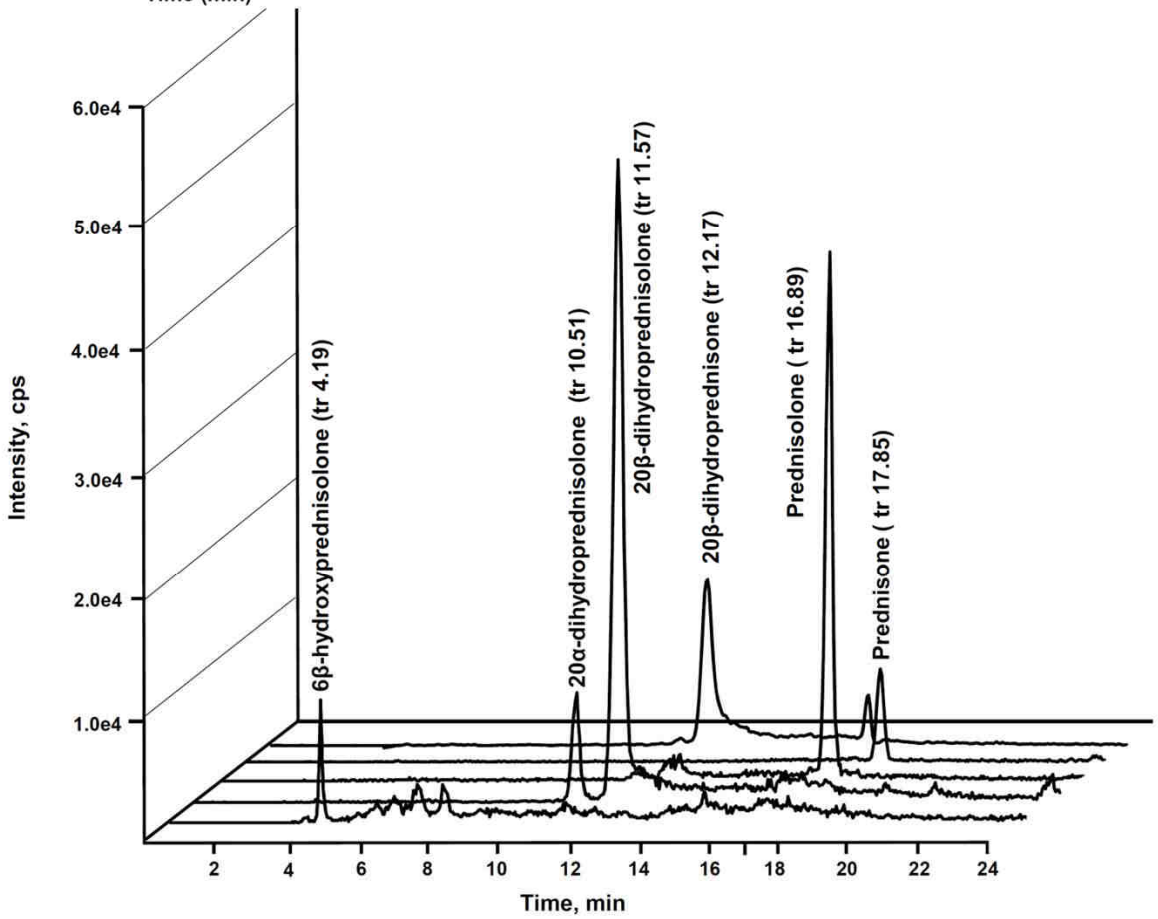
MS/MS – Precursor ions profile

Determination of prednisolone metabolites in beef cattle

M. Leporati, P. Capra, F.T. Cannizzo, B. Biolatti, C. Nebbia, M. Vincenti

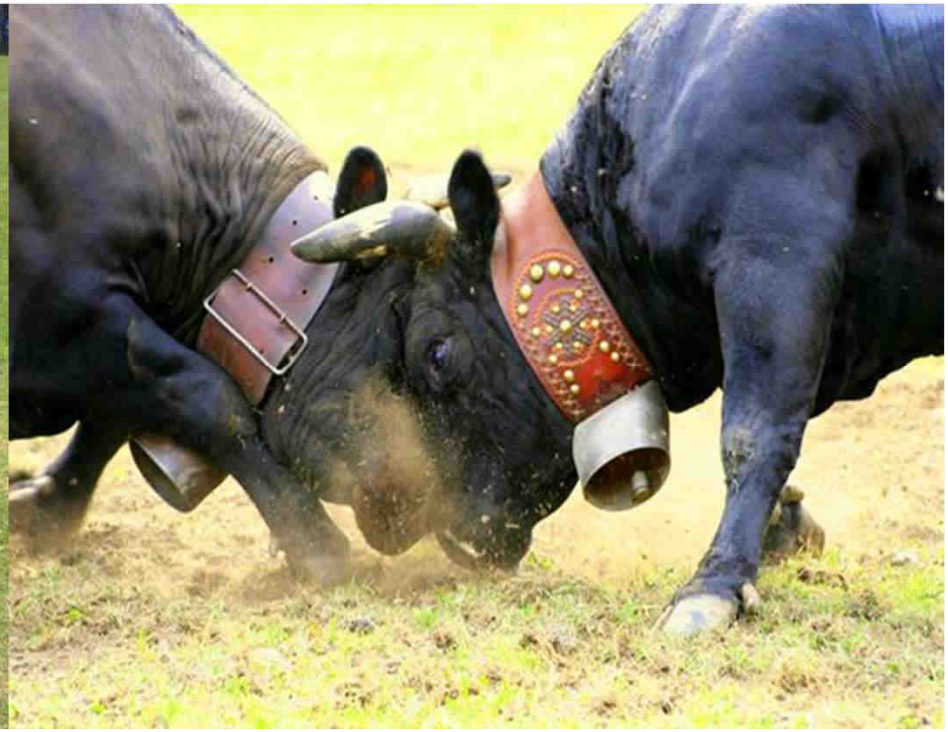
Food Additives and Contaminants, 2013, 30, 1044-1054

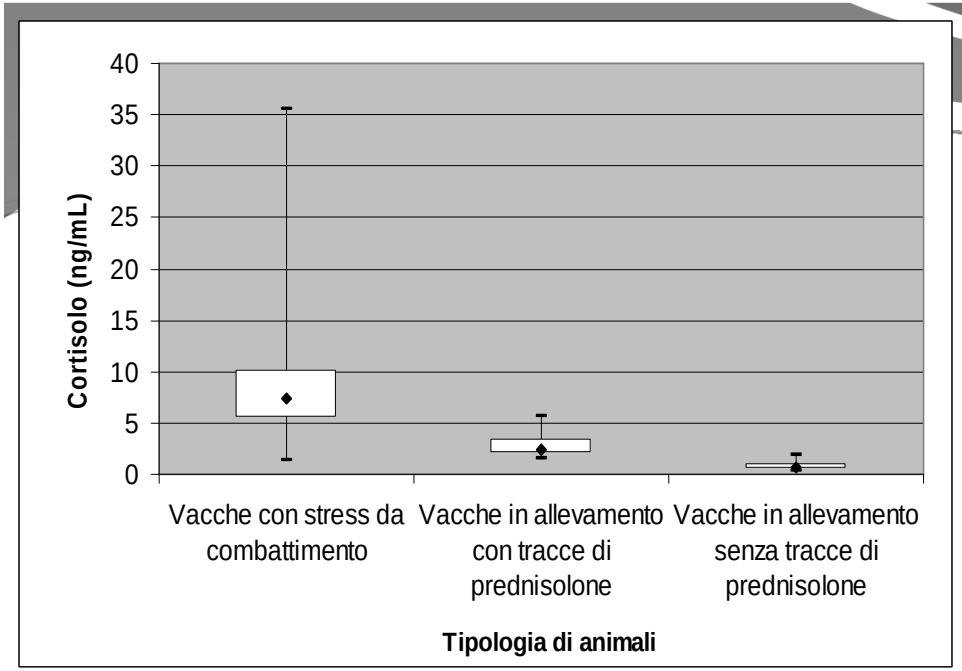
MS/MS – Selected reaction monitoring profiles

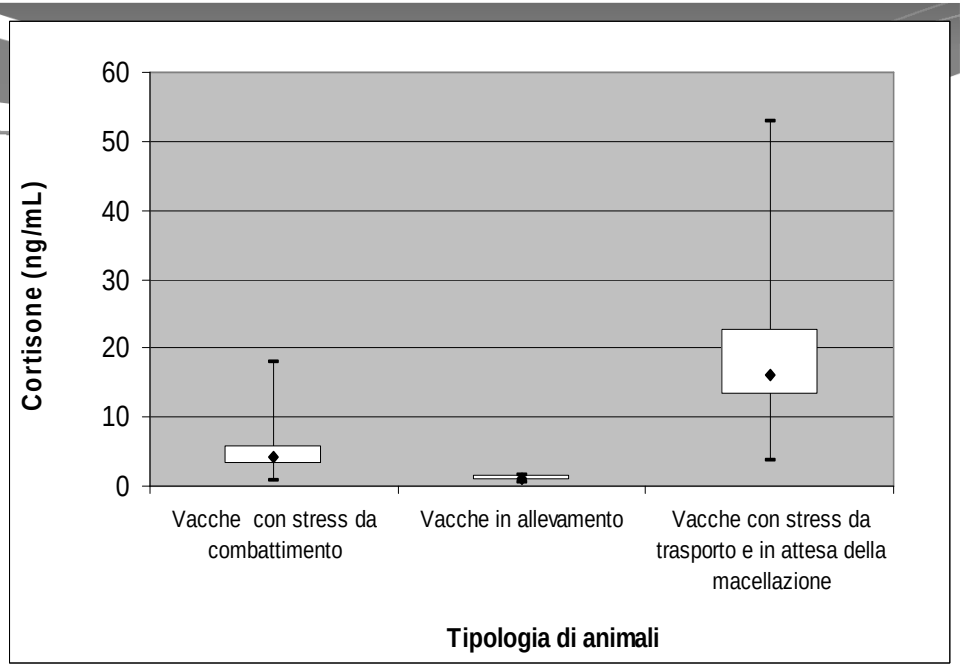


PRODUZIONE ENDOGENA:

- STRESS DA CONFINAMENTO (per prelievo urine)
- STRESS DA TRASPORTO
- STRESS DA PRE-MACELLAZIONE
- STRESS DA COMBATTIMENTO (Batailles de Reines)







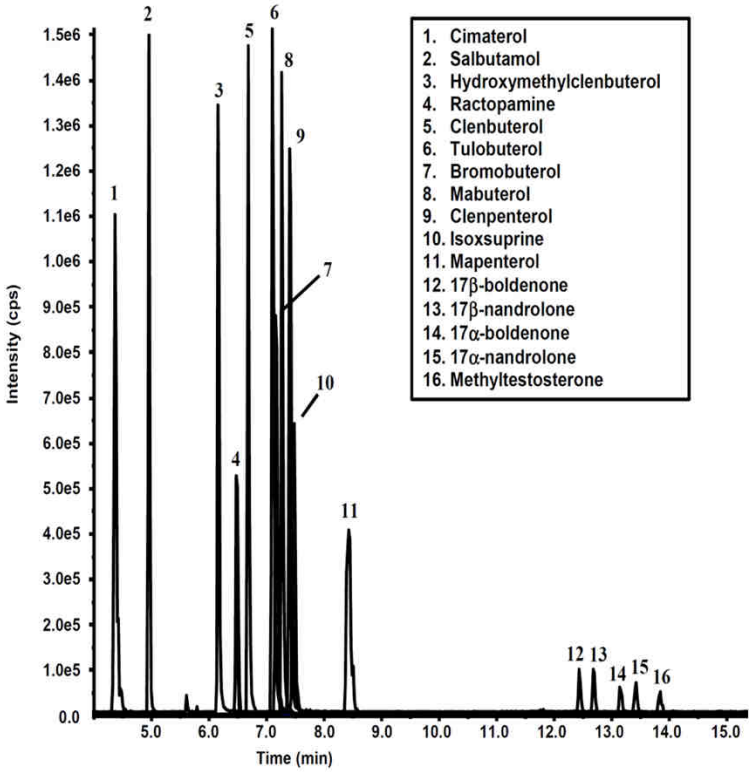
PRODUZIONE ENDOGENA DA STRESS → **NO** → **METABOLITI**

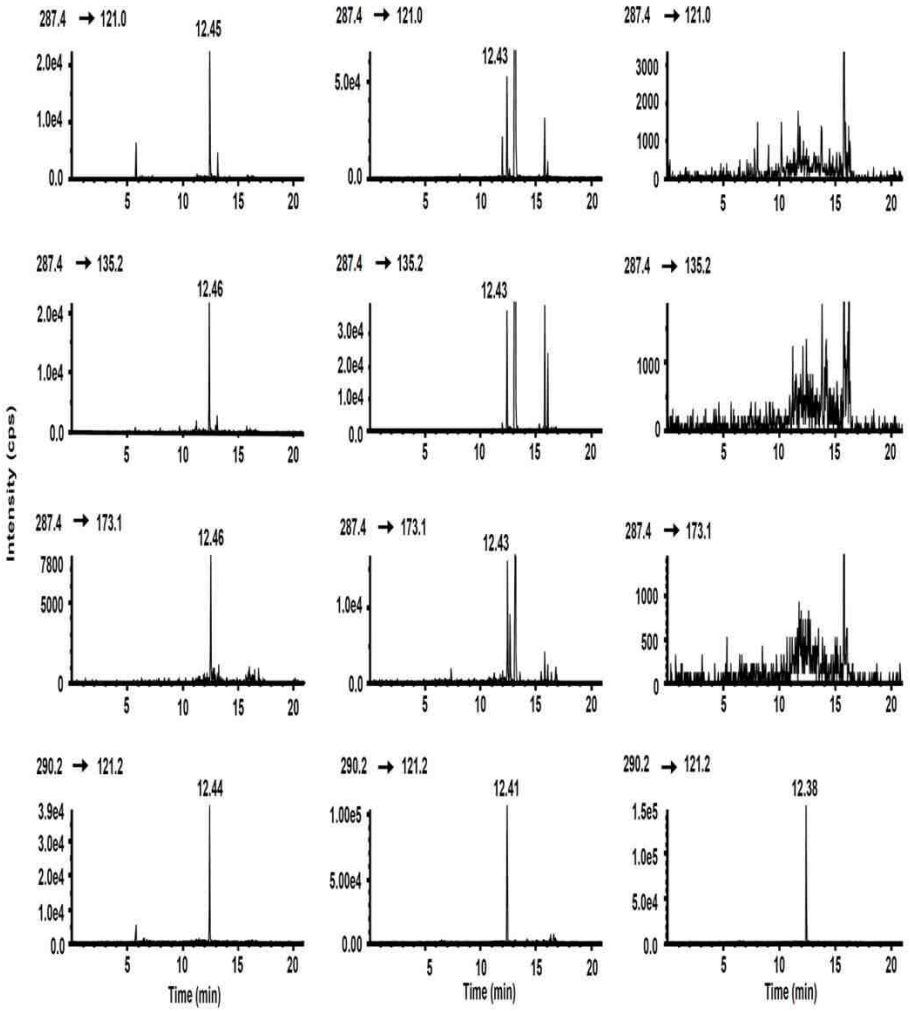
↑ **CORTISOLO - CORTISONE**

SOMMINISTRAZIONE ESOGENA DOPANTE O FARMACOLOGICA → **SI'** → **METABOLITI**

↓ **CORTISOLO - CORTISONE**

MATRICI ALTERNATIVE: PELO BOVINO





CASI REALI:

- **b-BOLDENONE**
- **CLENBUTEROLO**

Development, validation and application to real samples of a multiresidue LC-MS/MS method for determination of β2-agonists and anabolic steroids in bovine hair

M. Leporati, M. Bergoglio, P. Capra, E. Bozzetta, M.C. Abete, M. Vincenti

Journal of Mass Spectrometry, 2014, 49, 936-946