



European Union Reference Laboratory for Pesticide Residues in Fruits & Vegetables

EUPT-FV-22

European Proficiency Test FV-22



Onion



**Onions were cultivated in a
greenhouse in Almería**



208 pesticides

Acephate	Carbofuran-3-hydroxy	Deltamethrin (cis-deltamethrin)	Epoxiconazole	Fenthion
Acetamiprid	Chlorantraniliprole	Demeton-S-methylsulfone	Ethion	Fenthion oxon
Acrinathrin	Chlorfenapyr	Diazinon	Ethirimol	Fenthion oxon sulfone
Aldicarb	Chlorfenvinphos	Dichlofluanid	Ethoprophos	Fenthion oxon sulfoxide
Aldicarb Sulfone	Chlorobenzilate	Dichlorvos	Etofenprox	Fenthion sulfone
Aldicarb Sulfoxide	Chlorothalonil	Dicloran	Etoxazole	Fenthion sulfoxide
Aldrin	Chlorpropham	Dicofol (sum of p, p' and <u>o,p'</u> isomers)	Famoxadone	Fenvalerate (any ratio of constituent isomers (RR, SS, RS & SR) including esfenvalerate)
Ametoctradin	Chlorpyrifos	Dieldrin	Fenamidone	Fipronil
Azinphos-methyl	Chlorpyrifos-methyl	Diethofencarb	Fenamiphos	Fipronil sulfone
Azoxystrobin	Clofentezine	Difenoconazole	Fenamiphos sulfone	Fipronil sulfoxide
Bifenthrin	Clothianidin	Diflubenzuron	Fenamiphos sulfoxide	Flonicamid
Biphenyl	Cyazofamid	Dimethoate	Fenarimol	Flubendiamide
Bitertanol	Cyfluthrin (cyfluthrin incl. other mixtures of constituent isomers (sum of isomers))	Dimethomorph (sum of isomers)	Fenazaquin	Fludioxonil
Boscalid	Cyflufenamid: sum of cyflufenamid (Z-isomer) and its E-isomer	Dimethylaminosulfotoluidide (DMST)	Fenbuconazole	Flufenoxuron
Bromopropylate	Cymoxanil	Diniconazole (sum of isomers)	Fenhexamid	Fluopicolide
Bromuconazole (sum of diastereoisomers)	Cypermethrin (cypermethrin incl. other mixtures of constituent isomers (sum of isomers))	Diphenylamine	Fenitrothion	Fluopyram
Bupirimate	Cyproconazole	Endosulfan alpha	Fenoxycarb	Fluquinconazole
Buprofezin	Cyprodinil	Endosulfan beta	Fenpropathrin	Flusilazole
Cadusafos		Endosulfan sulfate	Fenpropidin	Flutolanil
Carbaryl		EPN	Fenpropimorph (sum of isomers)	Flutriafol
Carbendazim			Fenpyrazamine	Fluxapyroxad
Carbofuran			Fenpyroximate	

208 pesticides

Formetanate (expressed as formetanate (hydrochloride))	Metaflumizone (sum of E- and Z- isomers)	Pencycuron	Prothiofos	Tebufenpyrad
Fosthiazate	Metalaxyl and metalaxyl-M	Pendimethalin	Pymetrozine	Teflubenzuron
Hexaconazole	Methamidophos	Permethrin (sum of isomers)	Pyraclostrobin	Tefluthrin
Hexythiazox	Methidathion	Phenthoate	Pyridaben	Terbutylazine
Imazalil	Methiocarb	Phosalone	Pyrimethanil	Tetraconazole
Imidacloprid	Methiocarb sulfone	Phosmet	Pyriproxyfen	Tetradifon
Indoxacarb (sum of indoxacarb and its R enantiomer)	Methiocarb sulfoxide	Phosmet oxon	Quinoxifen	Thiabendazole
Iprodione	Methomyl	Phoxim	Spinosad (sum of spinosyn A and spinosyn D, expr. as spinosad)	Thiacloprid
Iprovalicarb	Methoxyfenozide	Pirimicarb	Spirodiclofen	Thiamethoxam
Isocarbofos	Metrafenone	Pirimicarb-desmethyl	Spiromesifen	Thiodicarb
Isofenphos-methyl	Monocrotophos	Pirimiphos-methyl	Spirotetramat	Thiophanate-methyl
Isoprothiolane	Myclobutanyl	Prochloraz (only parent compound)	Spirotetramat metabolite BYI08330-enol	Tolclofos-methyl
Kresoxim-methyl	Omethoate	Procymidone	Spirotetramat metabolite BYI08330-ketohydroxy	Tolyfluanid
Lambda-Cyhalothrin	Orthophenylphenol (Free compound only)	Profenofos	Spirotetramat metabolite BYI08330-mono-hydroxy	Triadimefon
Linuron	Oxadixyl	Propamocarb (only parent compound)	Spirotetramat metabolite BYI08330 enol-glucoside	Triadimenol (any proportion of constituent isomers)
Lufenuron (any proportion of constituent isomers)	Oxamyl	Propargite	Spiroxamine (sum of isomers)	Triazophos
Malaaxon	Oxydemeton-methyl	Propiconazole (sum of isomers)	Tau-Fluvalinate	Trichlorfon
Malathion	Paclobutrazole	Propyzamide	Tebuconazole	Tricyclazole
Mandipropamid	Paraoxon-methyl	Prosulfocarb	Tebufenozide	Trifloxystrobin
Mepanipyrim	Parathion-ethyl	Prothioconazole (Prothioconazole-desthio)	Vinclozolin (only parent compound)	Trifluridon
	Parathion-methyl			Trifluralin
	Penconazole			Trifluralin
				Triticonazole
				Zoaxamide



36 pesticides

Working Document SANCO/12745/2013

(Working document on pesticides to be considered for inclusion in the national control programmes to ensure compliance with maximum residue levels of pesticides residues in and on food of plant and animal origin)

Benalaxyl and benalaxyl-M
Benzovindiflupyr
Chlorfluazuron
Clomazone
Dinotefuran
Fenobucarb
Fenpicoxamid
Fluensulfone
Flufenacet (only parent compound)
Heptachlor
Heptachlor epoxide
Isoxaflutole
Isoxaflutole diketonitrile degradate
Isopyrazam
Metconazole (sum of isomers)
Molinate
Novaluron

Oxathiapiprolin

Penflufen
Penthiopyrad
Picolinafen
Propaquizafop
Pyrethrins
Quinalphos
Quintozene
Pentachloro-aniline
Pyridalil
Pyriofenone
Quinoclamine
Rotenone
Spinetoram
Sulfoxaflor (sum of isomers)
Tetramethrin
Tolfenpyrad
Tri-allate
Tritosulfuron

8 New compounds



Pesticides used for the treatment

Ametoctradin	Fludioxonil
Azoxystrobin	Fluopicolide
Chlorpropham	Fluopyram
Cyprodinil	Fluxapyroxad
Diazinon	Oxamyl
Dicloran	*Penthiopyrad
Dimethomorph	Tebuconazole
Fenamidone	Tefluthrin
Fenhexamid	Triadimenol
*Fenpicoxamid	Total: 19

Preparation of the test item



Before harvest, the onions were treated with pesticides available as commercial formulations

Cyprodinil

Fenhexamid

Fludioxonil

Fluopyram

Oxamyl

Tebuconazole

Triadimenol

Penthiopyrad

No blank material was sent

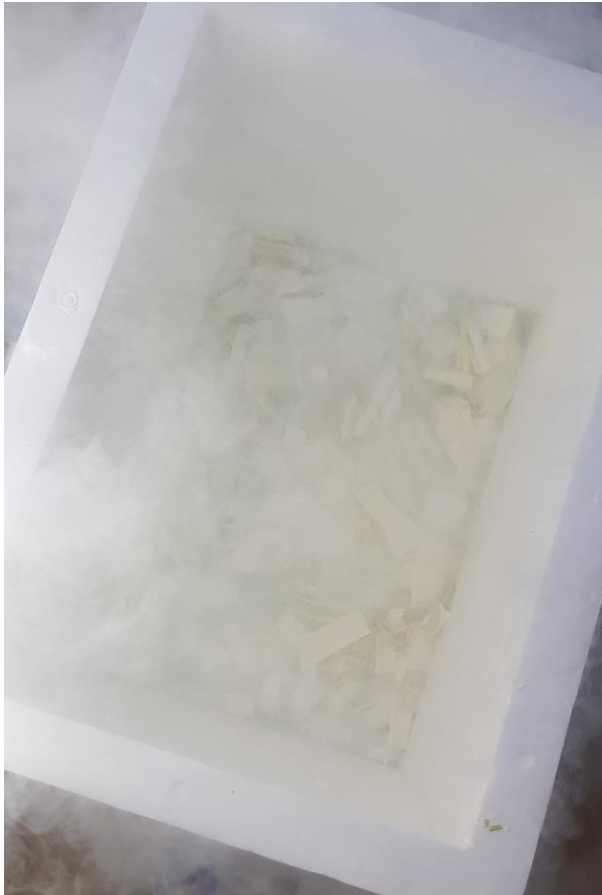
Preparation of the test item

After harvest, the onions were cut into halves and they were spiked with analytical standards

Ametoctradin	Fenamidone
Azoxystrobin	Fluopicolide
Chlorpropham	Fluxapyroxad
Diazinon	Tefluthrin
Dicloran	Fenpicoxamid
Dimethomorph	



Preparation of the test item





Pesticides applied as analytical standards

Ametoctradin

Azoxystrobin

Chlorpropham

Diazinon

Dicloran

Dimethomorph

Fenamidone

Fluopicolide

Fluxapyroxad

Tefluthrin

Fenpicoxamid

11 pesticides

Pesticides applied as commercial formulations

Cyprodinil

Fenhexamid

Fludioxonil

Fluopyram

Oxamyl

Tebuconazole

Triadimenol

Penthiopyrad

8 pesticides



Homogeneity

The homogeneity in the treated sample was studied using the 2006 Harmonised Protocol.

Stability

1st Analysis - prior to the sample shipment

2nd Analysis - after the deadline for reporting results

3rd Analysis - reproducing the delivery conditions that the samples experienced during 48 hours

All the pesticides passed the homogeneity and stability tests

Calendar

EUPT-FV22 CALENDAR

Activity	Date
Registration period at www.eupt-registration.eu	16 th December 2019 - 24 th January 2020
Specific Protocol published on the Web site.	17 th February 2020 at the latest
Selection of the scope	17 th – 28 th February 2020
Sample distribution.	2 nd March 2020
Deadline for receiving sample acceptance	10 th March 2020
Deadline for receiving results	30 th March 2020
Filling in additional information, if necessary.	31 st March – 6 th April 2020
Preliminary Report: (containing preliminary assigned values and z scores)	April 2020
Final Report distributed to the Laboratories.	August 2020

Calendar

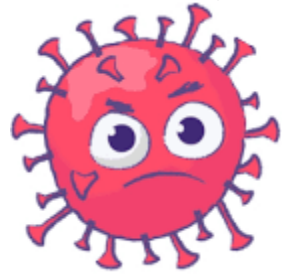
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Final Report distributed to the Laboratories.	August 2020

Calendar

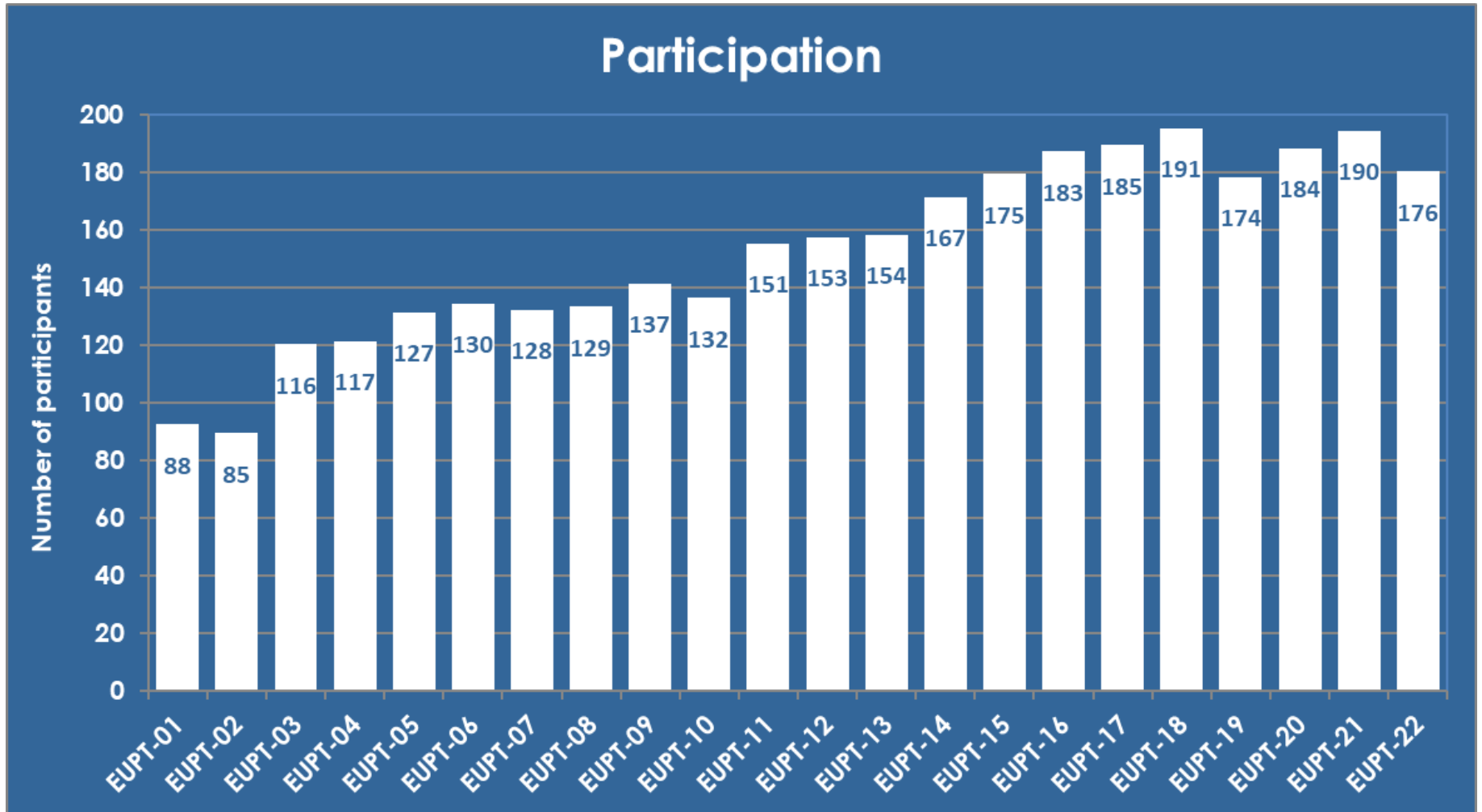


EUPT-FV22 CALENDAR

Activity	Date
Registration period at www.eupt-registration.eu	16 th December 2019 - 24 th January 2020
Specific Protocol published on the Web site.	17 th February 2020 at the latest
Selection of the scope	17 th – 28 th February 2020
Sample distribution.	2 nd March 2020
Deadline for receiving sample acceptance	10 th March 2020
Deadline for receiving results	29th June 2020
Filling in additional information, if necessary.	30th June – 7th July 2020
Preliminary Report: (containing preliminary assigned values and z scores)	July 2020
Final Report distributed to the Laboratories.	December 2020

Calendar

EUPT-FV22 CALENDAR	
Activity	Date
Registration period at www.eupt-registration.eu	16 th December 2019 - 24 th January 2020
Specific Protocol published on the Web site.	17 th February 2020 at the latest
Selection of the scope	17 th – 28 th February 2020
Sample distribution.	2 nd March 2020
Deadline for receiving sample acceptance	10 th March 2020
Deadline for receiving results	29th June 2020
Filling in additional information, if necessary.	30th June – 7th July 2020
Preliminary Report: (containing preliminary assigned values and z scores)	July 2020
Final Report distributed to the Laboratories.	December 2020



Participation

Total No. of Labs = 176

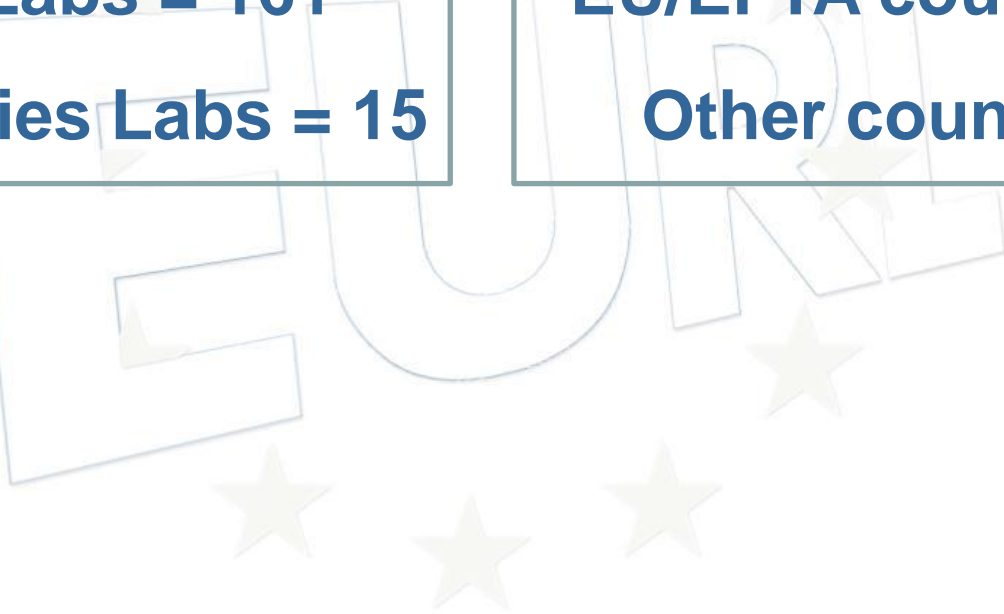
EU/EFTA Labs = 161

Other countries Labs = 15

Total No. of Countries = 40

EU/EFTA countries = 31

Other countries = 9



Participation

Total No. of Labs = 176

EU/EFTA Labs = 161

Other countries Labs = 15

Total No. of Countries = 40

EU/EFTA countries = 31

Other countries = 9

1 participant cancelled its participation

5 participants did not submit results



155 EU/EFTA Labs

Participation

Member State	No Labs
Austria	1
Belgium	7
Bulgaria	4
Croatia	8
Cyprus	1
Czech Republic	3
Denmark	2
Estonia	2
Finland	3
France	8
Germany	20
Greece	3
Hungary	4
Iceland	1
Ireland	1

Member State	No Labs
Italy	24
Latvia	1
Lithuania	2
Luxembourg	2
Malta	2
Netherlands	2
Norway	1
Poland	12
Portugal	3
Romania	5
Slovakia	1
Slovenia	2
Spain	33
Sweden	2
Switzerland	2
United Kingdom	4

Non-EU/EFTA	No Labs
China	4
Colombia	1
Kenya	1
Peru	2
Serbia	3
Singapore	1
Thailand	1
Turkey	1
Uruguay	1

Participation

Member State	No Labs
Austria	1
Belgium	7
Bulgaria	4
Croatia	8
Cyprus	1
Czech Republic	3
Denmark	2
Estonia	2
Finland	3
France	8
Germany	20
Greece	3
Hungary	4
Iceland	1
Ireland	1

Member State	No Labs
Italy	24
Latvia	1
Lithuania	2
Luxembourg	2
Malta	2
Netherlands	2
Norway	1
Poland	12
Portugal	3
Romania	5
Slovakia	1
Slovenia	2
Spain	33
Sweden	2
Switzerland	2
United Kingdom	4

Non-EU/EFTA	No Labs
China	4
Colombia	1
Kenya	1
Peru	2
Serbia	3
Singapore	1
Thailand	1
Turkey	1
Uruguay	1

Participation

Member State	No Labs
Austria	1
Belgium	7
Bulgaria	4
Croatia	8
Cyprus	1
Czech Republic	3
Denmark	2
Estonia	2
Finland	3
France	8
Germany	20
Greece	3
Hungary	4
Iceland	1
Ireland	1

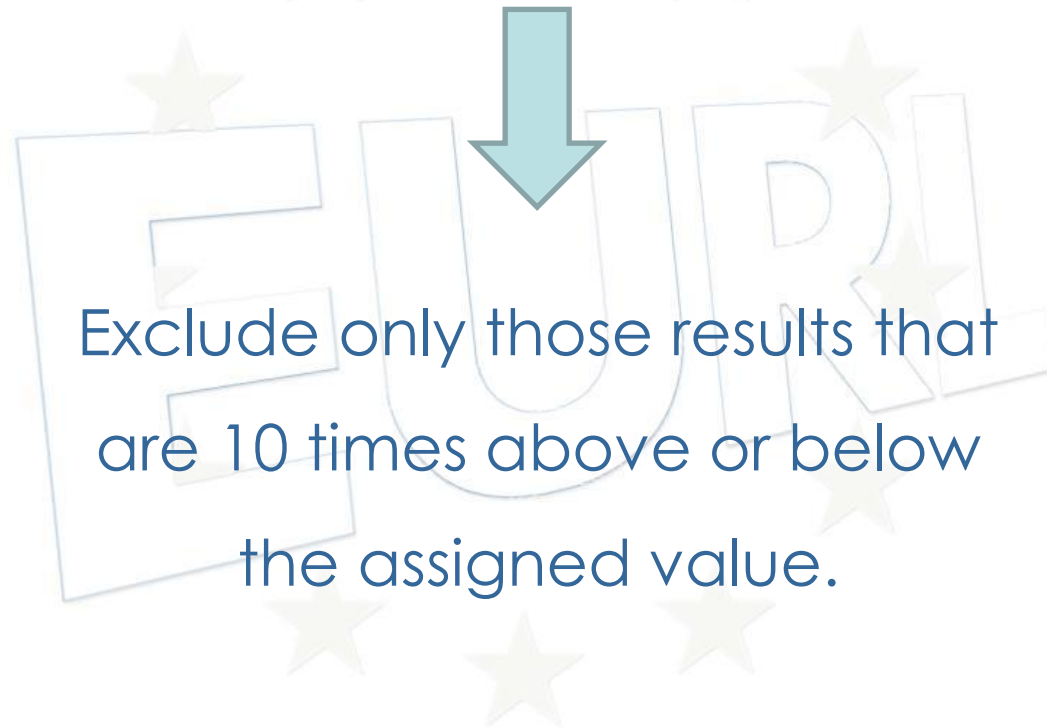
Member State	No Labs
Italy	24
Latvia	1
Lithuania	2
Luxembourg	2
Malta	2
Netherlands	2
Norway	1
Poland	12
Portugal	3
Romania	5
Slovakia	1
Slovenia	2
Spain	33
Sweden	2
Switzerland	2
United Kingdom	4

Non-EU/EFTA	No Labs
China	4
Colombia	1
Kenya	1
Peru	2
Serbia	3
Singapore	1
Thailand	1
Turkey	1
Uruguay	1

Results

Assigned values

New criterion for exclusion of gross errors and blunders

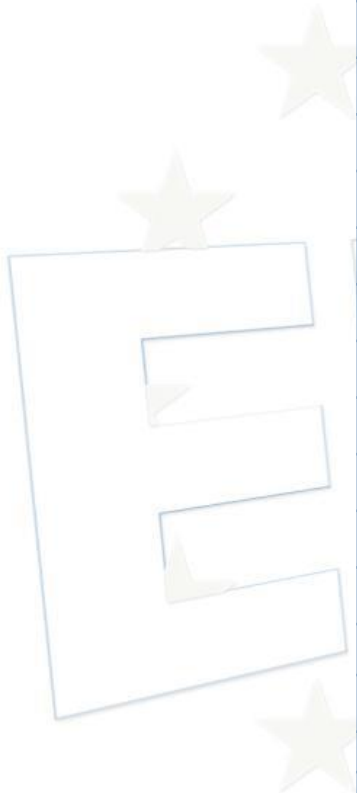




	Robust Mean before removing gross errors (mg/kg)	Assigned value (Robust Mean after removing gross errors) (mg/kg)
Ametoctradin	0,0831	0,0822
Azoxystrobin	1,16	1,16
Chlorpropham	0,229	0,229
Cyprodinil	0,289	0,289
Diazinon	0,079	0,079
Dicloran	0,105	0,104
Dimethomorph	0,275	0,275
Fenamidone	0,185	0,185
Fenhexamid	0,570	0,568
*Fenpicoxamid	0,0668	0,0668
Fludioxonil	0,200	0,199
Fluopicolide	0,605	0,605
Fluopyram	0,0445	0,0444
Fluxapyroxad	0,0691	0,0689
Oxamyl	0,0215	0,0214
*Penthiopyrad	0,0669	0,0669
Tebuconazole	0,0509	0,0508
Tefluthrin	0,0469	0,0467
Triadimenol	0,0326	0,0325

Assigned values

	Robust Mean X* (mg/kg)
Oxamyl	0,0214
Triadimenol	0,0325
Fluopyram	0,0444
Tefluthrin	0,0467
Tebuconazole	0,0508
*Fenpicoxamid	0,0668
*Penthiopyrad	0,0669
Fluxapyroxad	0,0689
Diazinon	0,079
Ametoctradin	0,0822
Dicloran	0,104
Fenamidone	0,185
Fludioxonil	0,199
Chlorpropham	0,229
Dimethomorph	0,275
Cyprodinil	0,289
Fenhexamid	0,568
Fluopicolide	0,605
Azoxystrobin	1,16



*Voluntary Pesticides

Assigned values

Oxamyl



AV < 3 x MRRL

	Robust Mean X* (mg/kg)
Oxamyl	0,0214
Triadimenol	0,0325
Fluopyram	0,0444
Tefluthrin	0,0467
Tebuconazole	0,0508
*Fenpicoxamid	0,0668
*Penthiopyrad	0,0669
Fluxapyroxad	0,0689
Diazinon	0,079
Ametoctradin	0,0822
Dicloran	0,104
Fenamidone	0,185
Fludioxonil	0,199
Chlorpropham	0,229
Dimethomorph	0,275
Cyprodinil	0,289
Fenhexamid	0,568
Fluopicolide	0,605
Azoxystrobin	1,16

***Voluntary Pesticides**

Assigned values

< 0,1 mg/kg

	Robust Mean X* (mg/kg)
Oxamyl	0,0214
Triadimenol	0,0325
Fluopyram	0,0444
Tefluthrin	0,0467
Tebuconazole	0,0508
*Fenpicoxamid	0,0668
*Penthiopyrad	0,0669
Fluxapyroxad	0,0689
Diazinon	0,079
Ametoctradin	0,0822
Dicloran	0,104
Fenamidone	0,185
Fludioxonil	0,199
Chlorpropham	0,229
Dimethomorph	0,275
Cyprodinil	0,289
Fenhexamid	0,568
Fluopicolide	0,605
Azoxystrobin	1,16

*Voluntary Pesticides

Assigned values

< 0,1 mg/kg

0,1-1,0 mg/kg

	Robust Mean X* (mg/kg)
Oxamyl	0,0214
Triadimenol	0,0325
Fluopyram	0,0444
Tefluthrin	0,0467
Tebuconazole	0,0508
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Cyprodinil	0,289
Fenhexamid	0,568
Fluopicolide	0,605
Azoxystrobin	1,16

*Voluntary Pesticides

Assigned values

< 0,1 mg/kg

0,1-1,0 mg/kg

> 1,0 mg/kg

	Robust Mean X* (mg/kg)
Oxamyl	0,0214
Triadimenol	0,0325
Fluopyram	0,0444
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Azoxystrobin	1,16

*Voluntary Pesticides

	MRRL (mg/kg)	Robust Mean (mg/kg)	CV (%)	Uncertainty (mg/kg)
Ametoctradin	0,01	0,0822	18,7	0,00189
Azoxystrobin	0,01	1,16	20,7	0,0244
Chlorpropham	0,01	0,229	18,0	0,00432
Cyprodinil	0,01	0,289	14,5	0,00428
Diazinon	0,005	0,079	17,5	0,00142
Dicloran	0,01	0,104	18,4	0,00208
Dimethomorph	0,01	0,275	18,0	0,00515
Fenamidone	0,01	0,185	16,5	0,00318
Fenhexamid	0,01	0,568	19,8	0,0118
*Fenpicoxamid	0,01	0,0668	21,5	0,00412
Fludioxonil	0,01	0,199	19,5	0,00406
Fluopicolide	0,01	0,605	18,0	0,0122
Fluopyram	0,01	0,0444	19,6	0,000940
Fluxapyroxad	0,01	0,0689	23,3	0,00191
Oxamyl	0,01	0,0214	15,0	0,000351
*Penthiopyrad	0,01	0,0669	20,7	0,00193
Tebuconazole	0,01	0,0508	15,8	0,000821
Tefluthrin	0,01	0,0467	19,8	0,000978
Triadimenol	0,01	0,0325	19,9	0,000699

	MRRL (mg/kg)	Robust Mean (mg/kg)	CV (%)	Uncertainty (mg/kg)
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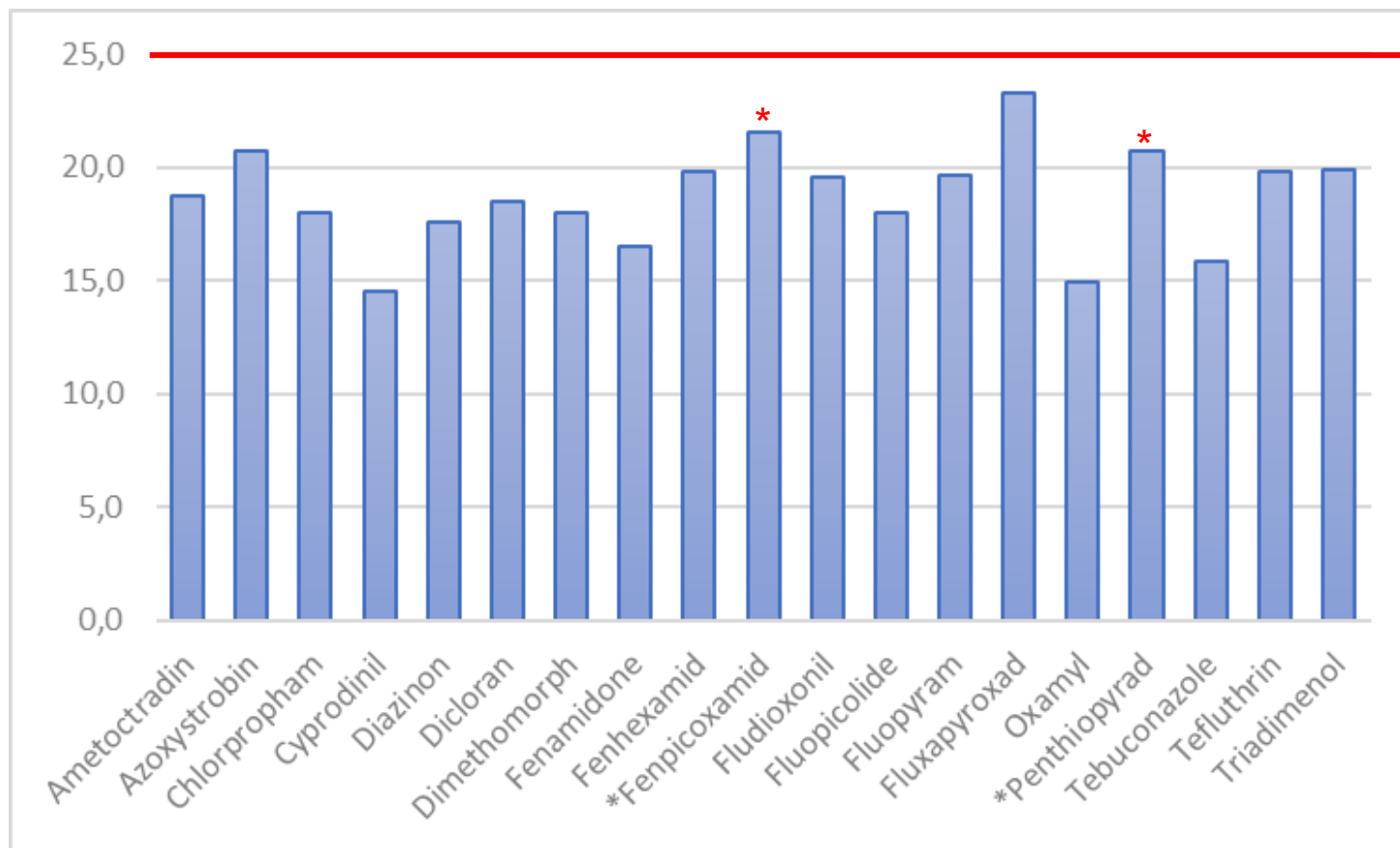


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Fluopicolide	0,01	0,605	18,0	0,0122
Fluopyram	0,01	0,0444	19,6	0,000940
Fluxapyroxad	0,01	0,0689	23,3	0,00191
Oxamyl	0,01	0,0214	15,0	0,000351
*Penthiopyrad	0,01	0,0669	20,7	0,00193
Tebuconazole	0,01	0,0508	15,8	0,000821
Tefluthrin	0,01	0,0467	19,8	0,000978
Triadimenol	0,01	0,0325	19,9	0,000699

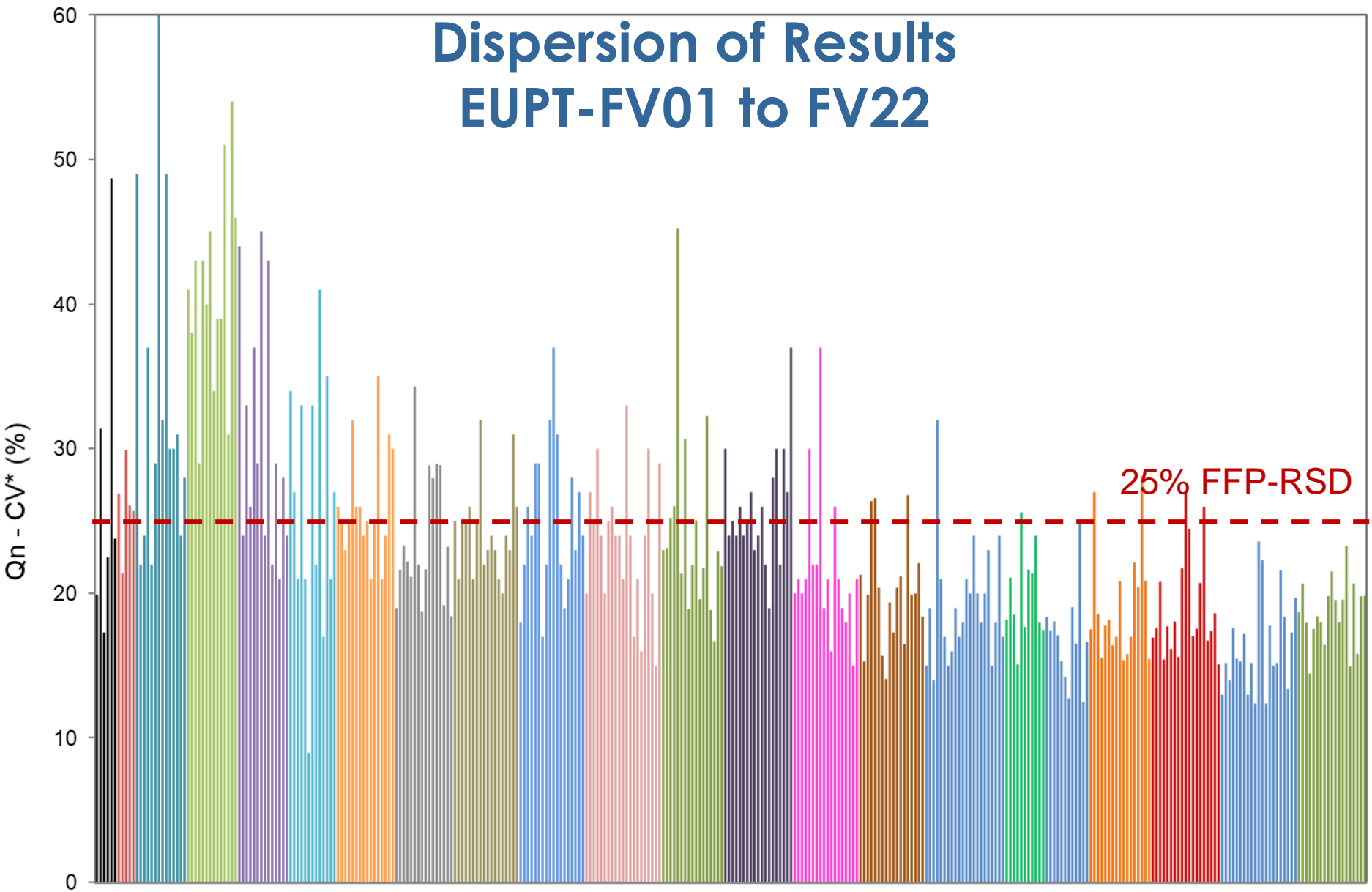
Average CV (%): 18,7%



Dispersion of Results



Dispersion of Results EUPT-FV01 to FV22



Pesticides	No. of Reported Results	No. of False Negative Results	No. of Not Analysed Results	Percentage of Labs Reporting Results (out of 155)
Ametoctradin	107	3	45	69
Azoxystrobin	151	2	2	97
Chlorpropham	143	3	9	92
Cyprodinil	151	1	3	97
Diazinon	150	2	3	97
Dicloran	135	6	14	87
Dimethomorph	145	2	8	94
Fenamidone	144	3	8	93
Fenhexamid	143	2	10	92
*Fenpicoxamid	19	10	126	12
Fludioxonil	145	4	6	94
Fluopicolide	125	4	26	81
Fluopyram	135	5	15	87
Fluxapyroxad	111	6	38	72
Oxamyl	131	3	21	85
*Penthiopyrad	80	9	66	52
Tebuconazole	151	4	0	97
Tefluthrin	142	2	11	92
Triadimenol	134	14	7	86

EU/EFTA Laboratories

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EU/EFTA Laboratories

z-Scores



Pesticides	Robust Mean (mg/kg)	% Acceptable z scores	% Questionable z scores	% Unacceptable z scores
Ametoctradin	0,0822	87,3	4,5	8,2
Azoxystrobin	1,16	92,8	3,3	3,9
Chlorpropham	0,229	93,8	3,4	2,7
Cyprodinil	0,289	97,4	0,0	2,6
Diazinon	0,079	95,4	1,3	3,3
Dicloran	0,104	90,8	2,1	7,1
Dimethomorph	0,275	94,6	2,0	3,4
Fenamidone	0,185	93,9	2,0	4,1
Fenhexamid	0,568	93,1	0,7	6,2
*Fenpicoxamid	0,0668	62,1	3,4	34,5
Fludioxonil	0,199	93,3	2,0	4,7
Fluopicolide	0,605	95,3	1,6	3,1
Fluopyram	0,0444	92,1	3,6	4,3
Fluxapyroxad	0,0689	90,6	2,6	6,8
*Penthiopyrad	0,0669	86,5	2,2	11,2
Tebuconazole	0,0508	94,2	2,6	3,2
Tefluthrin	0,0467	95,1	2,1	2,8
Triadimenol	0,0325	87,2	2,0	10,8



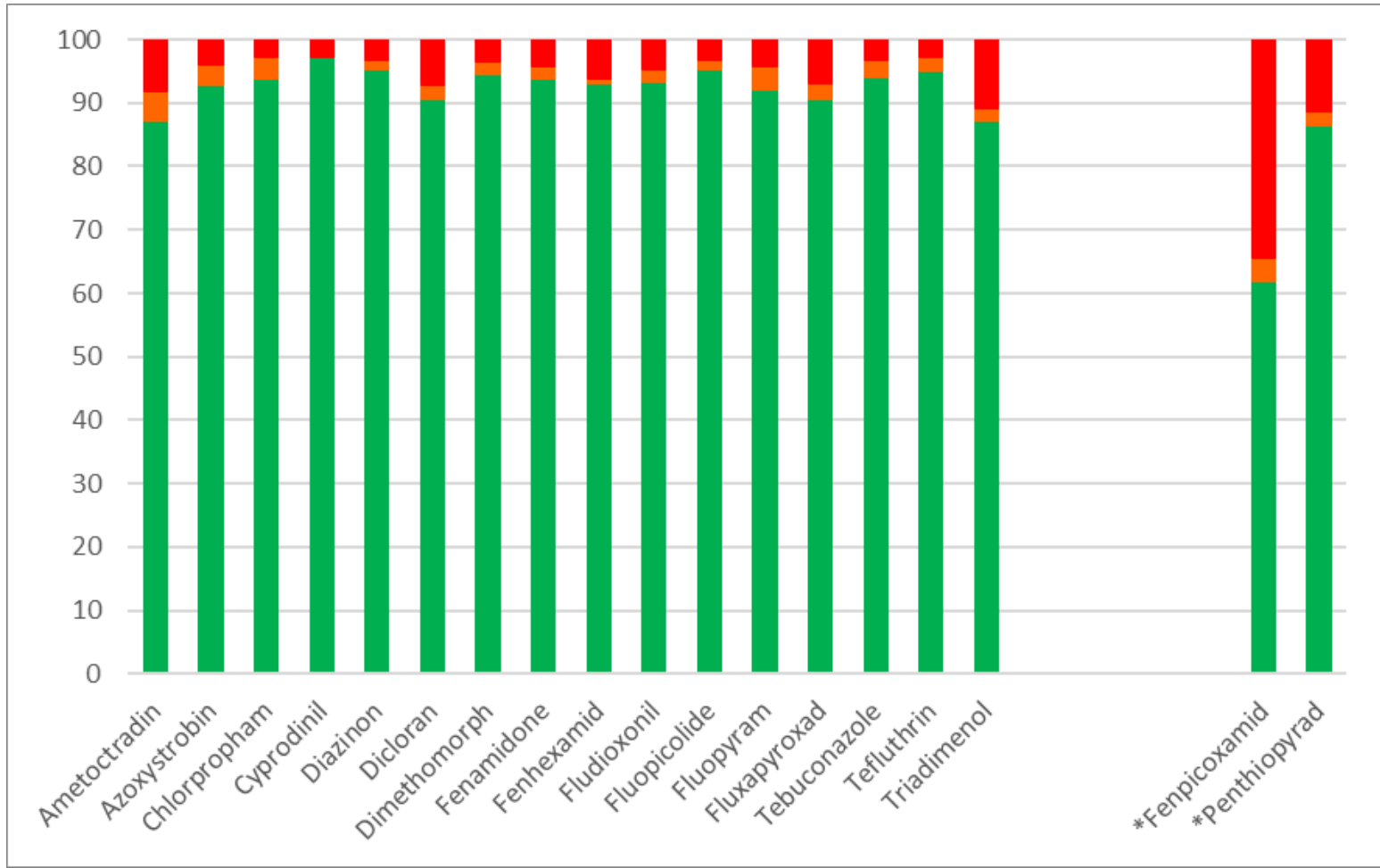
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Z Scores classification

EU/EFTA Laboratories



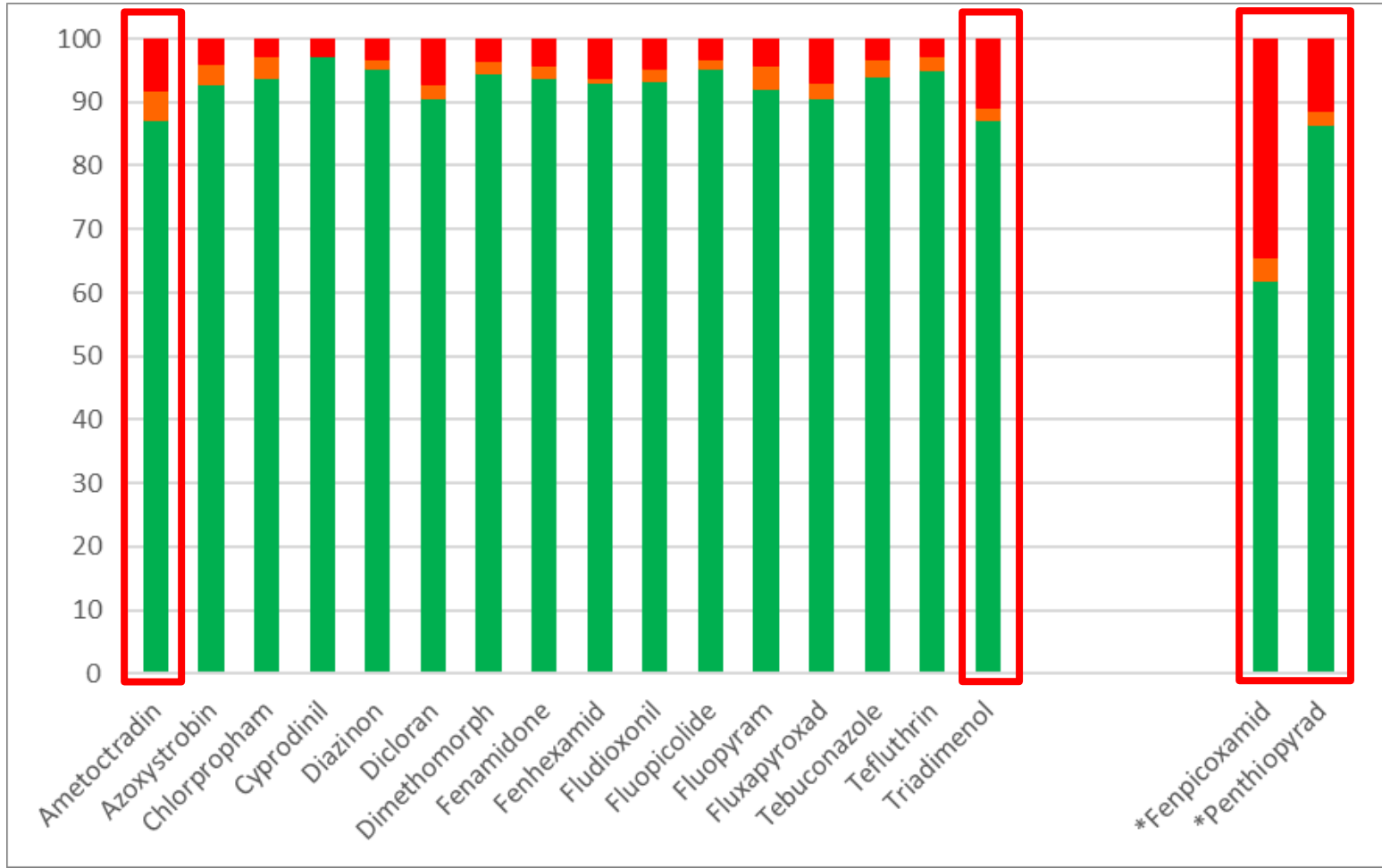
Acceptable

Questionable

Unacceptable

Z Scores classification

EU/EFTA Laboratories



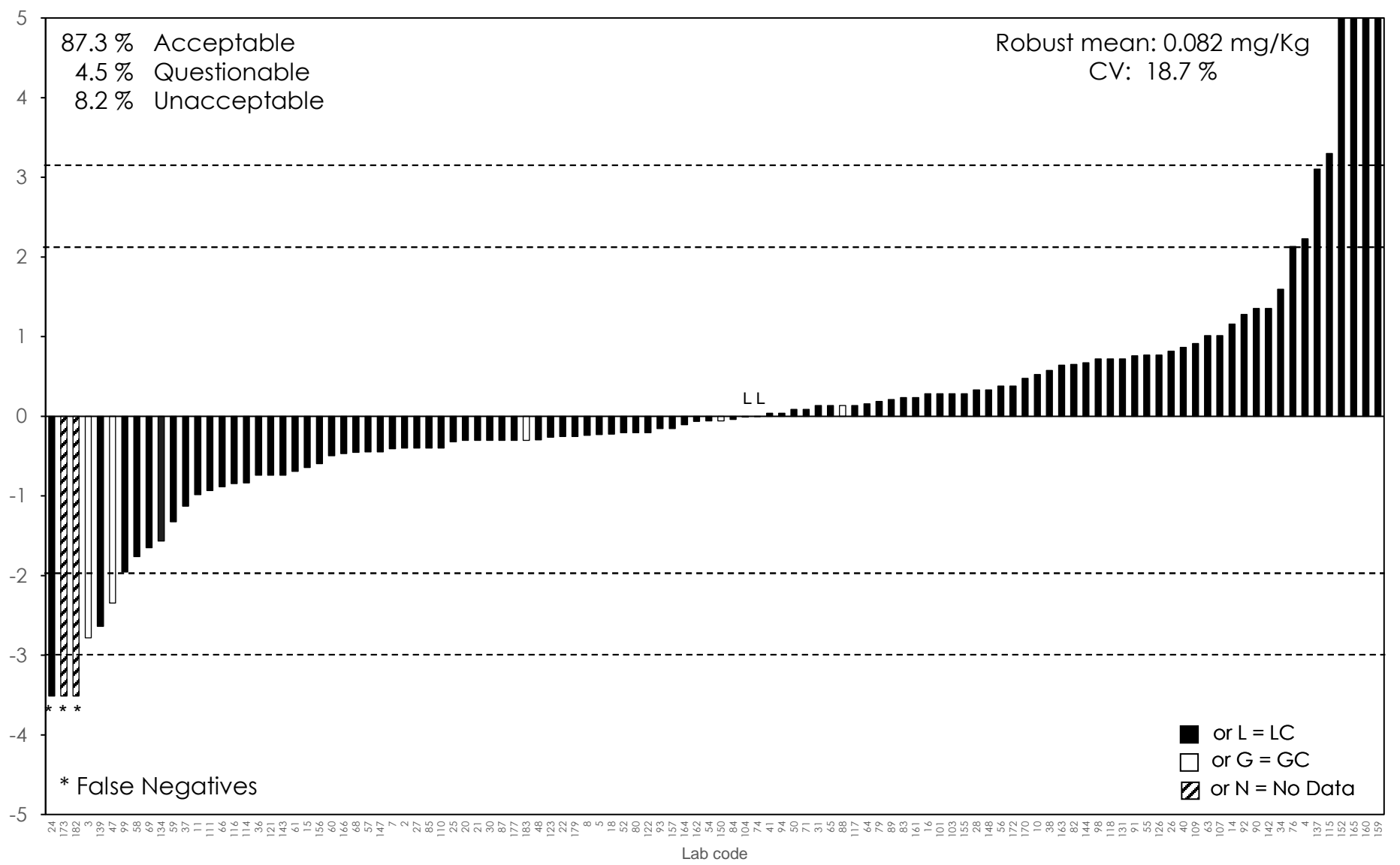
Acceptable

Questionable

Unacceptable

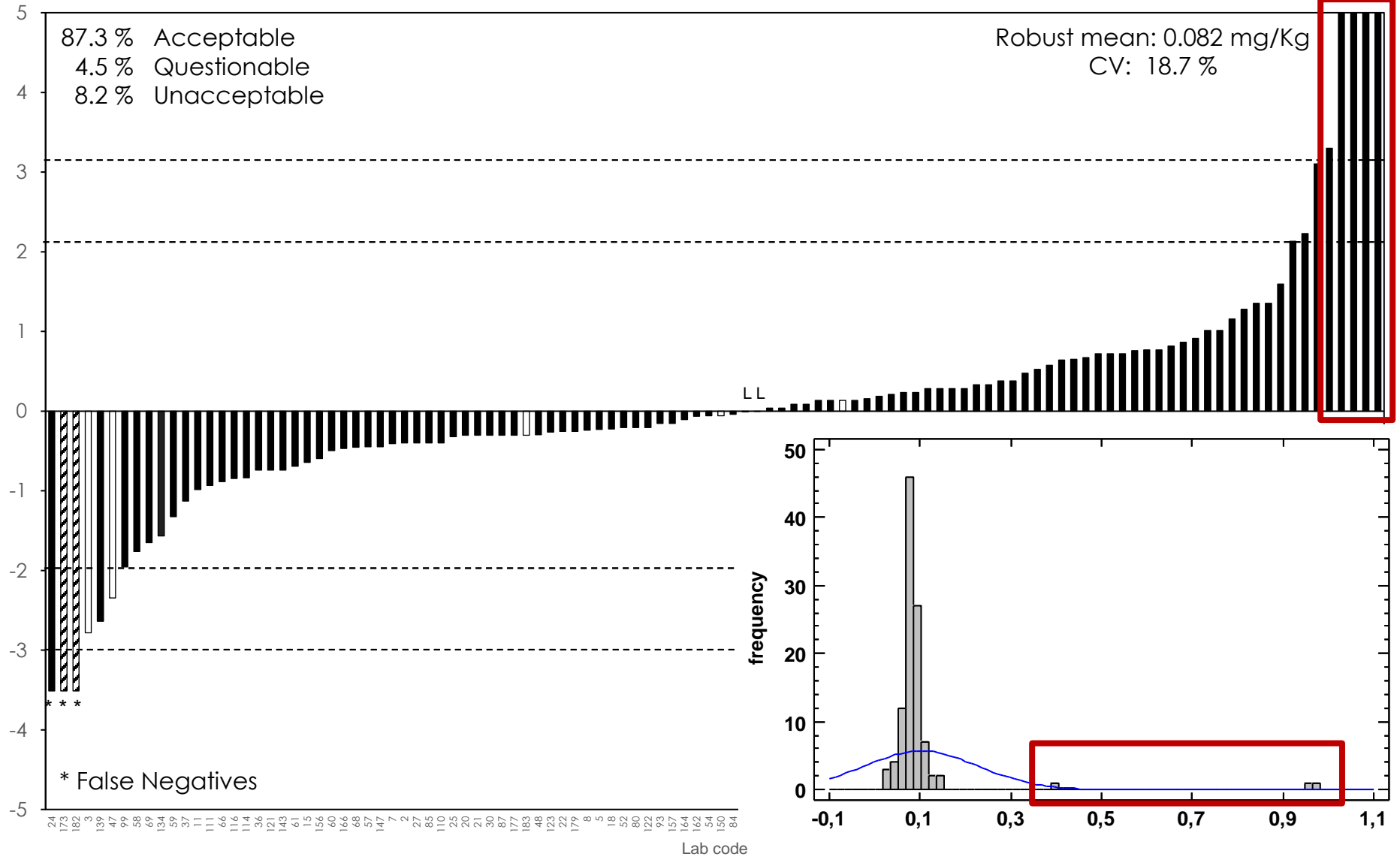
EU/EFTA Laboratories

Ametoctradin



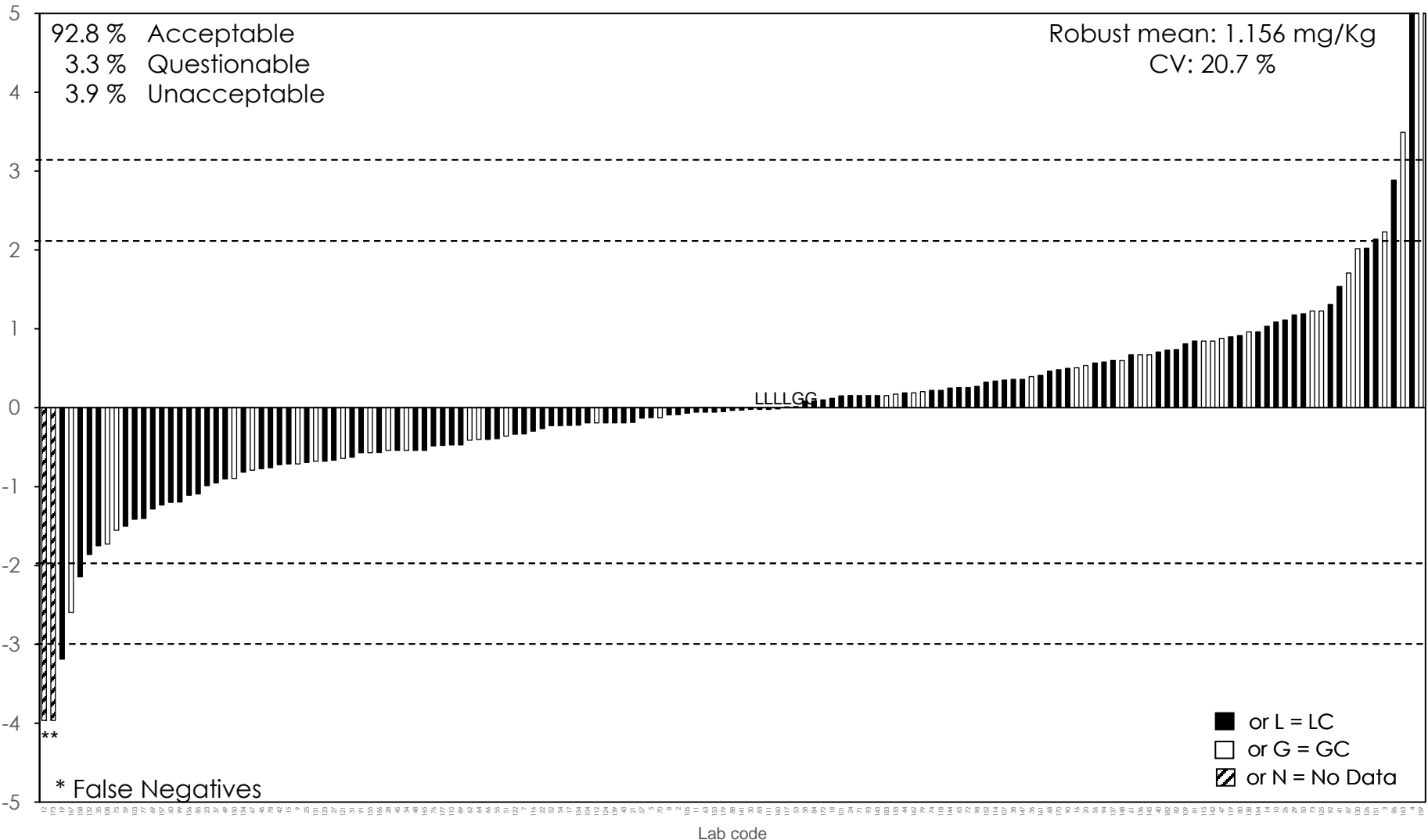
EU/EFTA Laboratories

Ametoctradin



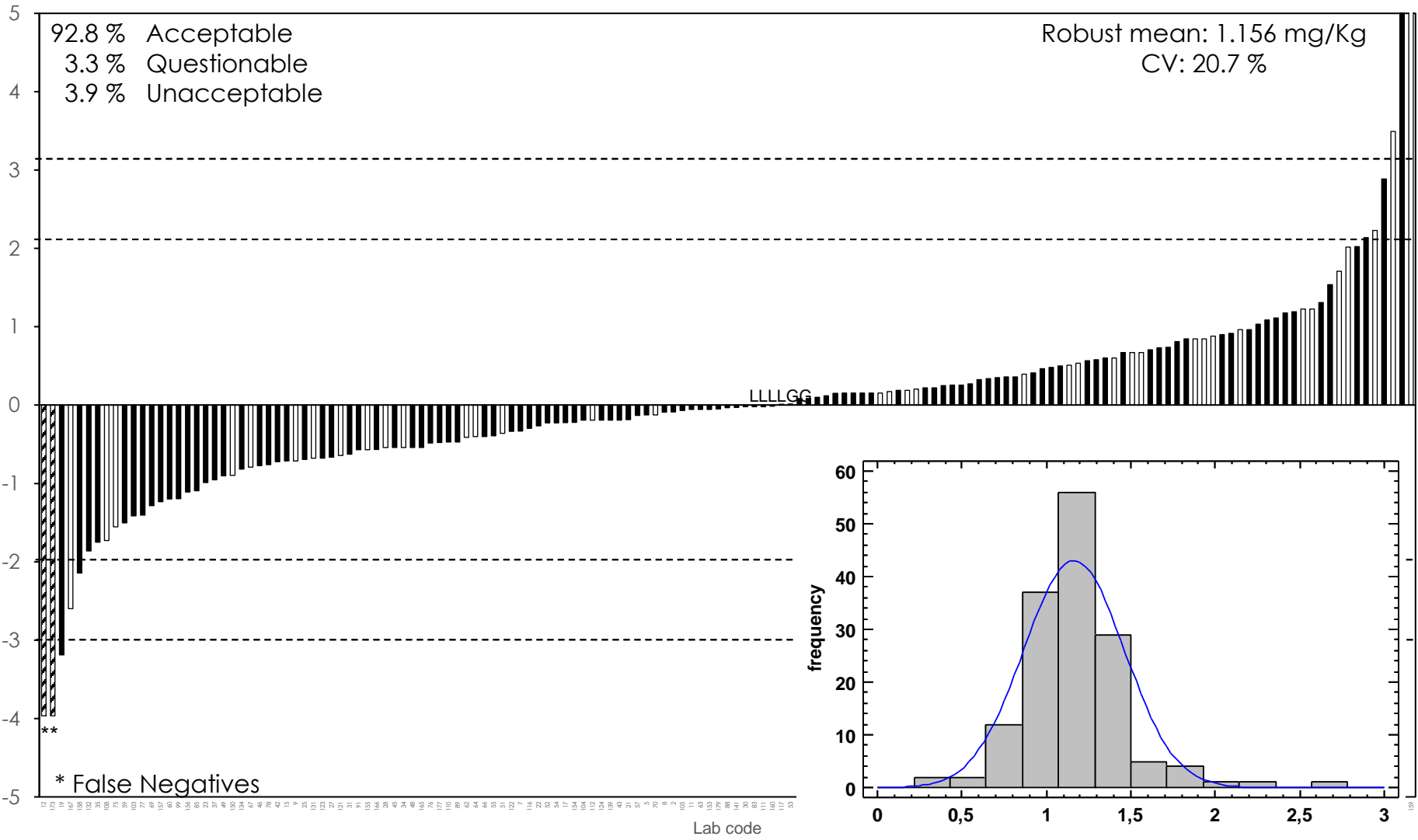
EU/EFTA Laboratories

Azoxystrobin



EU/EFTA Laboratories

Azoxystrobin

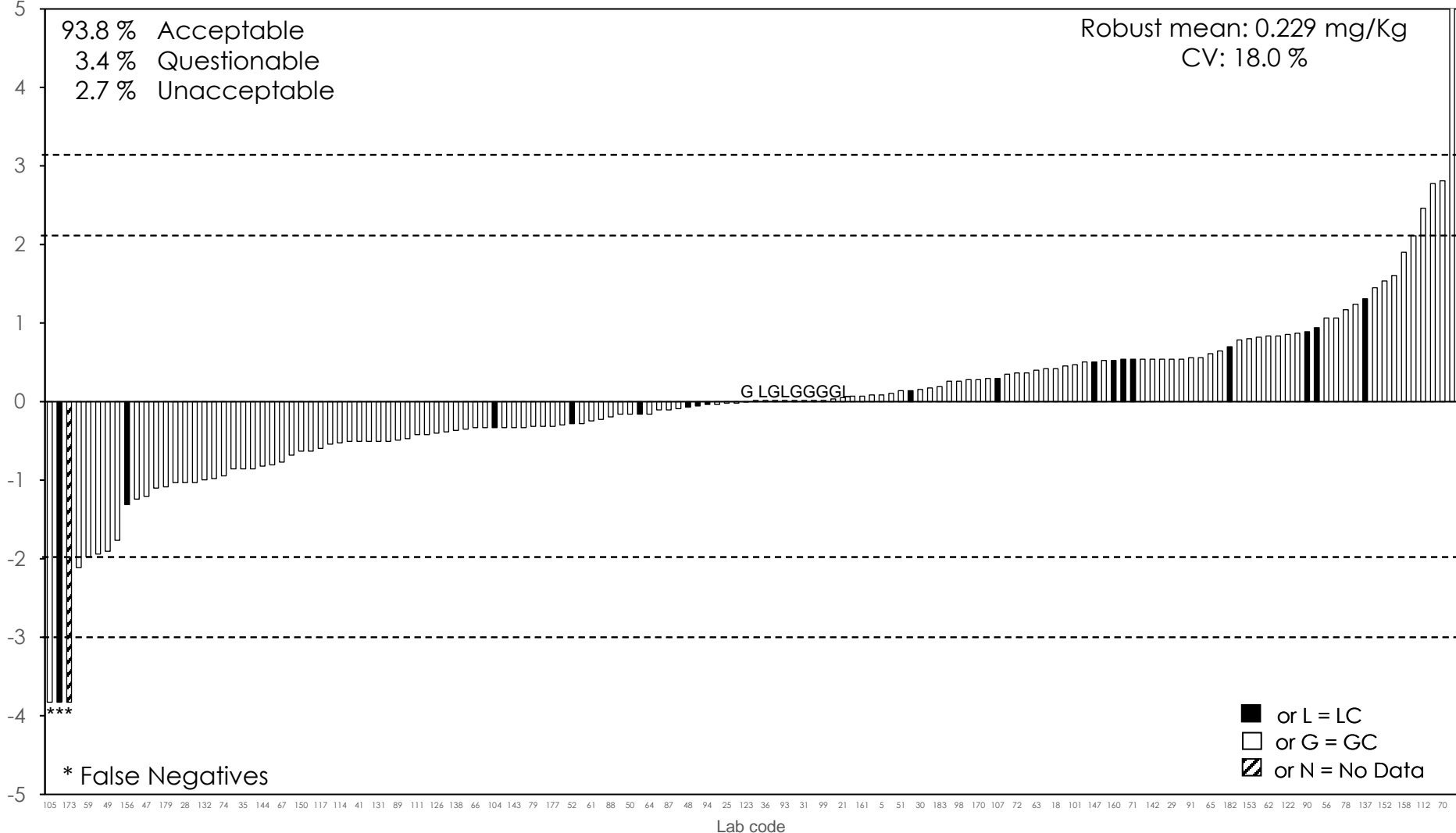


EU/EFTA Laboratories

Chlorpropham

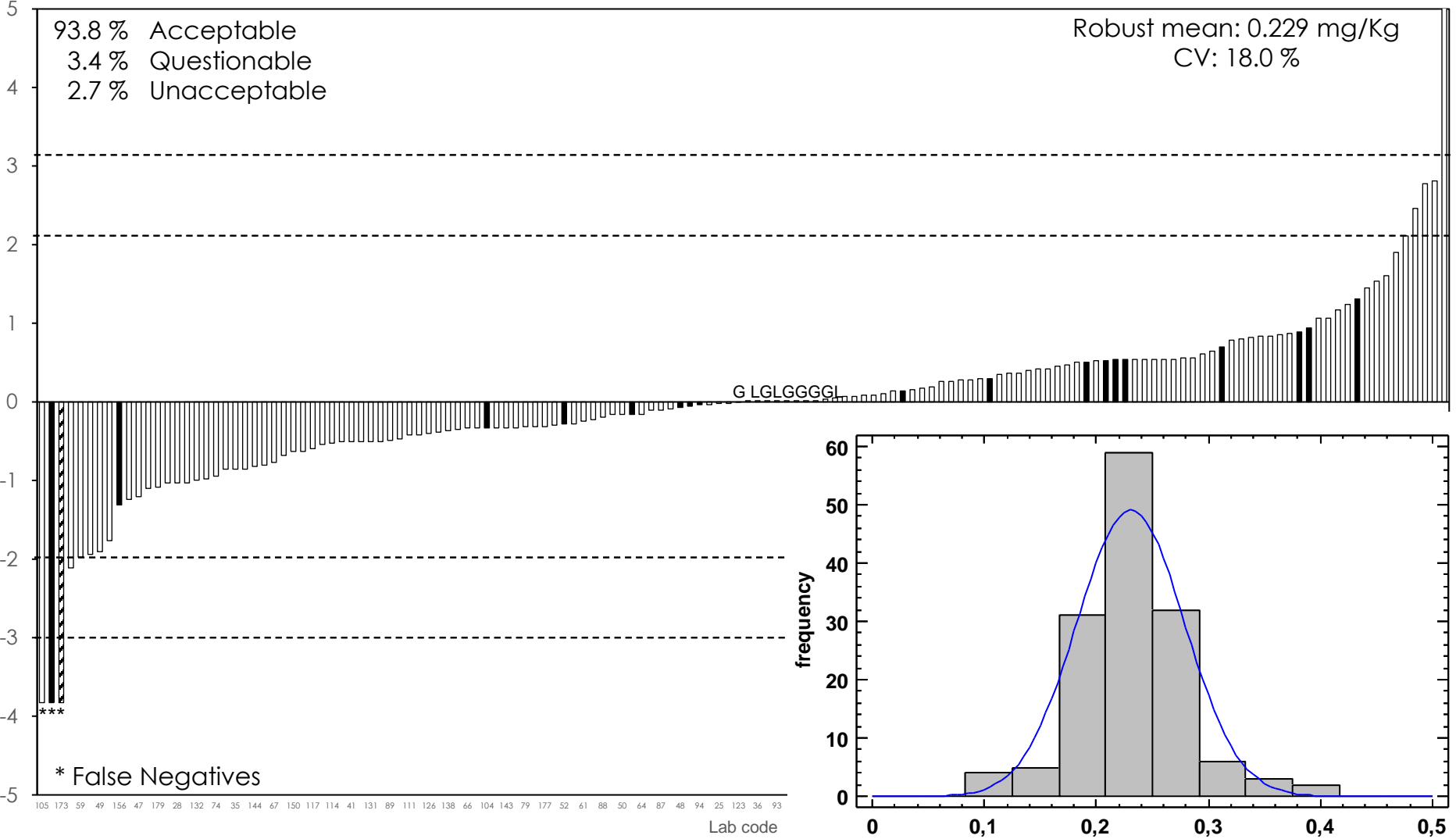
93.8 % Acceptable
 3.4 % Questionable
 2.7 % Unacceptable

Robust mean: 0.229 mg/Kg
 CV: 18.0 %



EU/EFTA Laboratories

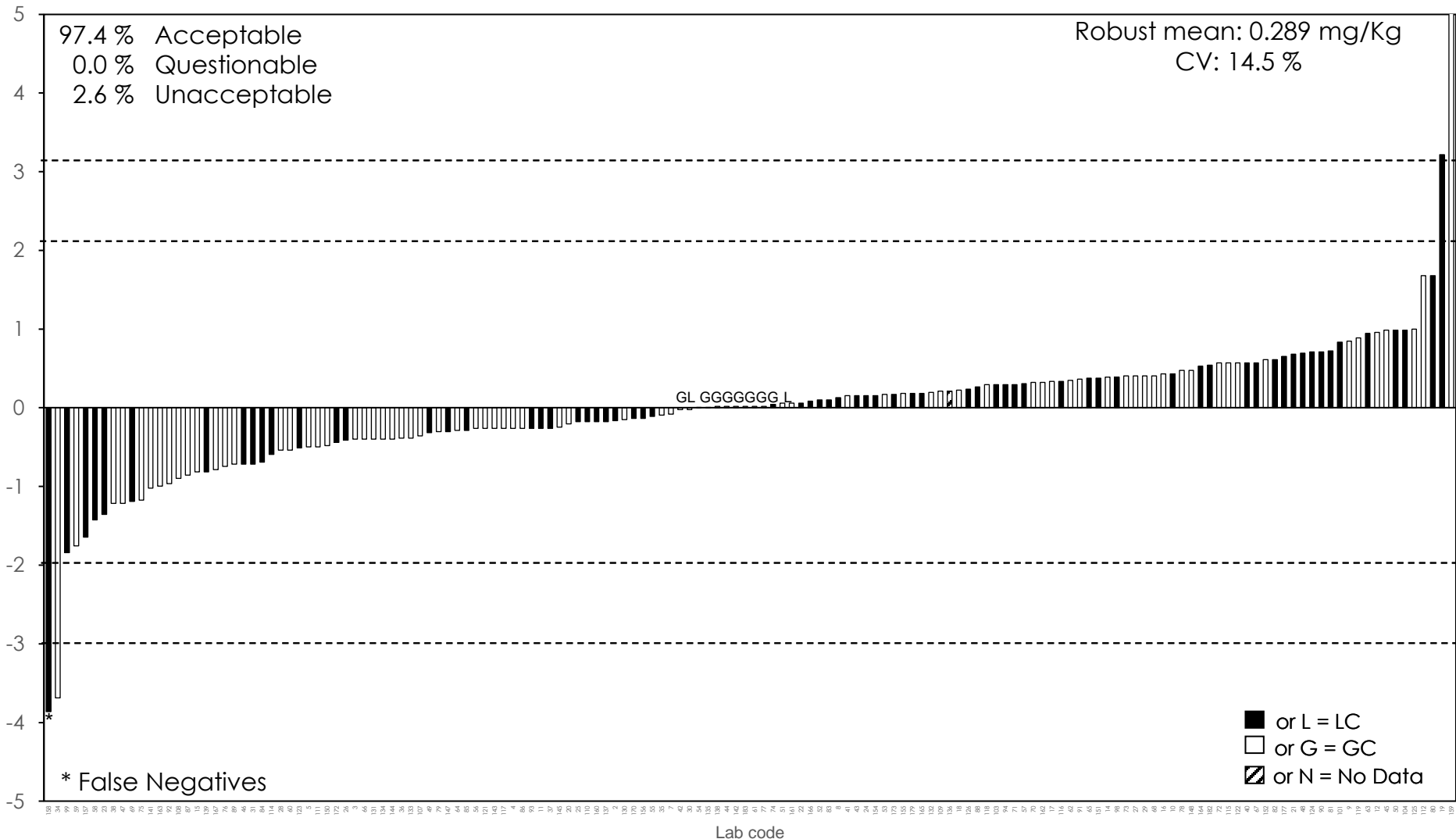
Chlorpropham



Lab code

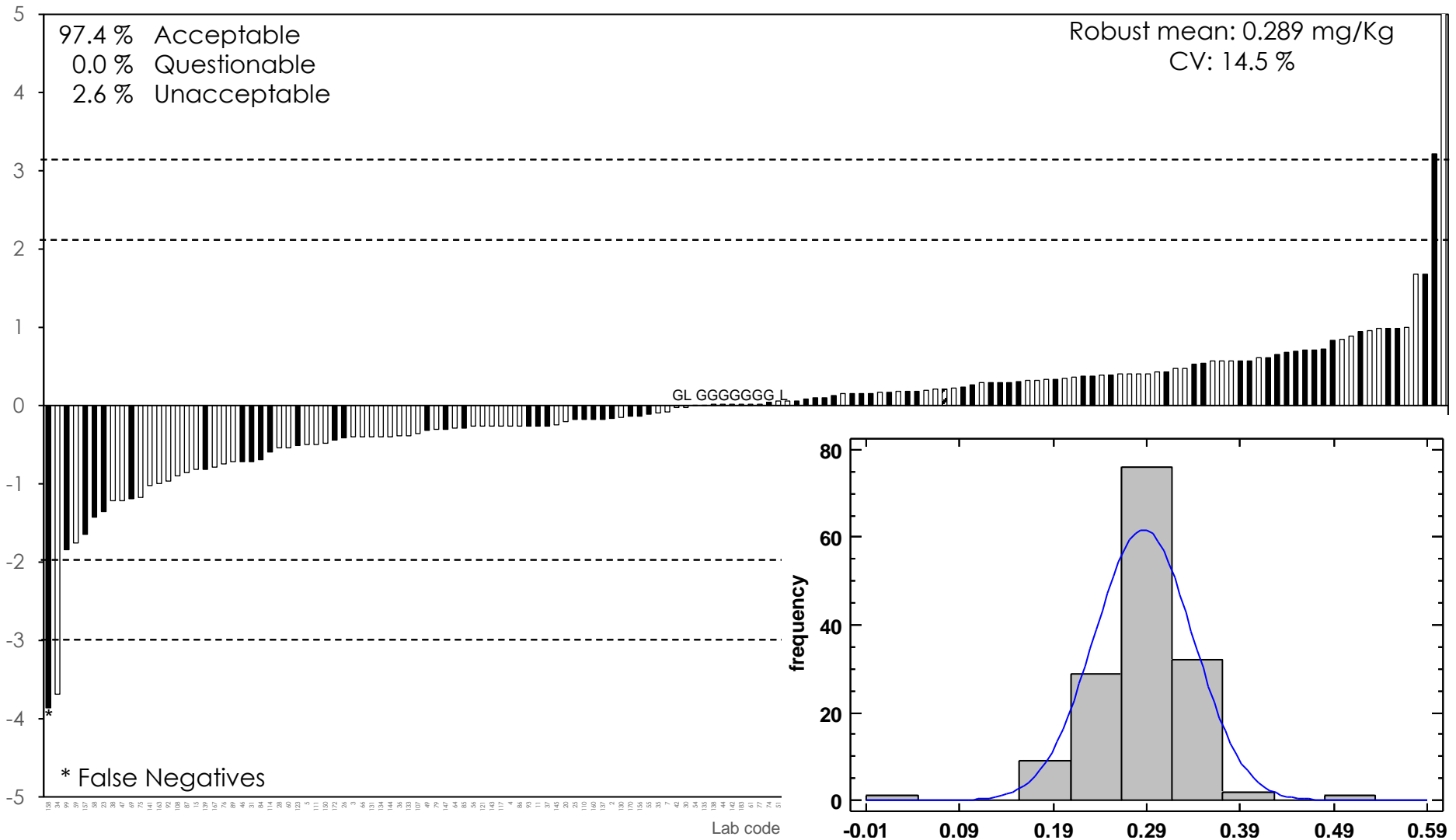
EU/EFTA Laboratories

Cyprodinil



EU/EFTA Laboratories

Cyprodinil

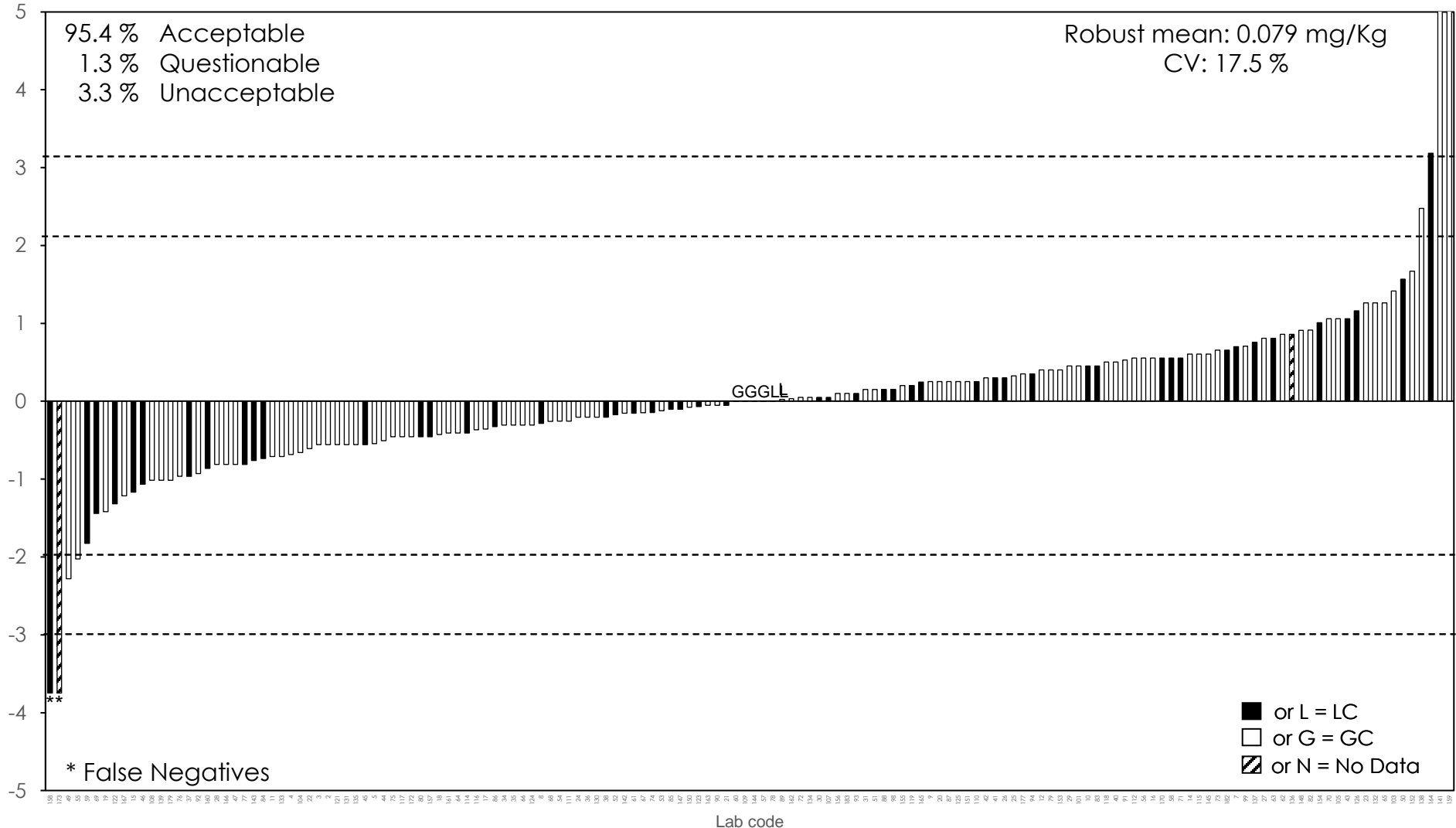


EU/EFTA Laboratories

Diazinon

95.4 % Acceptable
 1.3 % Questionable
 3.3 % Unacceptable

Robust mean: 0.079 mg/Kg
 CV: 17.5 %

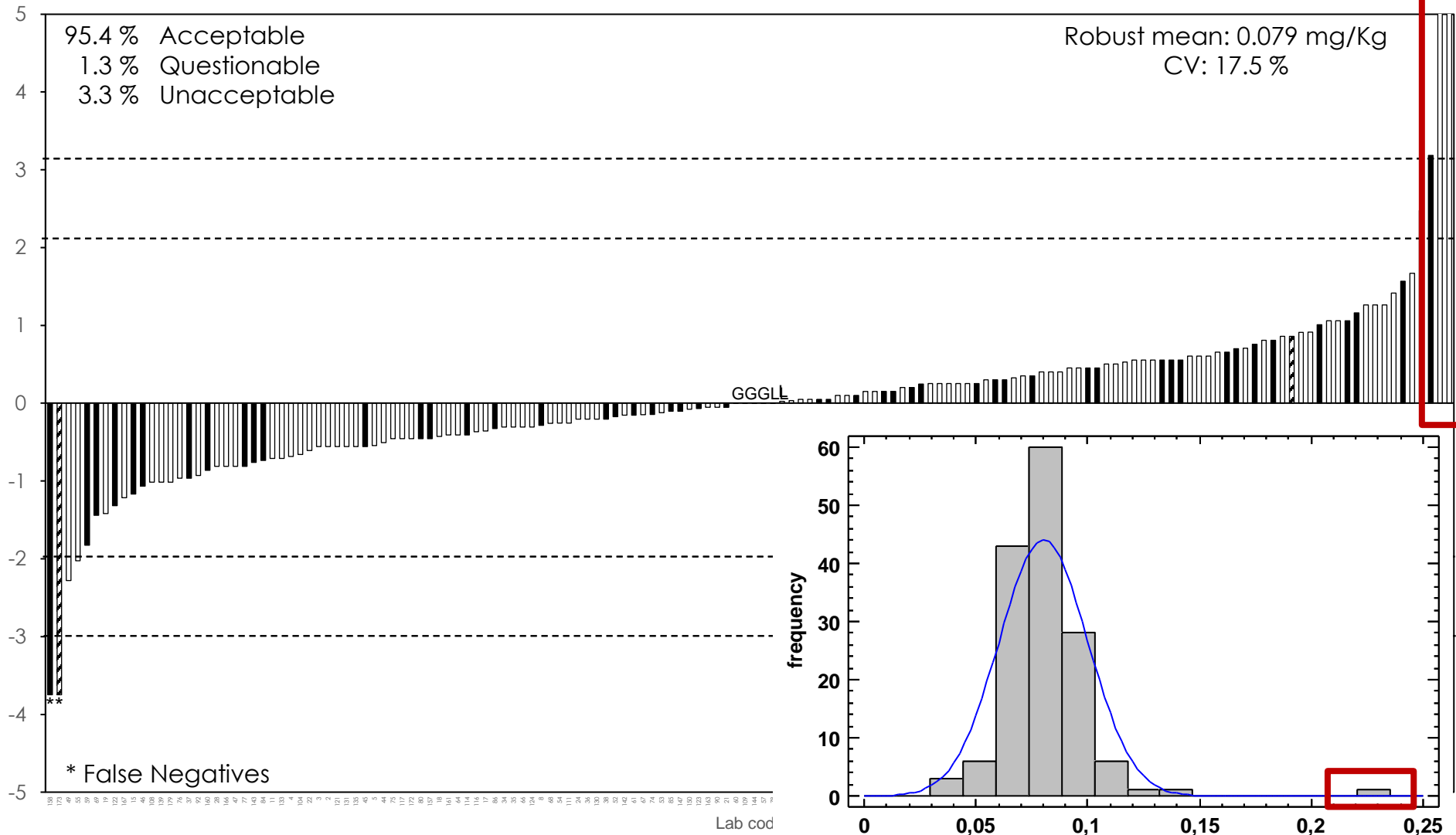


EU/EFTA Laboratories

Diazinon

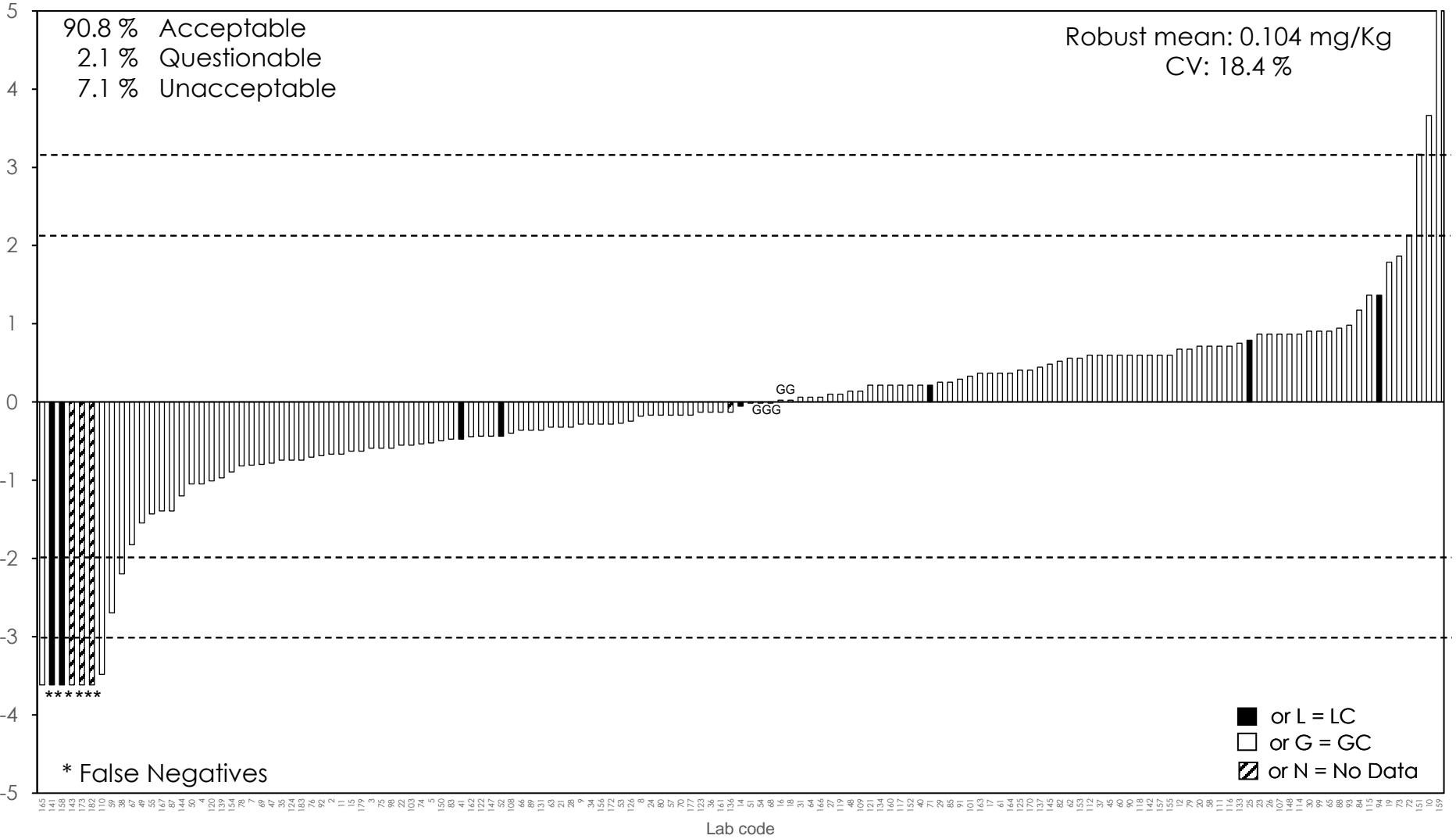
95.4 % Acceptable
1.3 % Questionable
3.3 % Unacceptable

Robust mean: 0.079 mg/Kg
CV: 17.5 %



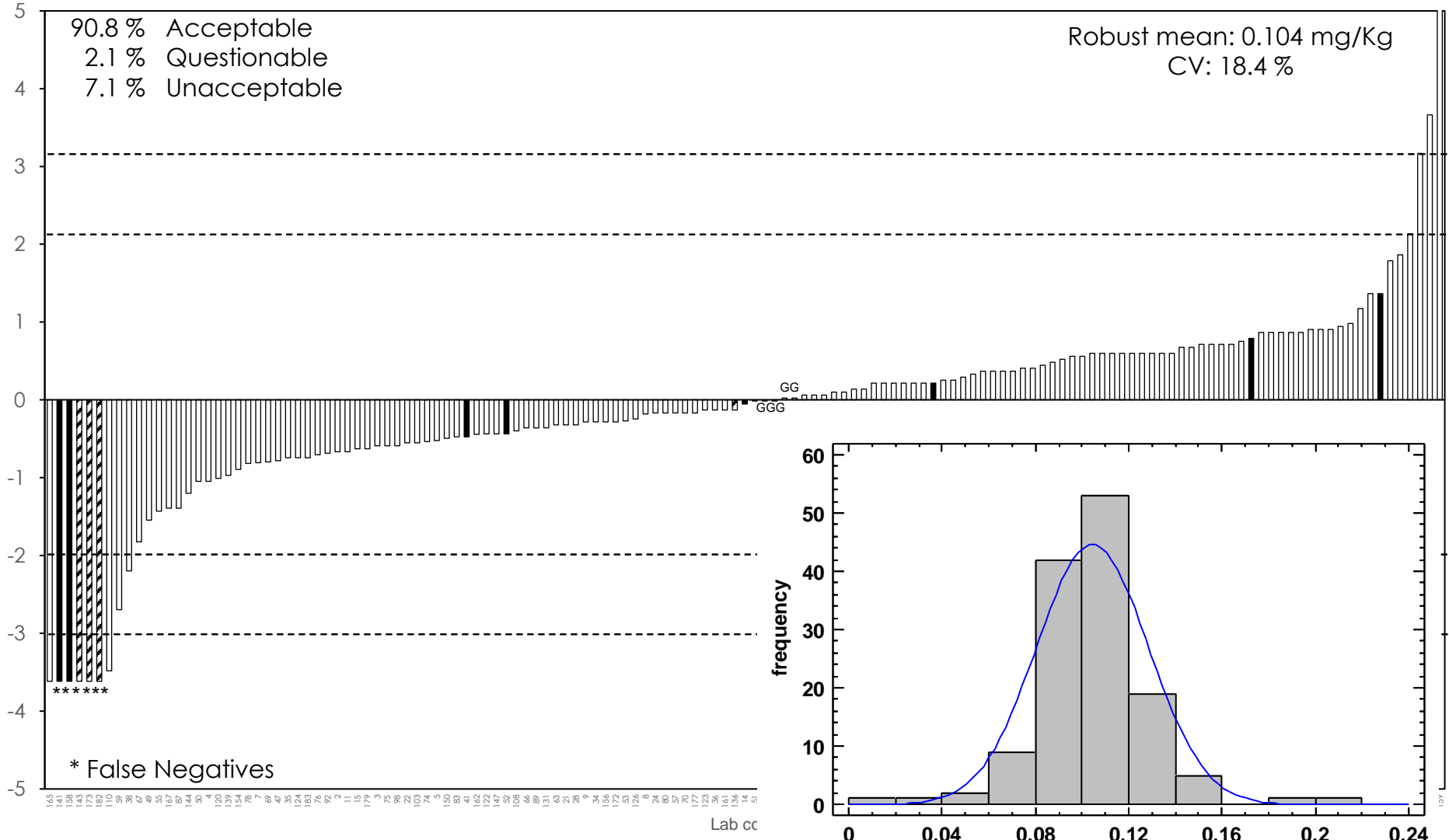
EU/EFTA Laboratories

Dicloran



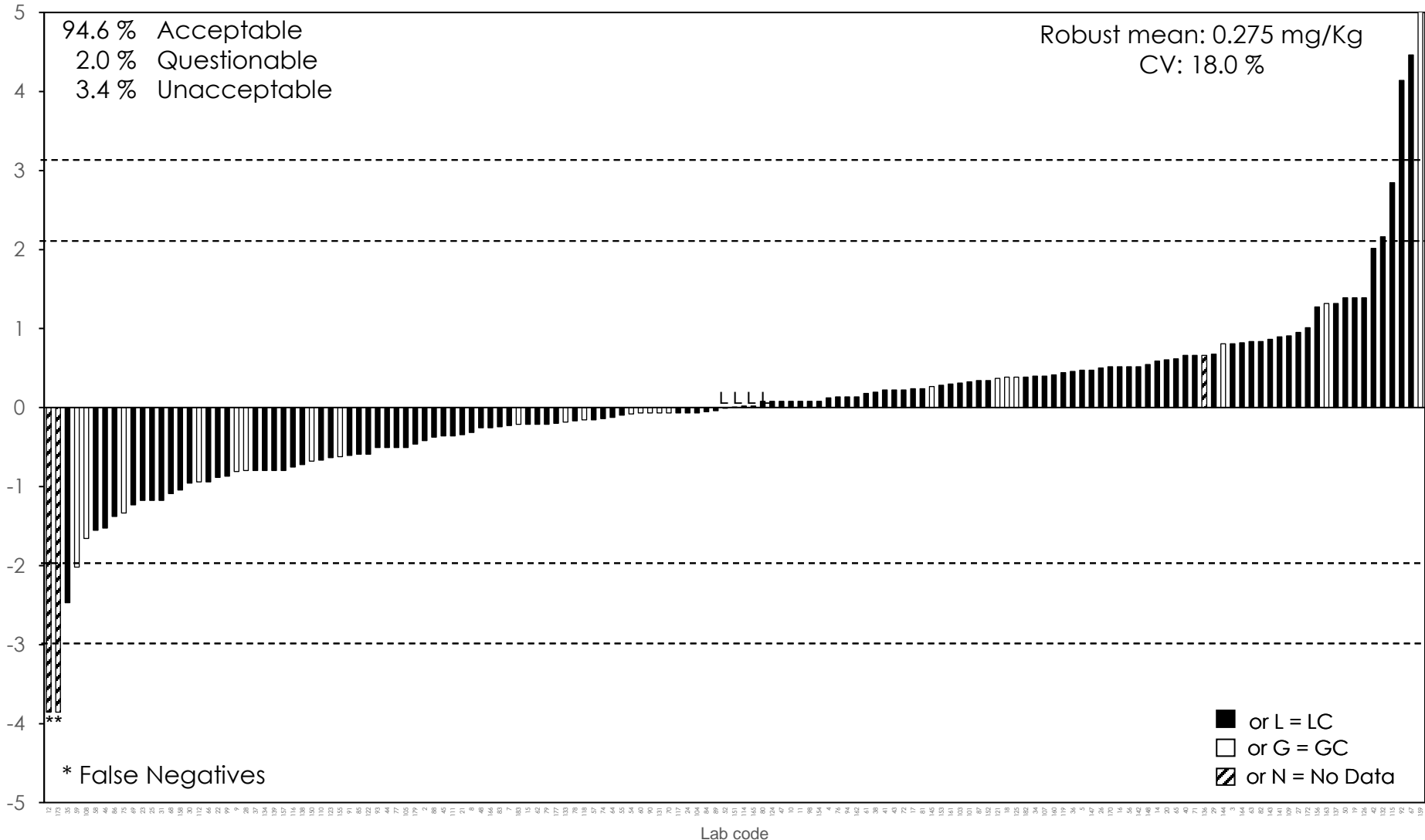
EU/EFTA Laboratories

Dicloran



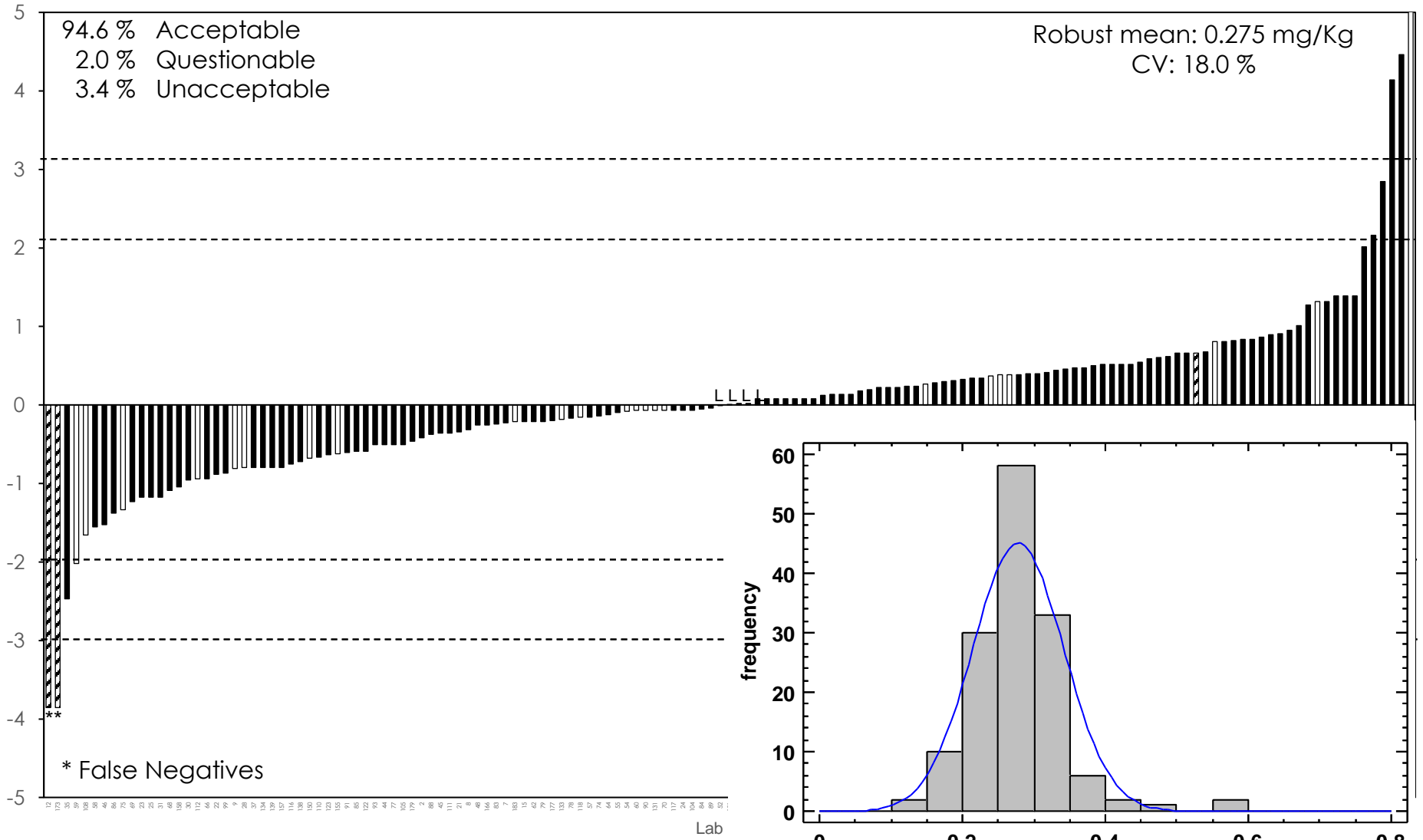
EU/EFTA Laboratories

Dimethomorph



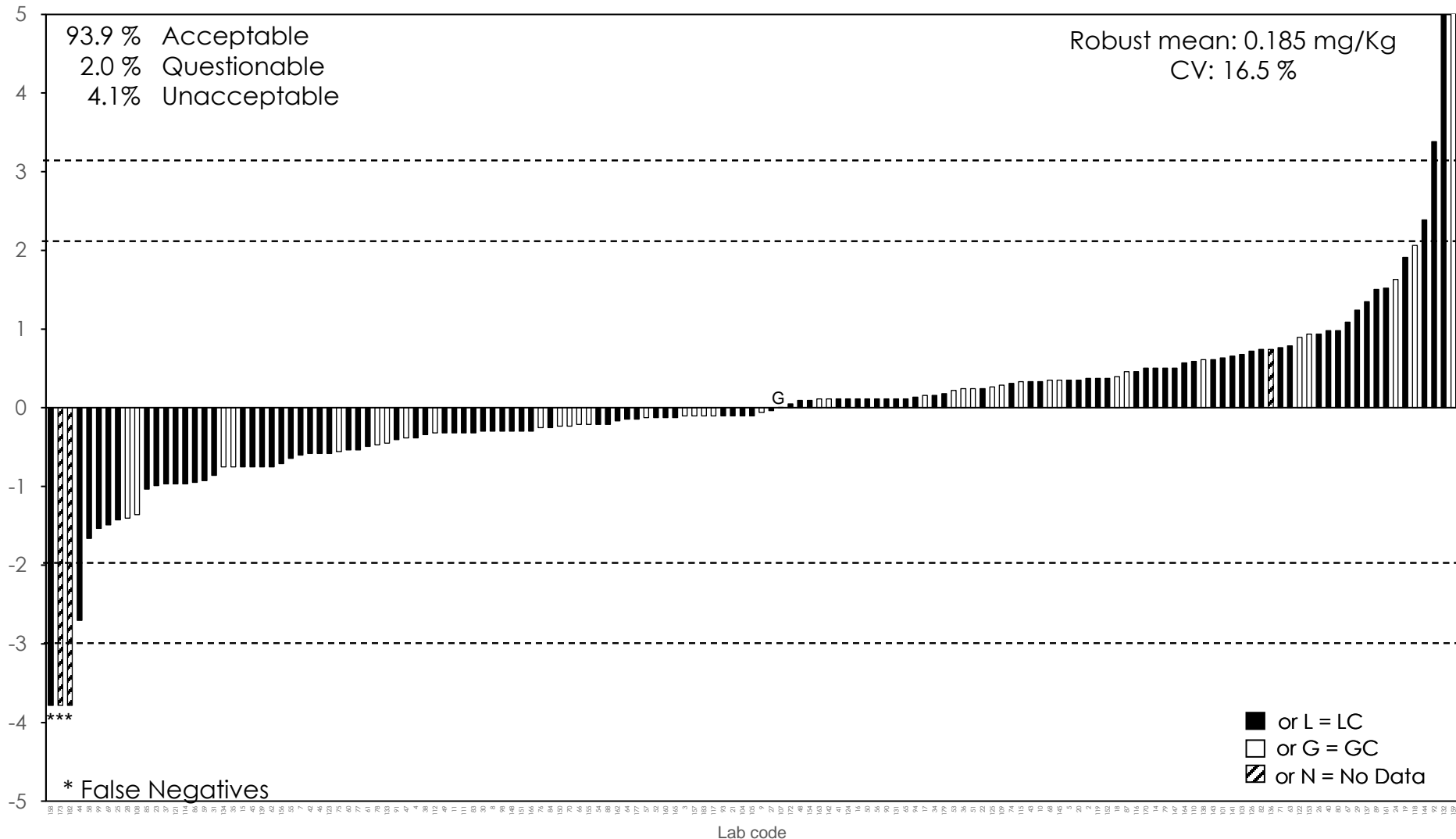
EU/EFTA Laboratories

Dimethomorph



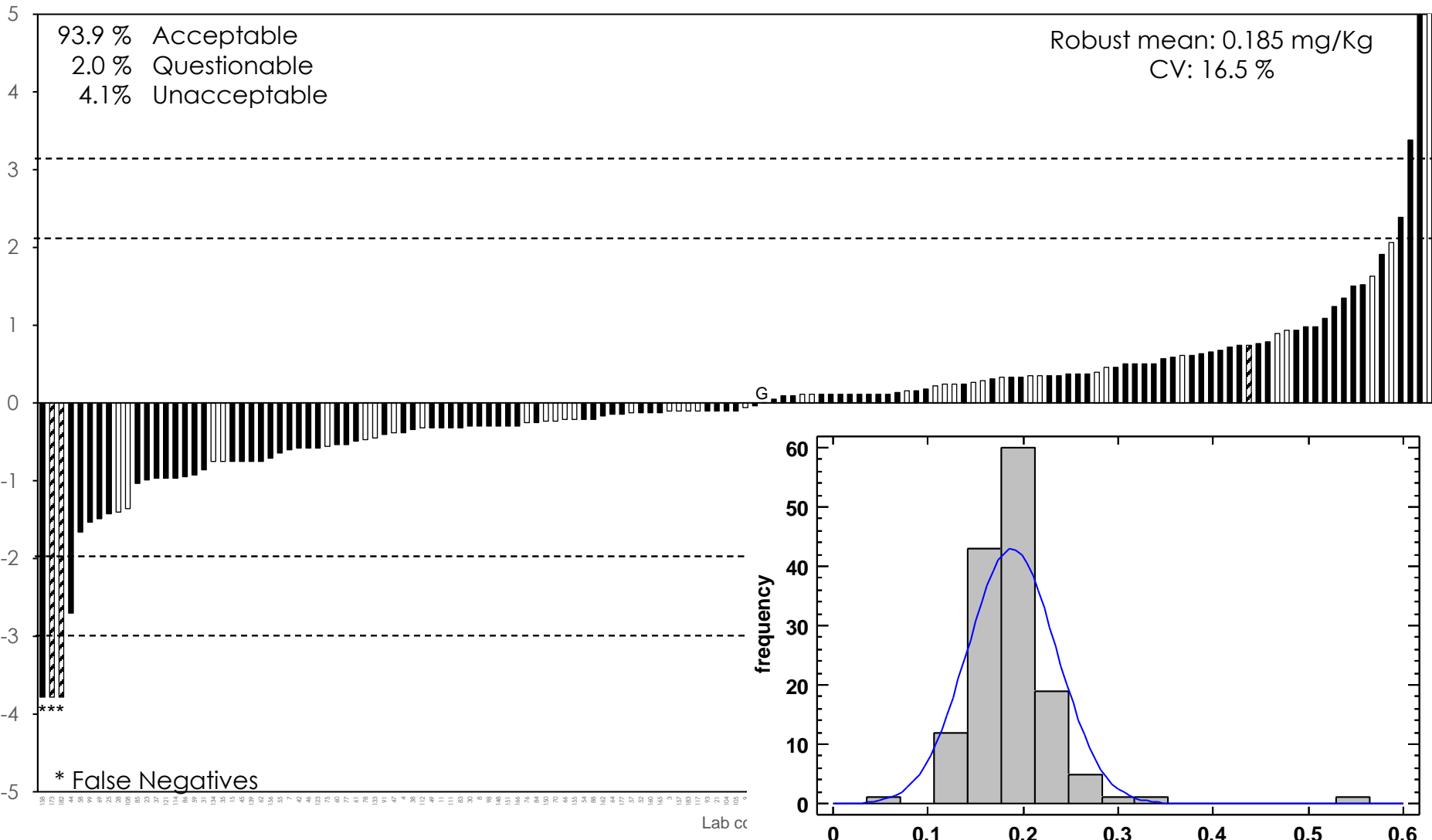
EU/EFTA Laboratories

Fenamidone



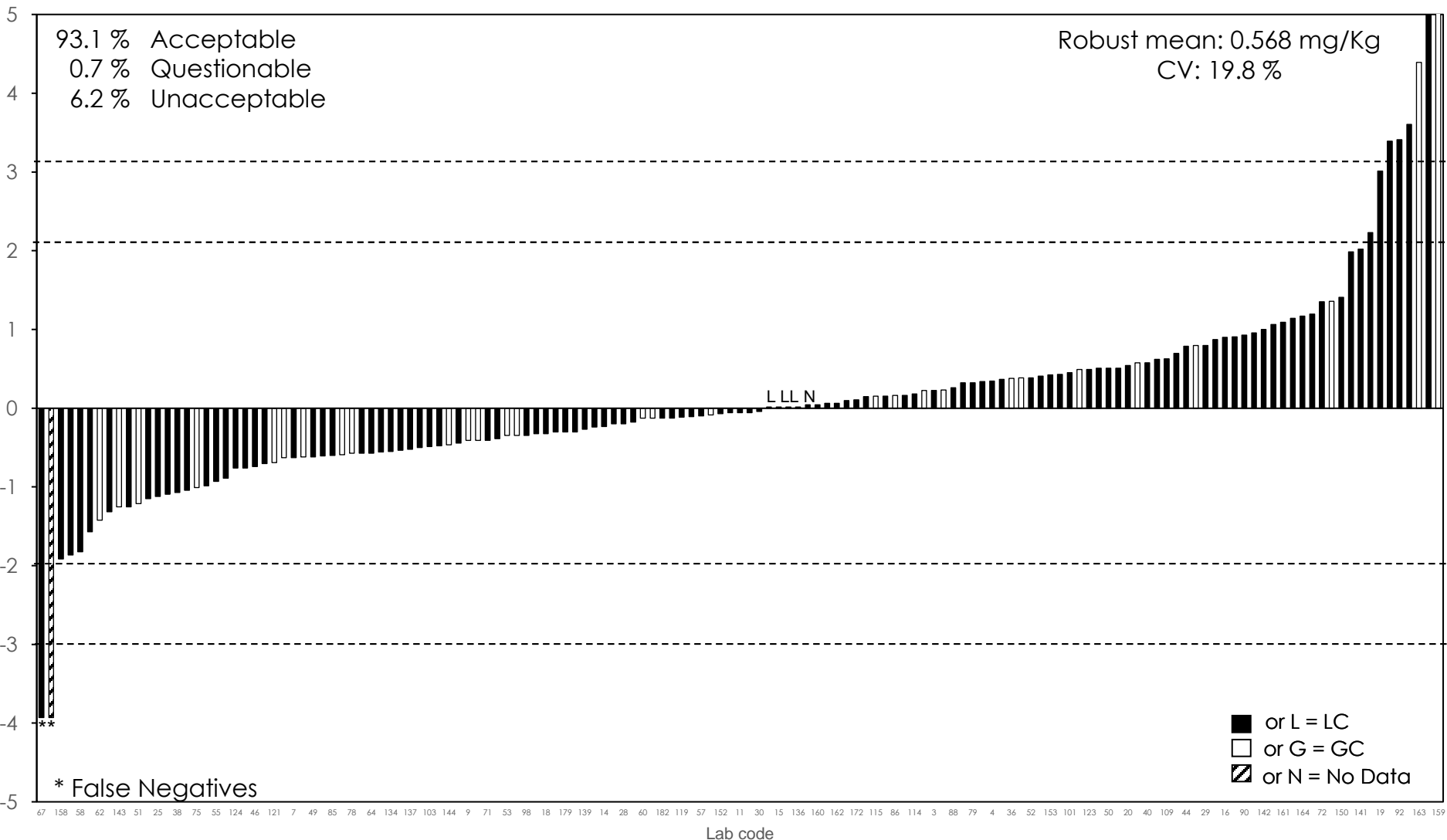
EU/EFTA Laboratories

Fenamidone



EU/EFTA Laboratories

Fenhexamid

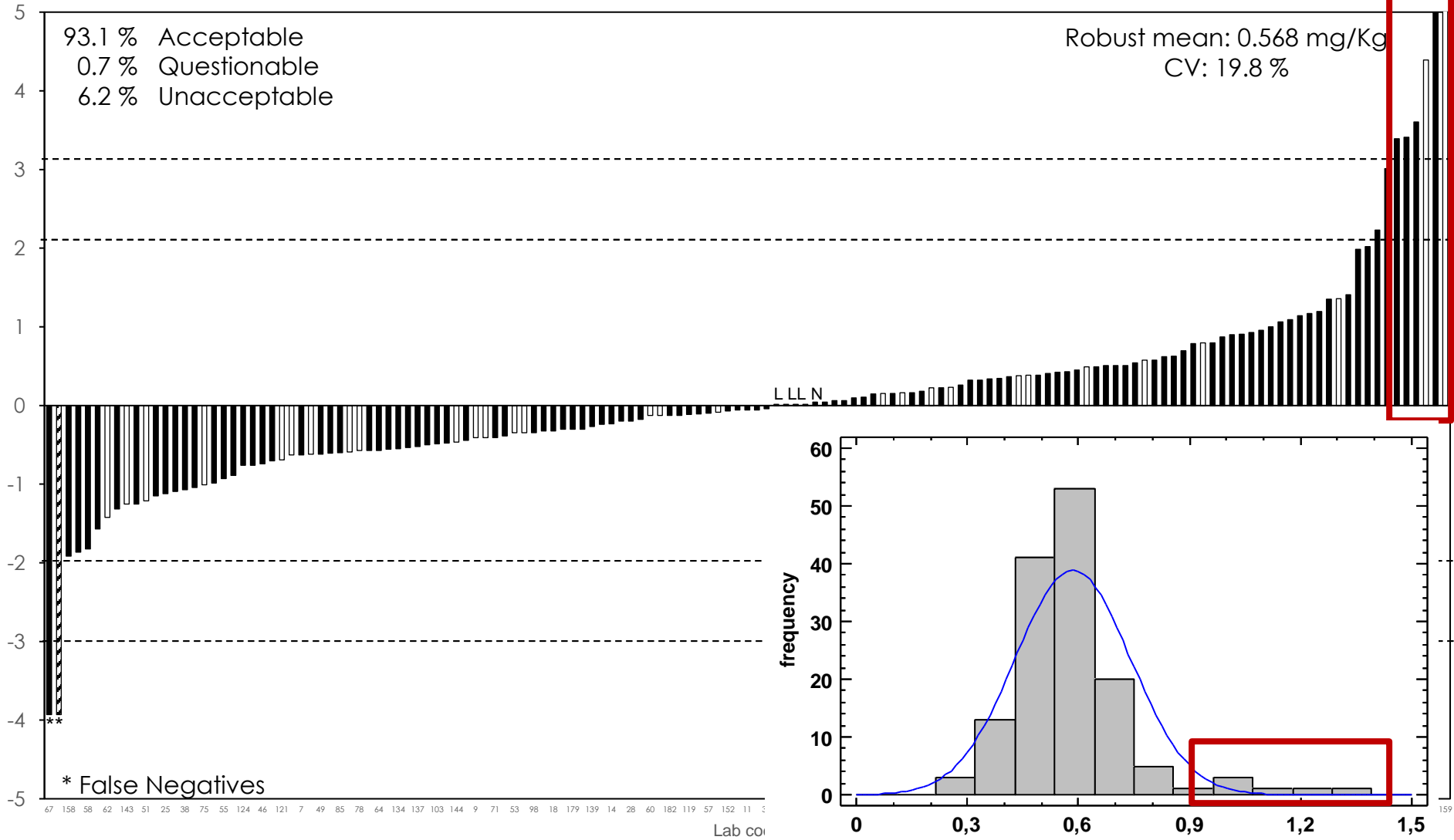


EU/EFTA Laboratories

Fenhexamid

93.1 % Acceptable
 0.7 % Questionable
 6.2 % Unacceptable

Robust mean: 0.568 mg/Kg
 CV: 19.8 %



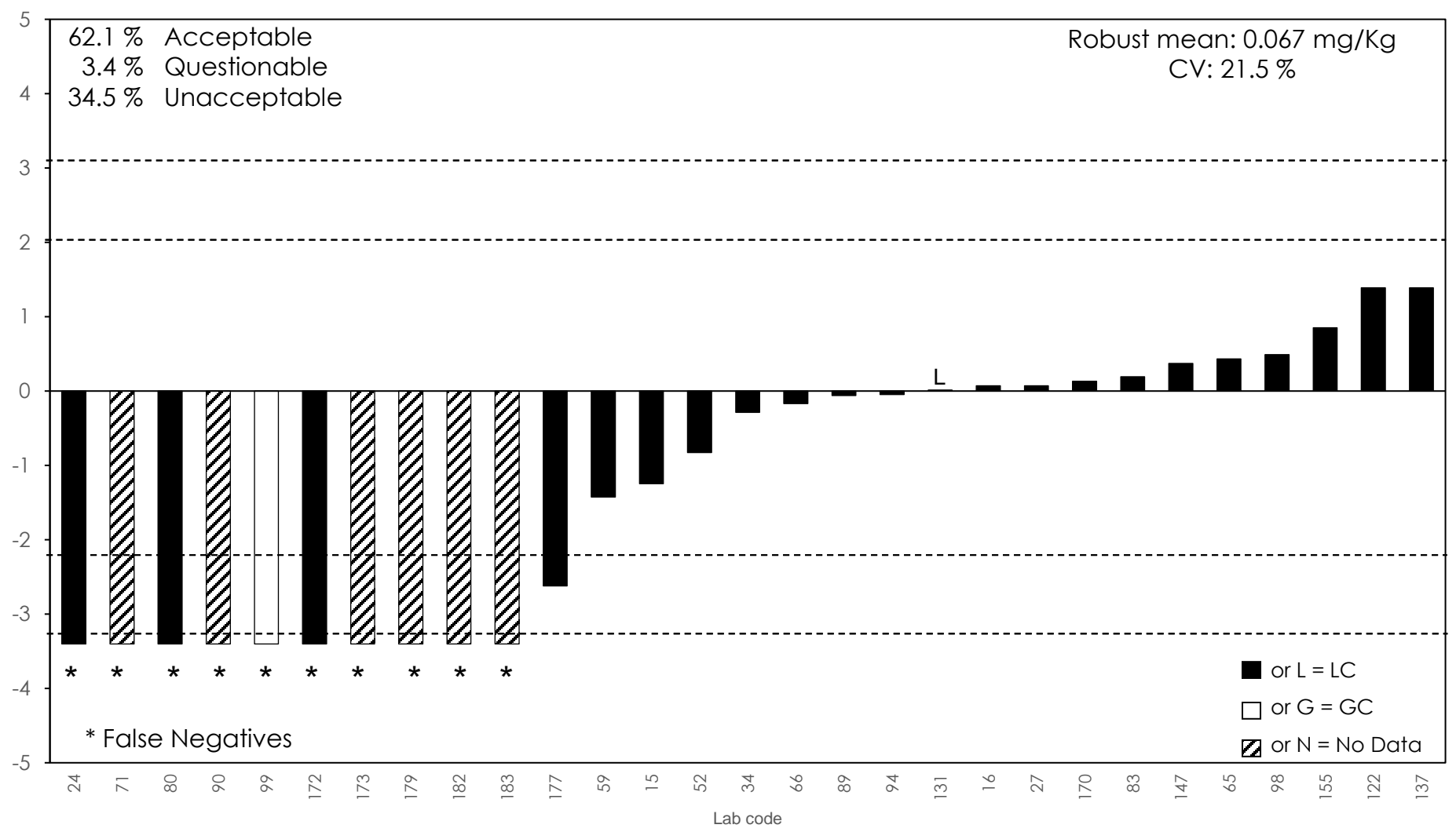
* False Negatives

Lab code

EU/EFTA Laboratories

Voluntary compound

Fenpicoxamid

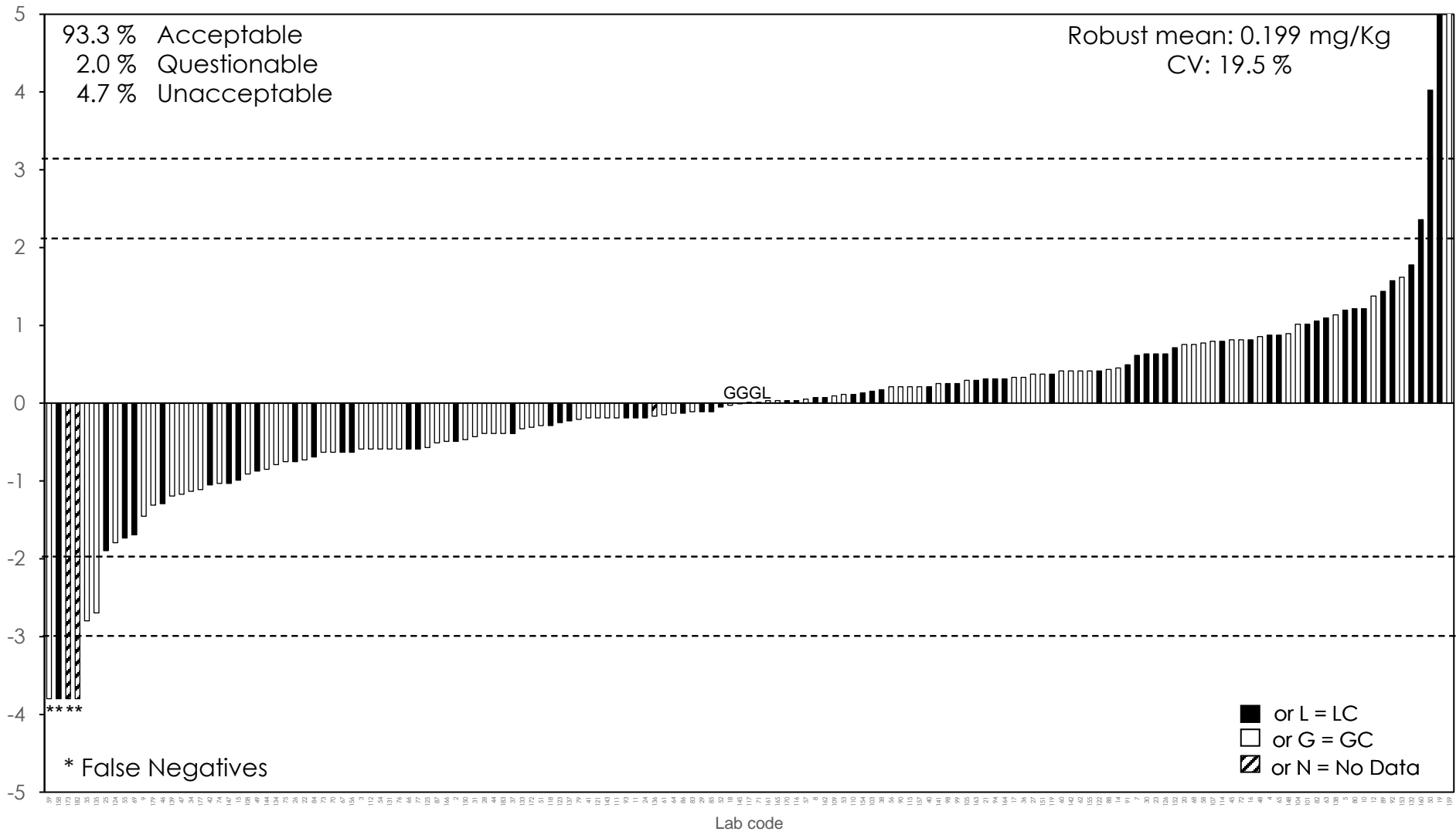


EU/EFTA Laboratories

Fludioxonil

93.3 % Acceptable
2.0 % Questionable
4.7 % Unacceptable

Robust mean: 0.199 mg/Kg
CV: 19.5 %

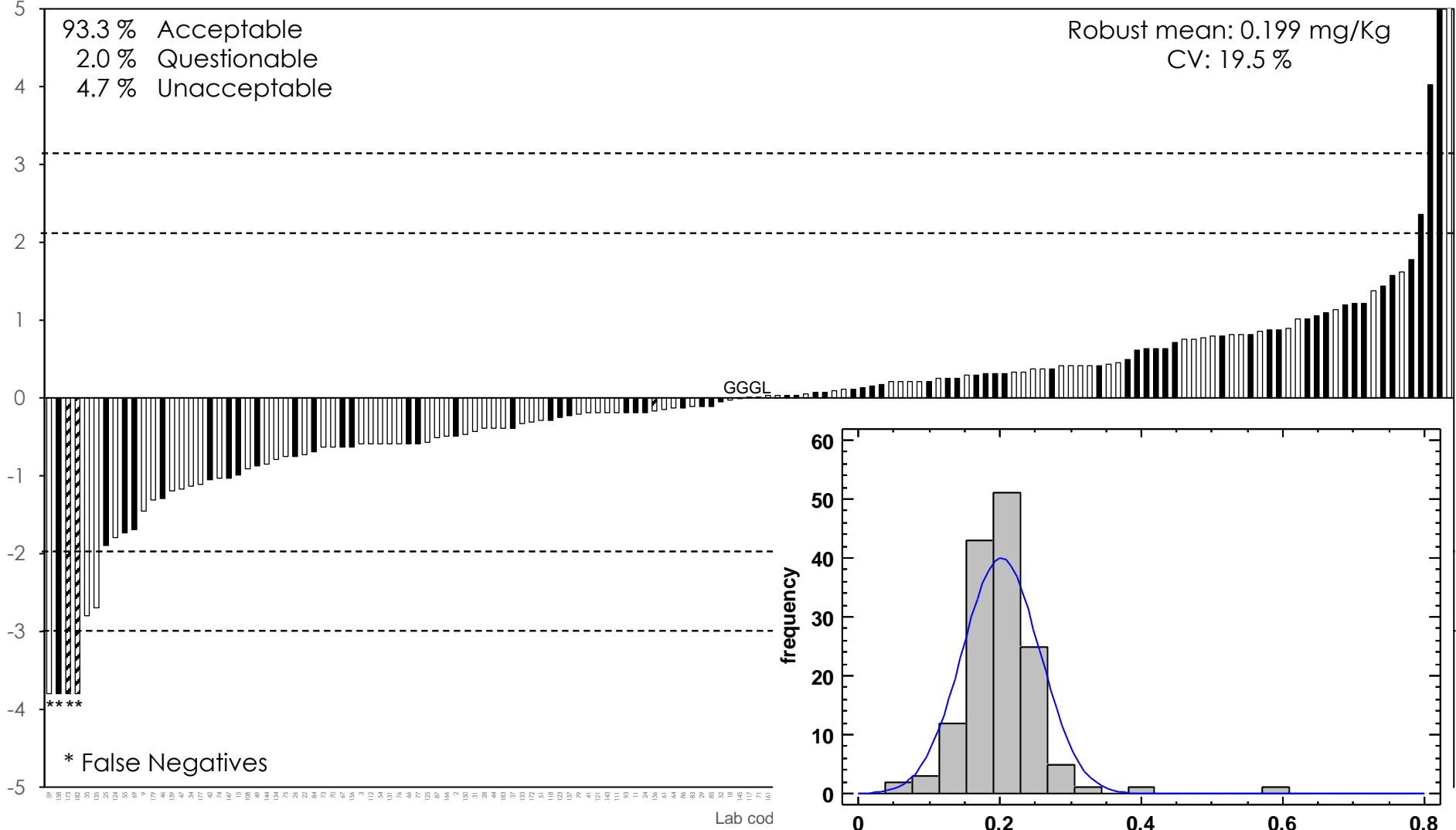


EU/EFTA Laboratories

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4.7 % Unacceptable

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CV: 19.5 %



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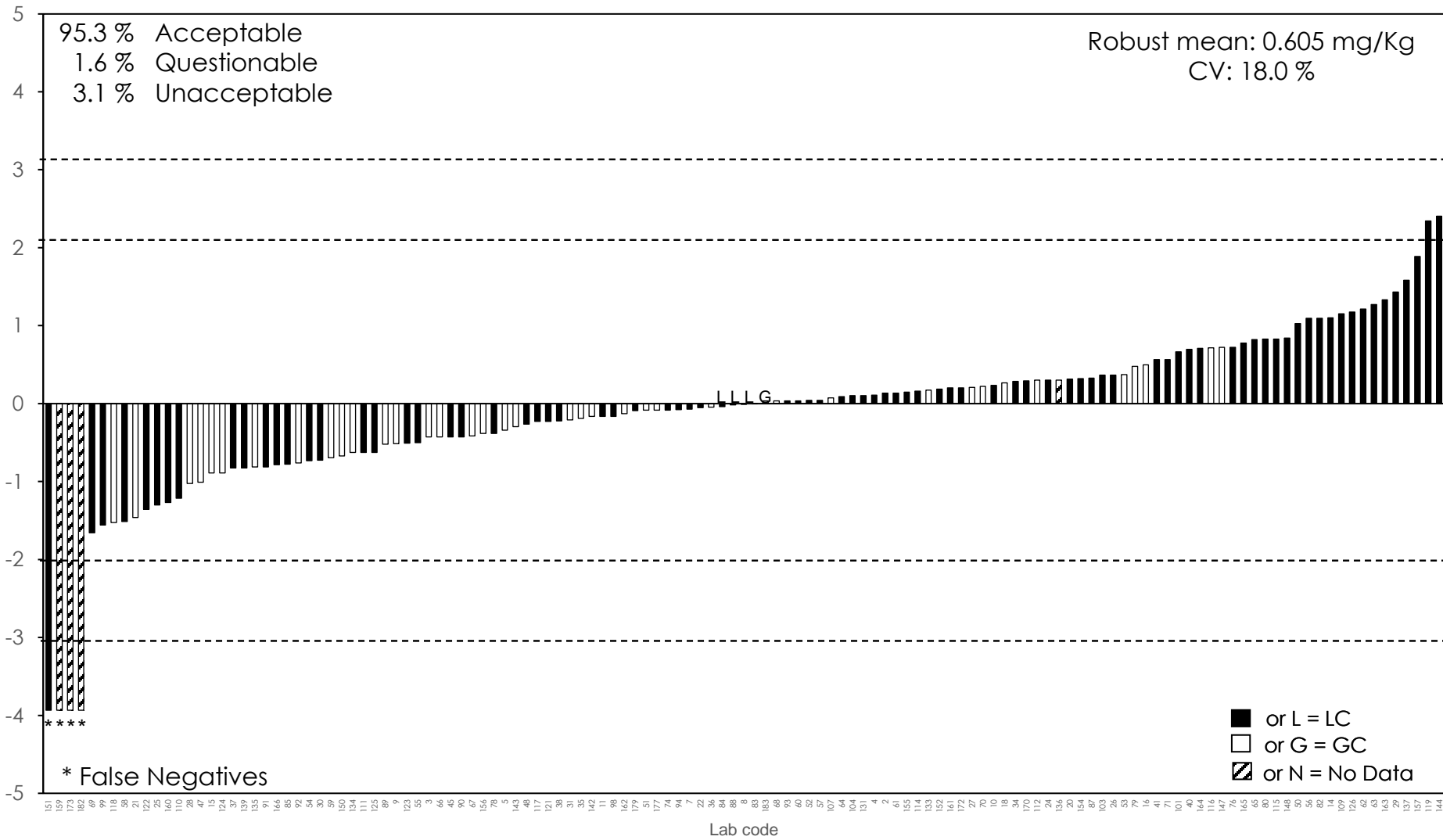
Lab cod

frequency

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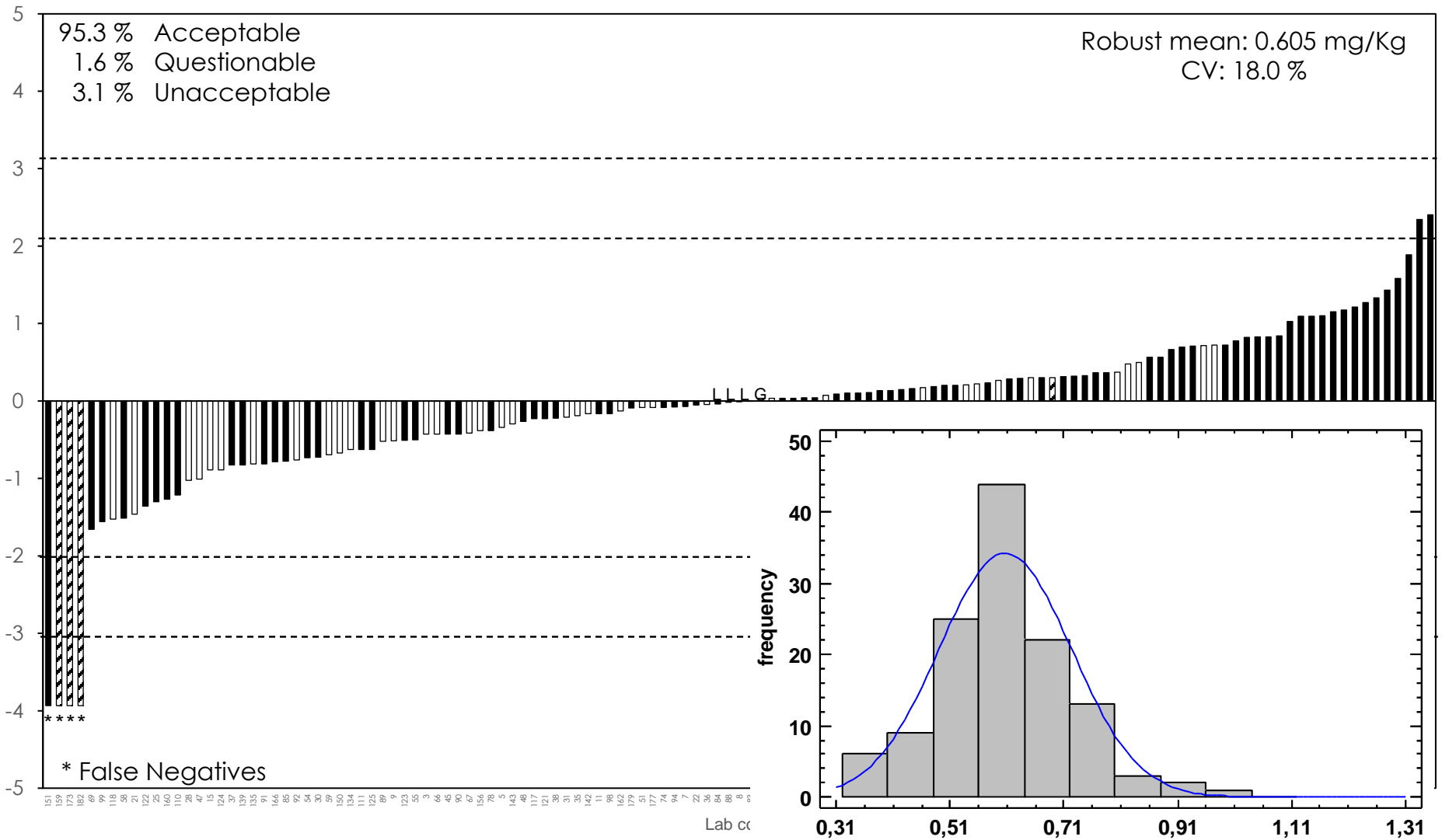
EU/EFTA Laboratories

Fluopicolide



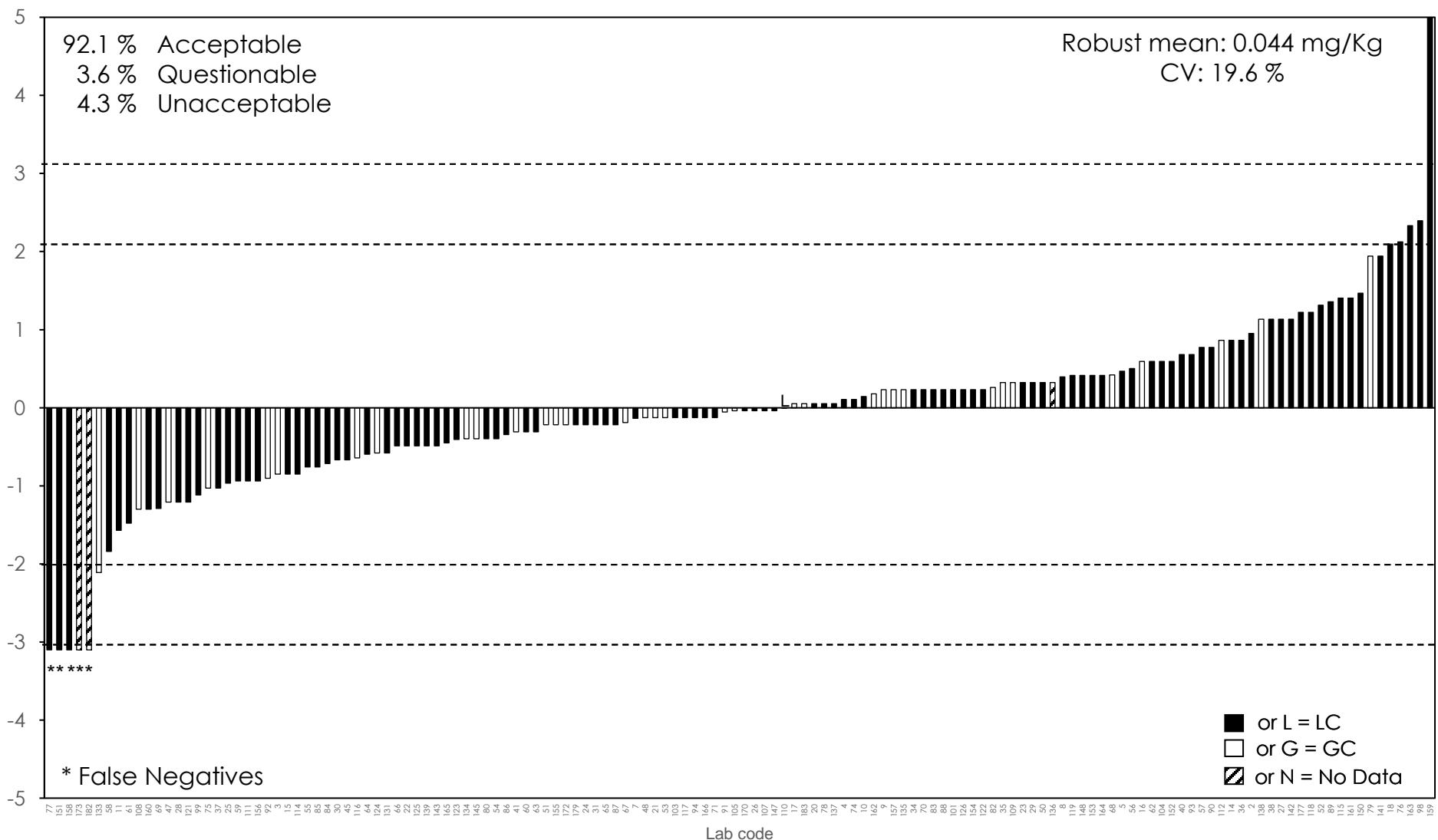
EU/EFTA Laboratories

Fluopicolide



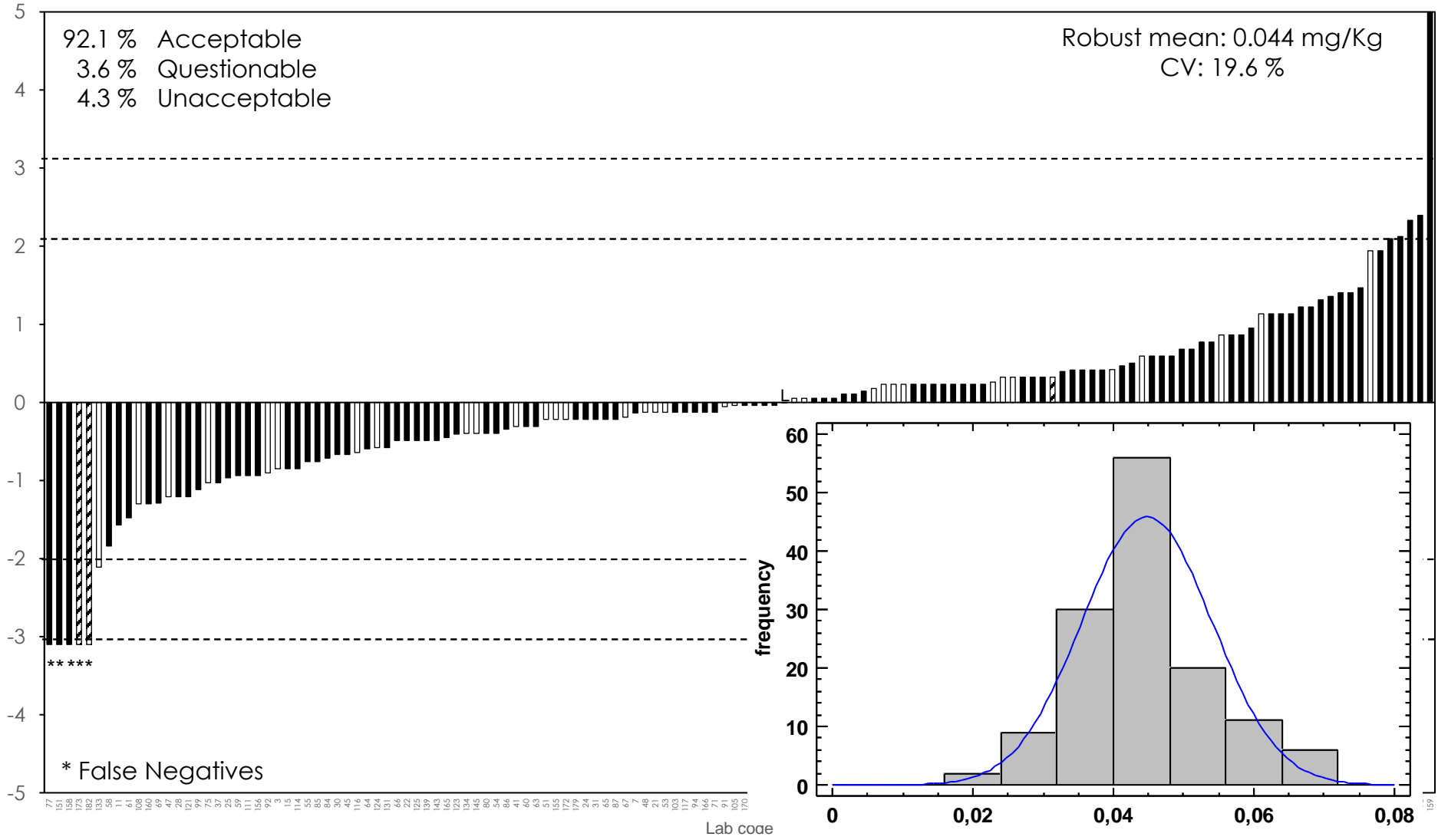
EU/EFTA Laboratories

Fluopyram



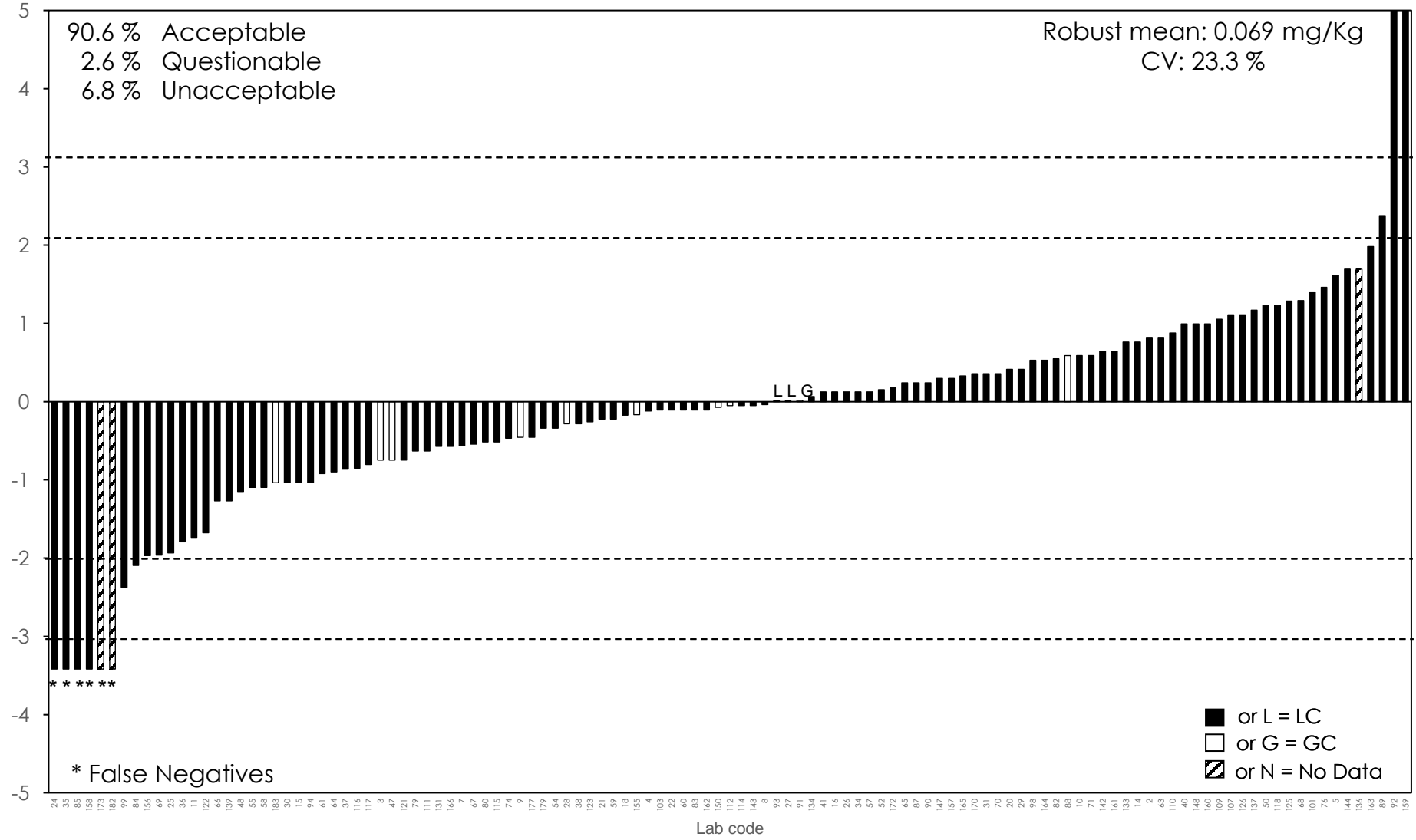
EU/EFTA Laboratories

Fluopyram

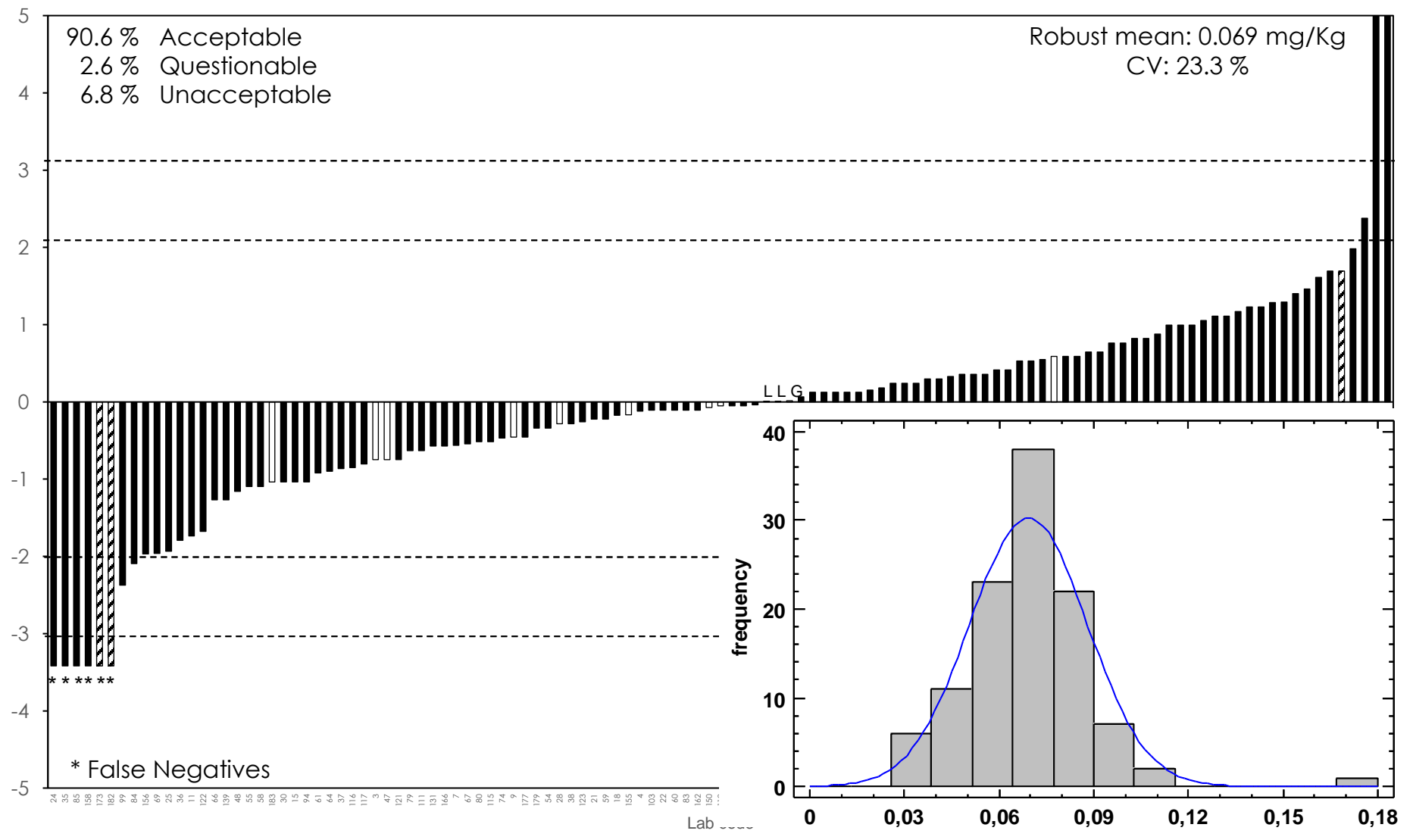


EU/EFTA Laboratories

Fluxapyroxad

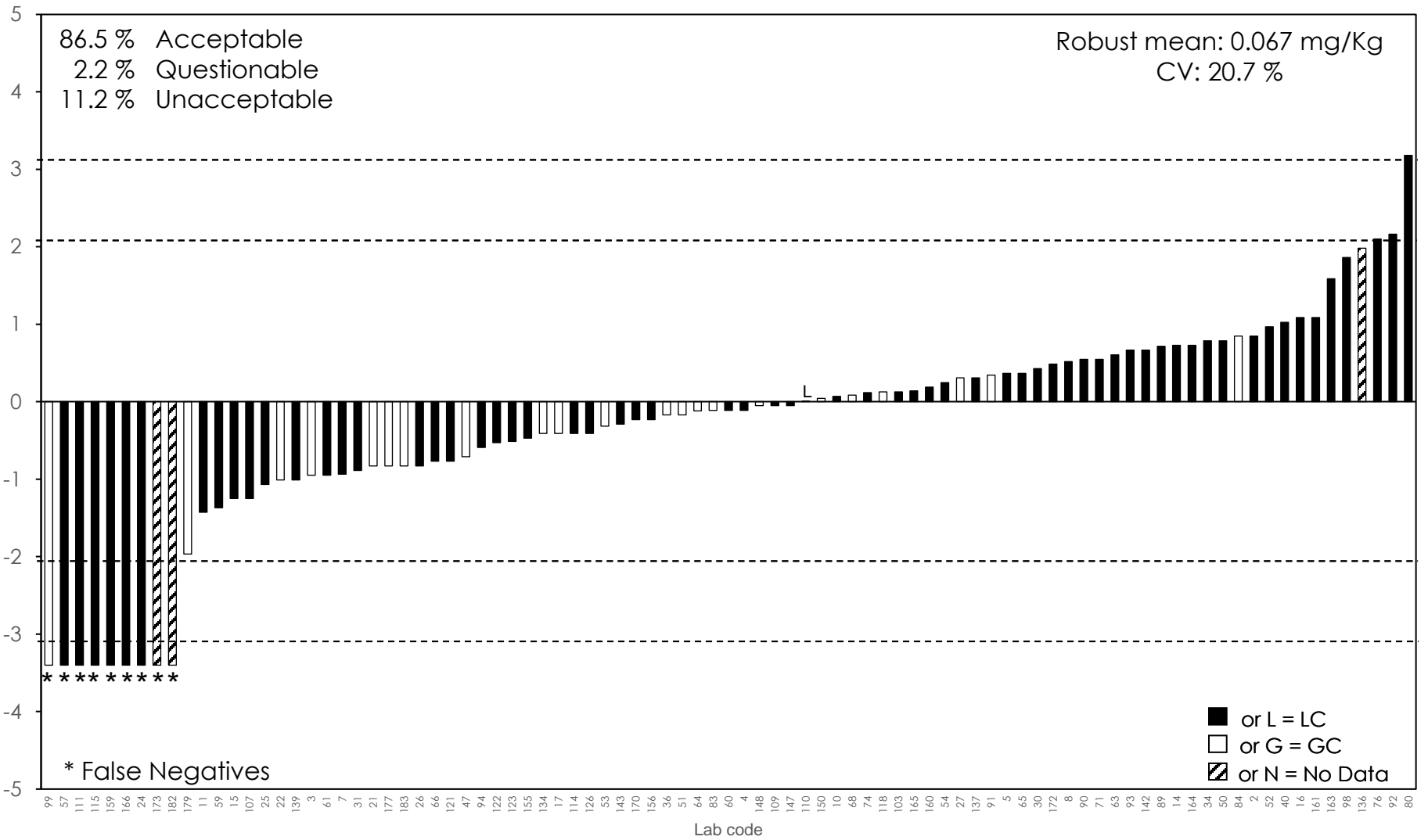


Fluxapyroxad



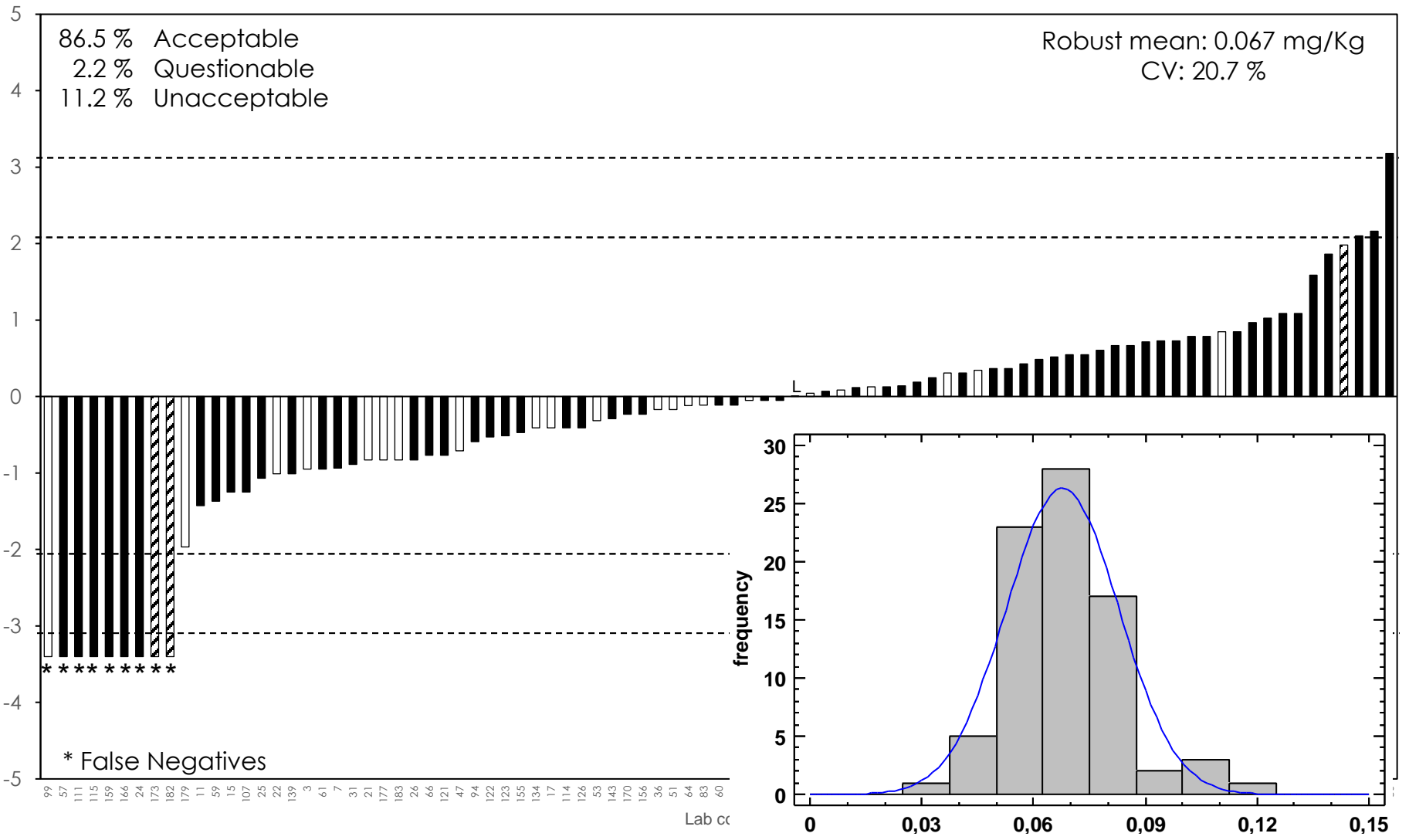
EU/EFTA Laboratories

Voluntary compound
Penthiopyrad



EU/EFTA Laboratories

Voluntary compound
Penthiopyrad

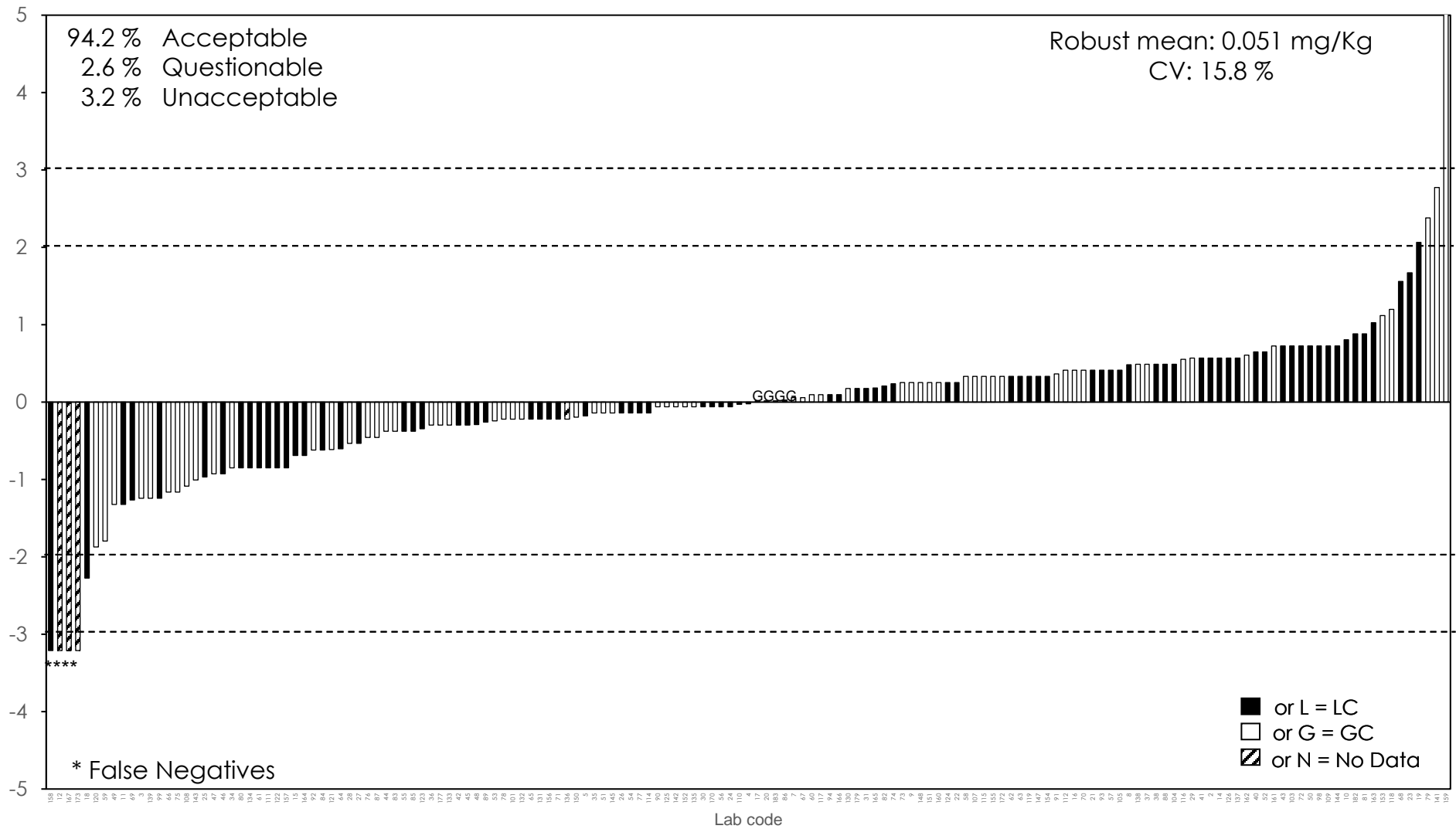


EU/EFTA Laboratories

Tebuconazole

94.2 % Acceptable
 2.6 % Questionable
 3.2 % Unacceptable

Robust mean: 0.051 mg/Kg
 CV: 15.8 %



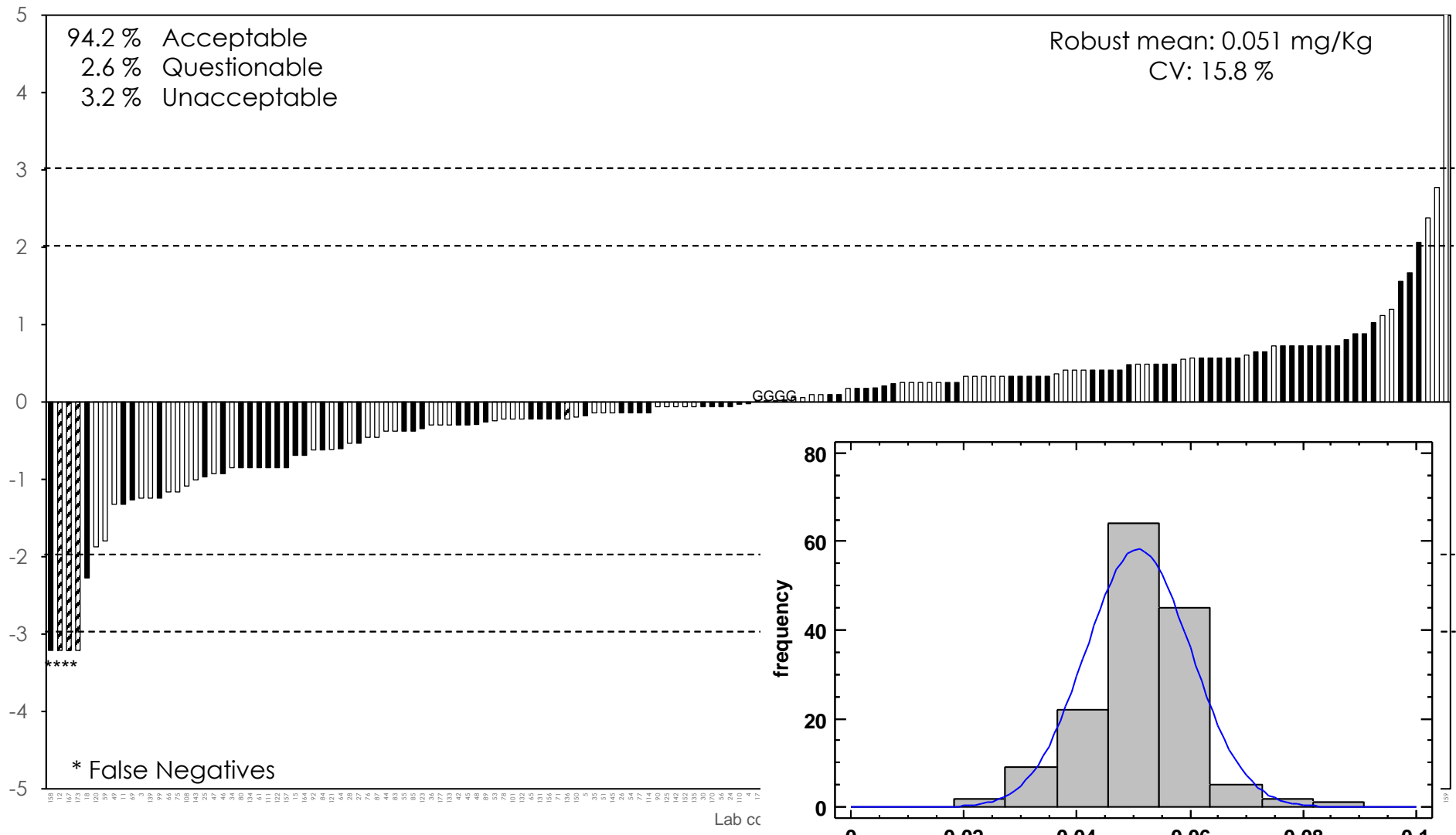
Lab code

EU/EFTA Laboratories

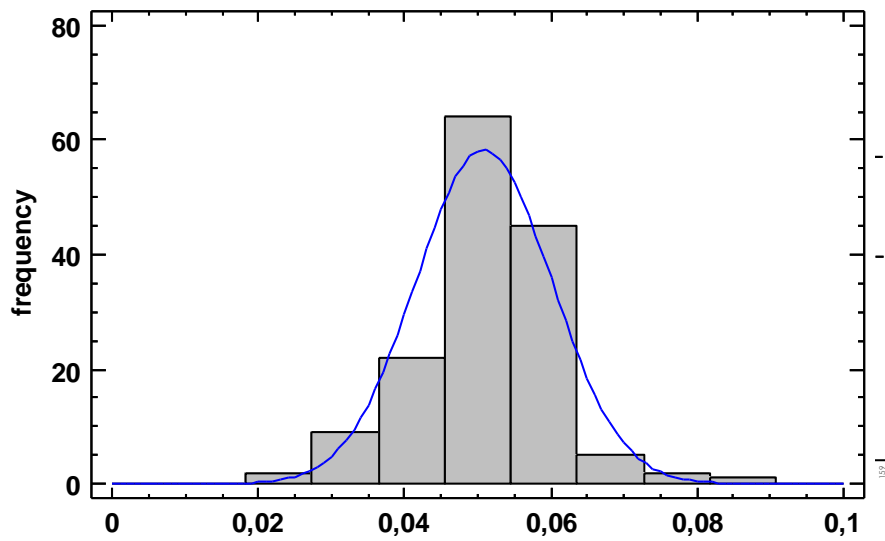
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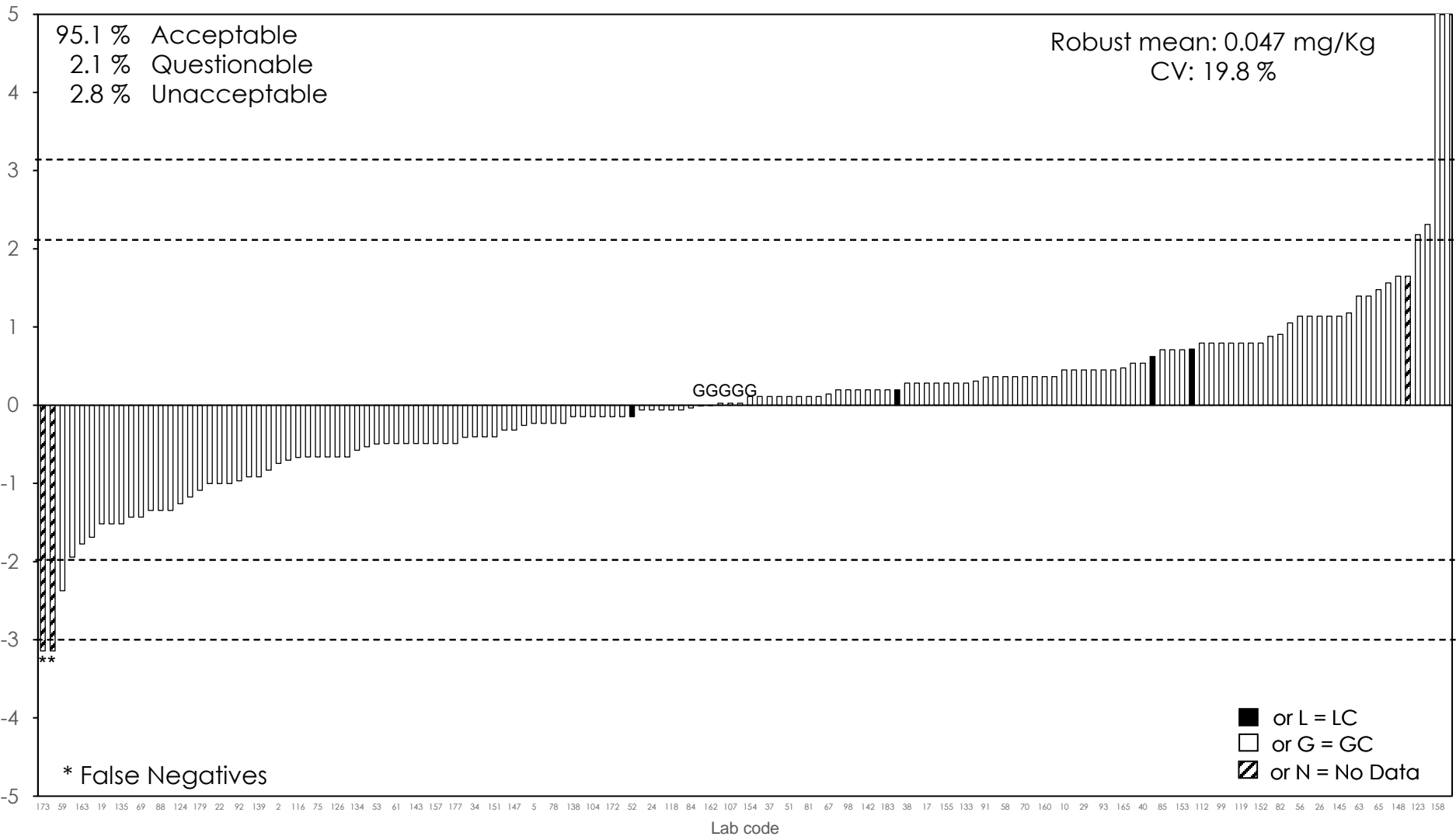


Lab cc



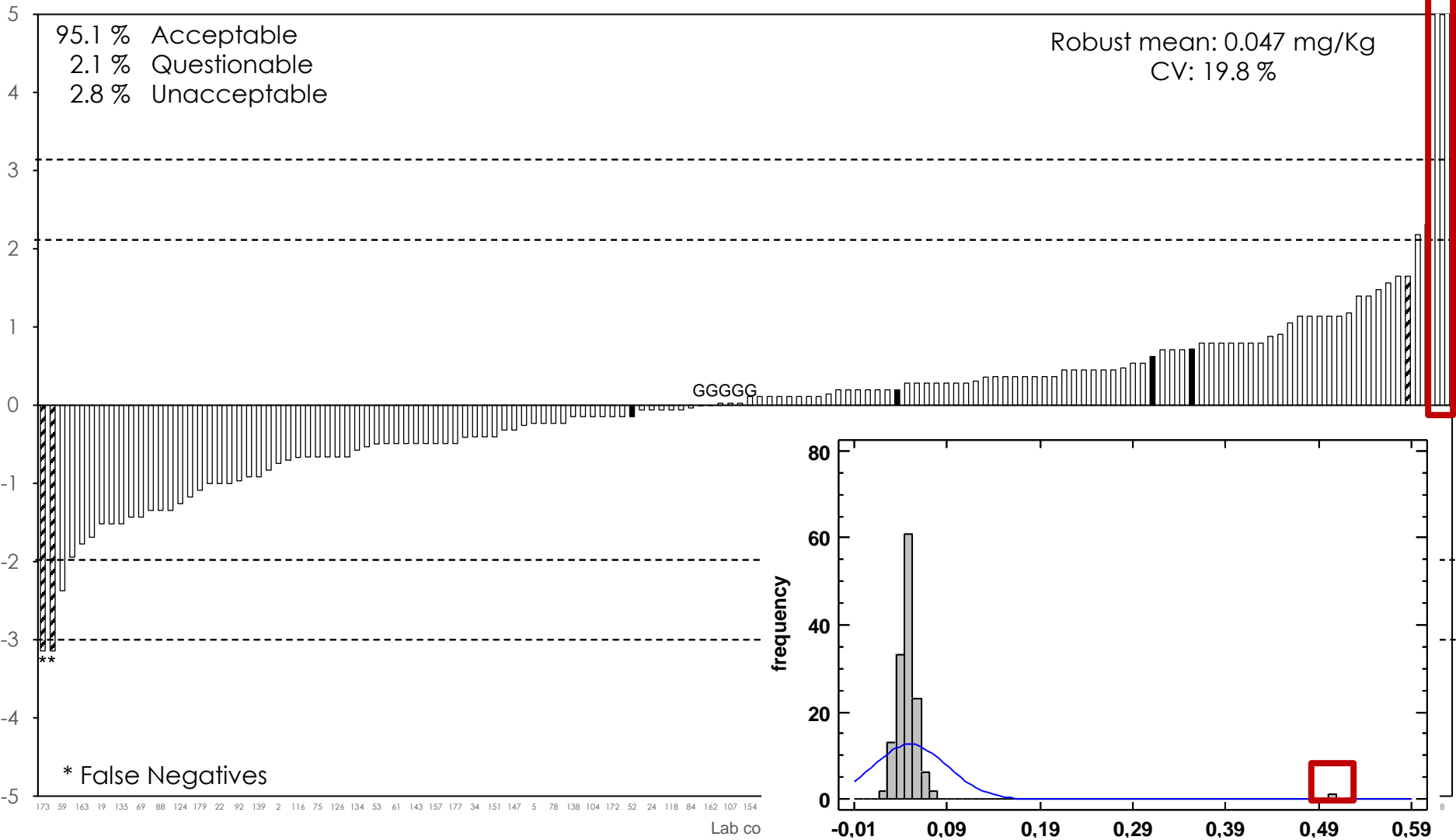
EU/EFTA Laboratories

Tefluthrin



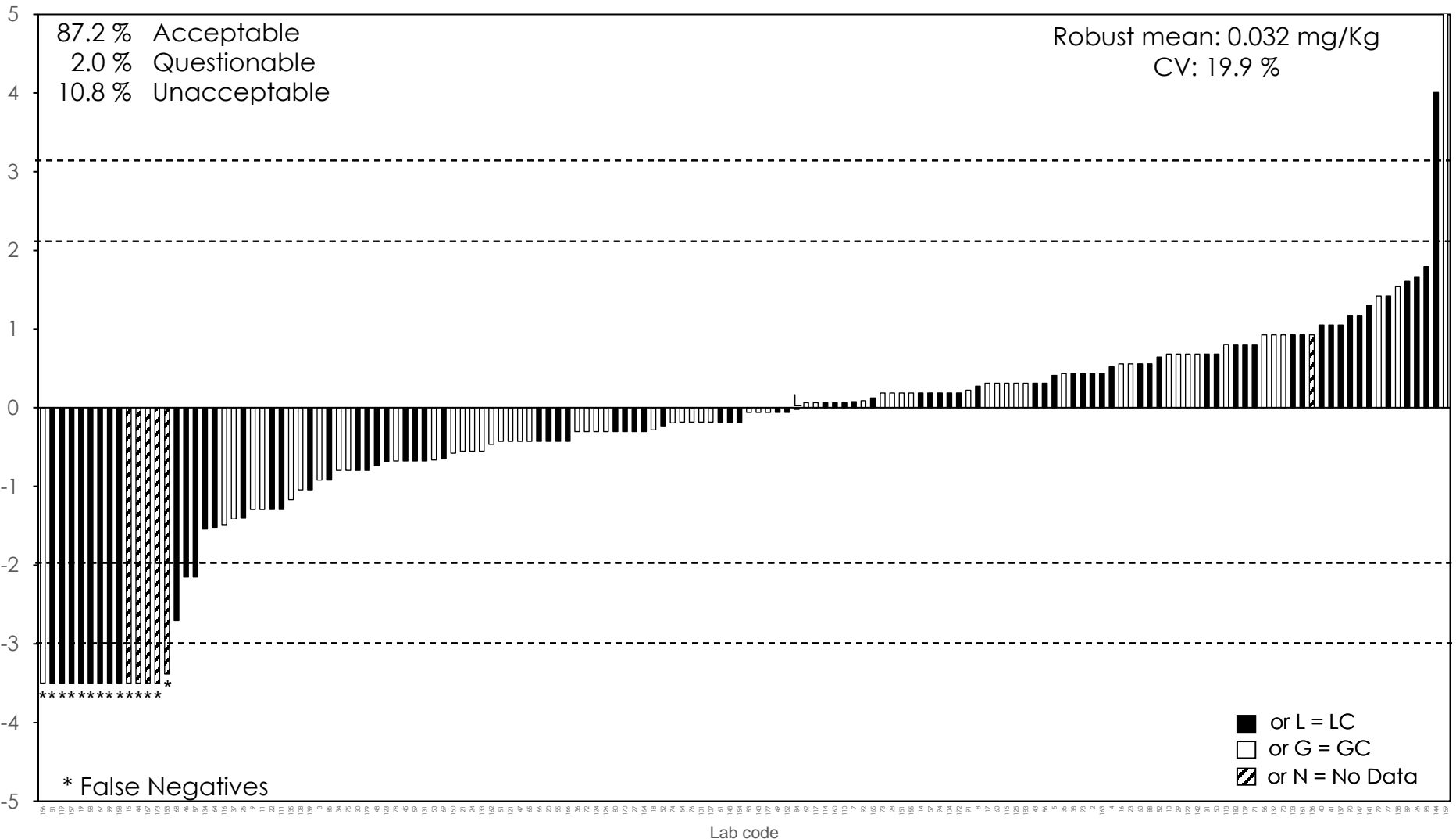
EU/EFTA Laboratories

Tefluthrin



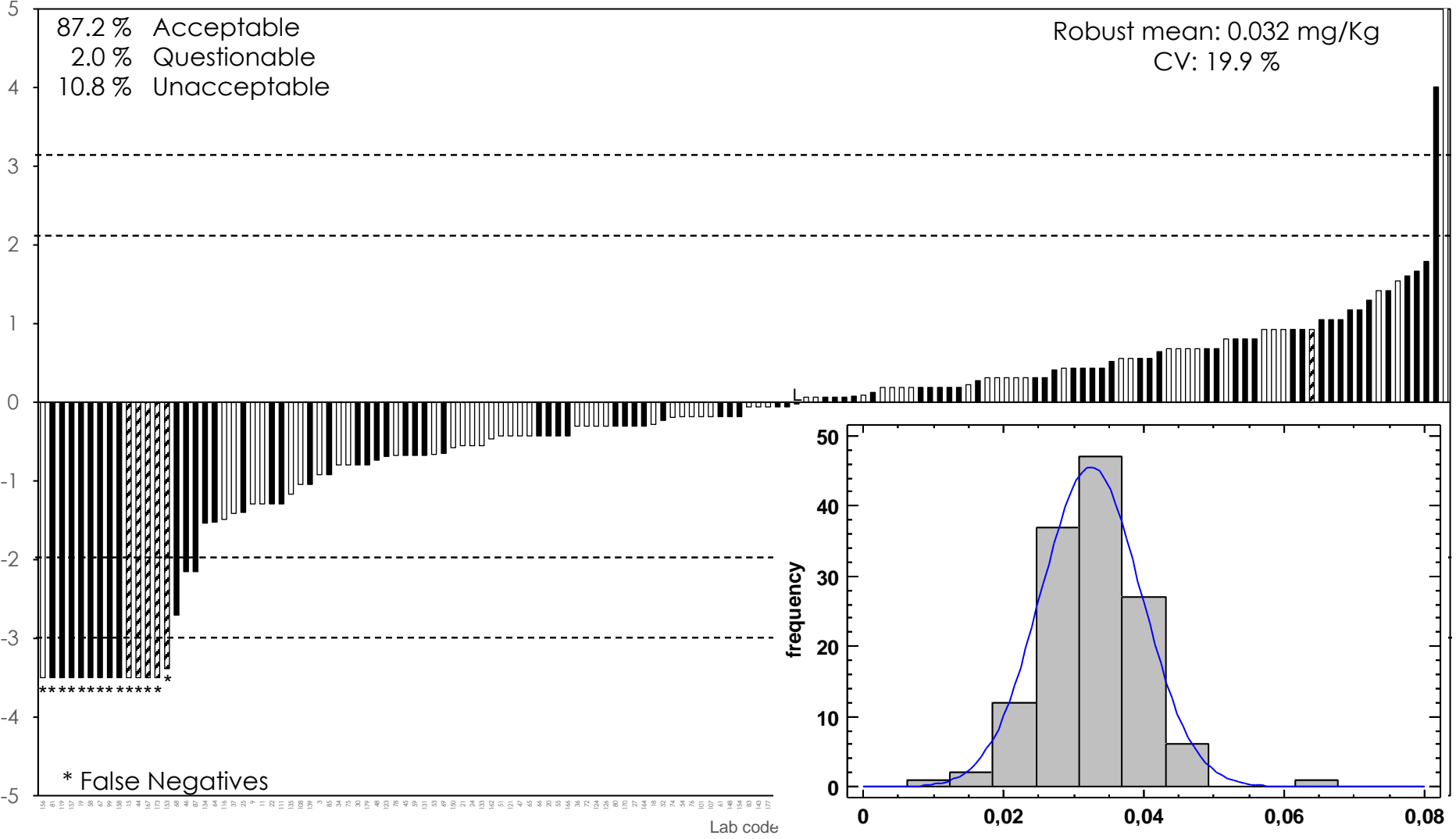
EU/EFTA Laboratories

Triadimenol



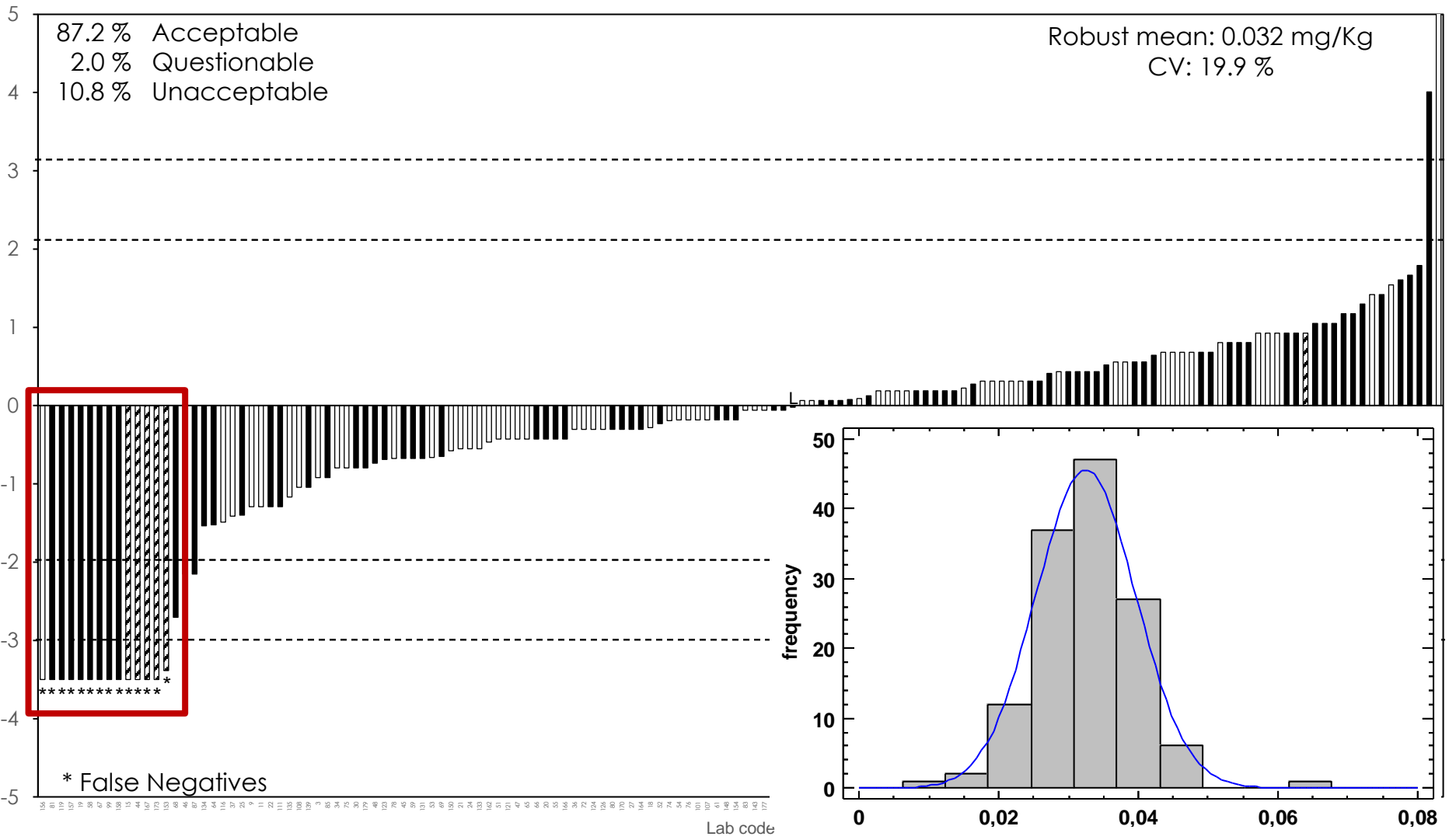
EU/EFTA Laboratories

Triadimenol



EU/EFTA Laboratories

Triadimenol



Triadimenol stability

After sample results received

(mg/kg)	Triadimenol
Day 1 (Sample 132_A)	0,029
Day 1 (Sample 132_B)	0,035
Day 1 (Sample 81_A)	0,033
Day 1 (Sample 81_B)	0,032
Day 1 (Sample 30_A)	0,033
Day 1 (Sample 30_B)	0,033
Mean 1	0,033
Day 2 (Sample 225_A)	0,032
Day 2 (Sample 225_B)	0,030
Day 2 (Sample 233_A)	0,034
Day 2 (Sample 233_B)	0,032
Day 2 (Sample 222_A)	0,031
Day 2 (Sample 222_B)	0,034
Mean2	0,032
(M2 – M1)	-0,0003
$M2-M1 \leq 0.3 \cdot \sigma$	Pass
Assigned value (mg/kg)	0,032
$0.3 \cdot \sigma$	0,002

48 hours, Shipment Conditions

(mg/kg)	Triadimenol
Day 1 (Sample 132_A)	0,029
Day 1 (Sample 132_B)	0,035
Day 1 (Sample 81_A)	0,033
Day 1 (Sample 81_B)	0,032
Day 1 (Sample 30_A)	0,033
Day 1 (Sample 30_B)	0,033
Mean 1	0,033
Day shipment (Sample 236_A)	0,033
Day shipment (Sample 236_B)	0,035
Day shipment (Sample 42_A)	0,030
Day shipment (Sample 42_B)	0,035
Day shipment (Sample 128_A)	0,031
Day shipment (Sample 128_B)	0,034
Mean shipment	0,033
(M shipment – M1)	0,0005
$M \text{ shipment}-M1 \leq 0.3 \cdot \sigma$	Pass
Relative Standard Dev.	5,6%

Triadimenol stability

After sample results received

(mg/kg)	Triadimenol
Day 1 (Sample 132_A)	0,029
Day 1 (Sample 132_B)	0,035
Day 1 (Sample 81_A)	0,033
Day 1 (Sample 81_B)	0,032
Day 1 (Sample 30_A)	0,033
Day 1 (Sample 30_B)	0,033
Mean 1	0,033
Day 2 (Sample 225_A)	0,032
Day 2 (Sample 225_B)	0,030
Day 2 (Sample 233_A)	0,034
Day 2 (Sample 233_B)	0,032
Day 2 (Sample 222_A)	0,031
Day 2 (Sample 222_B)	0,034
Mean2	0,032
(M2 - M1)	-0,0003
M2-M1 ≤ 0.3*σ	Pass
Assigned value (mg/kg)	0,032
0.3*σ	0,002

48 hours, Shipment Conditions

(mg/kg)	Triadimenol
Day 1 (Sample 132_A)	0,029
Day 1 (Sample 132_B)	0,035
Day 1 (Sample 81_A)	0,033
Day 1 (Sample 81_B)	0,032
Day 1 (Sample 30_A)	0,033
Day 1 (Sample 30_B)	0,033
Mean 1	0,033
Day shipment (Sample 236_A)	0,033
Day shipment (Sample 236_B)	0,035
Day shipment (Sample 42_A)	0,030
Day shipment (Sample 42_B)	0,035
Day shipment (Sample 128_A)	0,031
Day shipment (Sample 128_B)	0,034
Mean shipment	0,033
(M shipment - M1)	0,0005
M shipment-M1 ≤ 0.3*σ	Pass
Relative Standard Dev.	5,6%



Triadimenol stability

Day 1

Freezer -18°C



Extract and analyse



Result Day 1



Day 1

Freezer -18°C



Extract and analyse



Result Day 1

Day 2



sample at room temp.
(approx. 24°C)
24 hours

Extract and analyse



Result Day 2



Triadimenol stability

Day 1

Freezer -18°C



Extract and analyse



Result Day 1

Day 2



sample at room temp.
(approx. 24°C)
24 hours

Extract and analyse



Result Day 2

Day 3

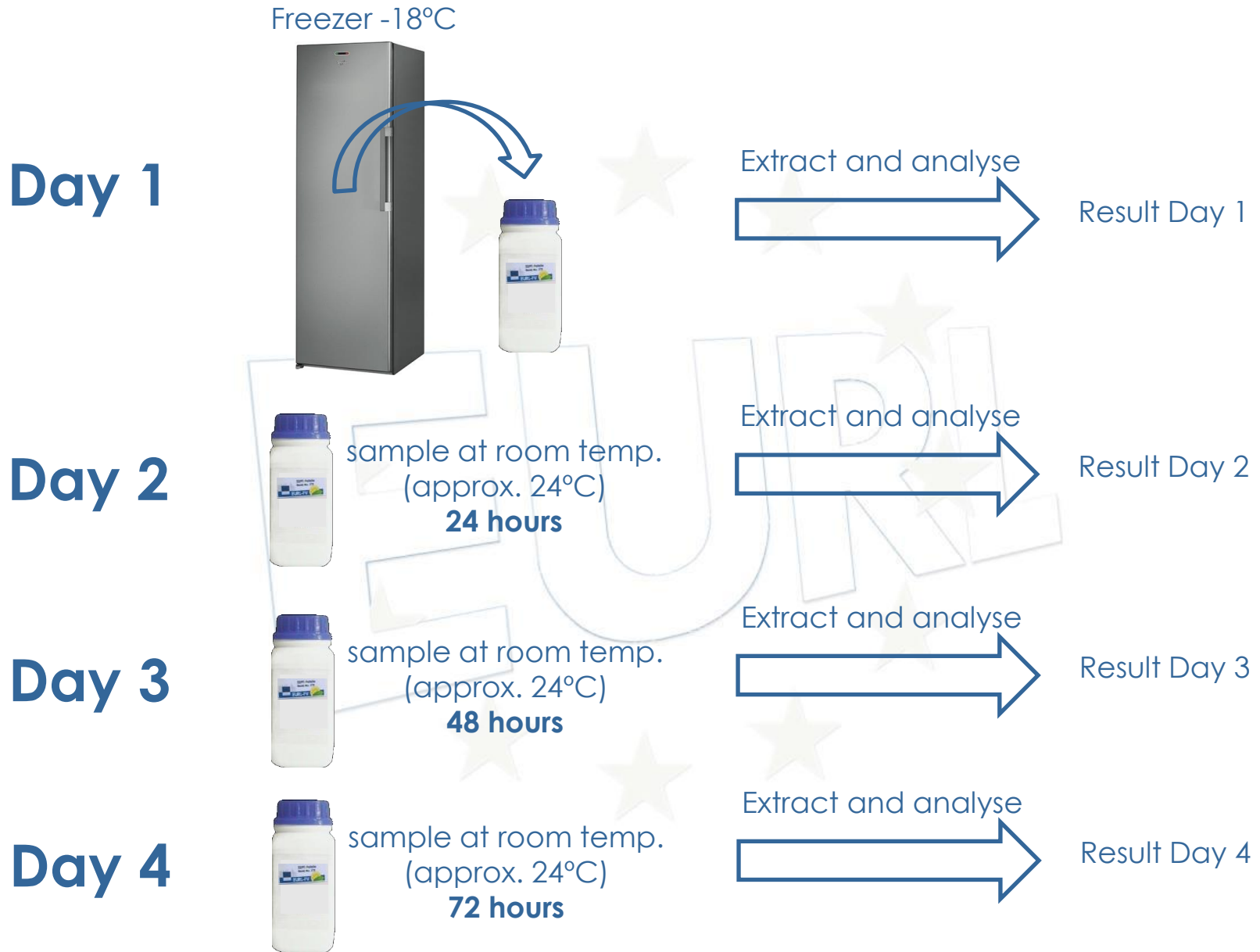


sample at room temp.
(approx. 24°C)
48 hours

Extract and analyse

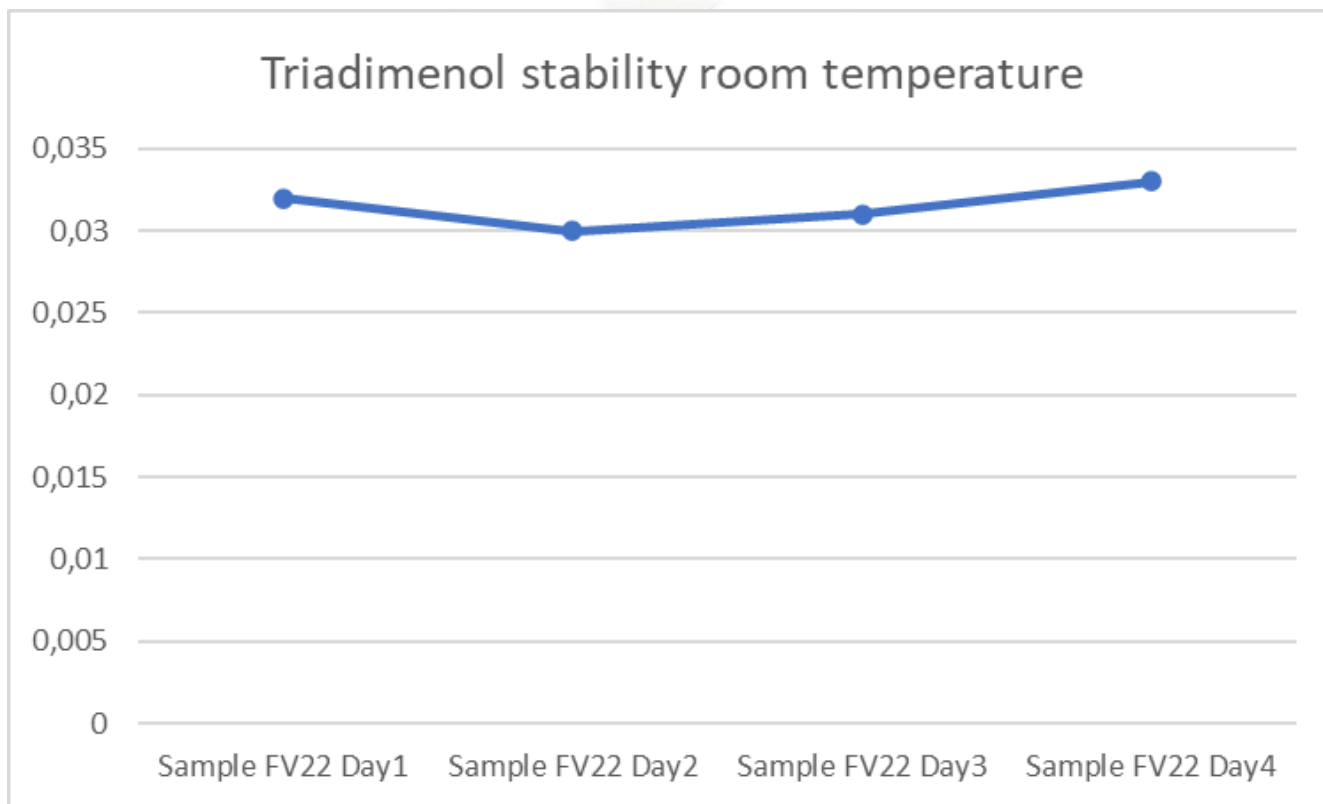


Result Day 3





Triadimenol stability



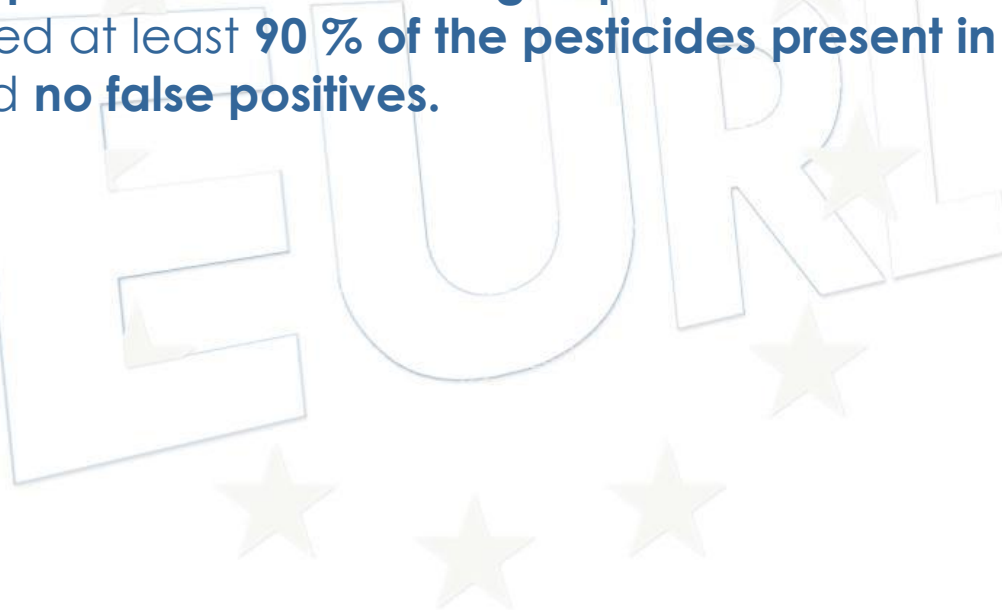
Combined z-Scores



Average of Squared z-Scores

Category A

Laboratories that were able to analyse at least **90% of the compulsory pesticides in the target pesticides list**, that detected and quantified at least **90 % of the pesticides present in the Test Item** and reported **no false positives**.





Average of Squared z-Scores

Category A

187

Laboratories that were able to analyse at least **90% of the compulsory pesticides in the target pesticides list**, that detected and quantified at least **90 % of the pesticides present in the Test Item** and reported **no false positives**.

EURL

Average of Squared z-Scores

Category A

187

Laboratories that were able to analyse at least **90% of the compulsory pesticides in the target pesticides list**, that detected and quantified at least **90 % of the pesticides present in the Test Item** and reported **no false positives**.

14

EURL

Average of Squared z-Scores

Category A

187

Laboratories that were able to analyse at least **90% of the compulsory pesticides in the target pesticides list**, that detected and quantified at least **90 % of the pesticides present in the Test Item** and reported **no false positives**.

14



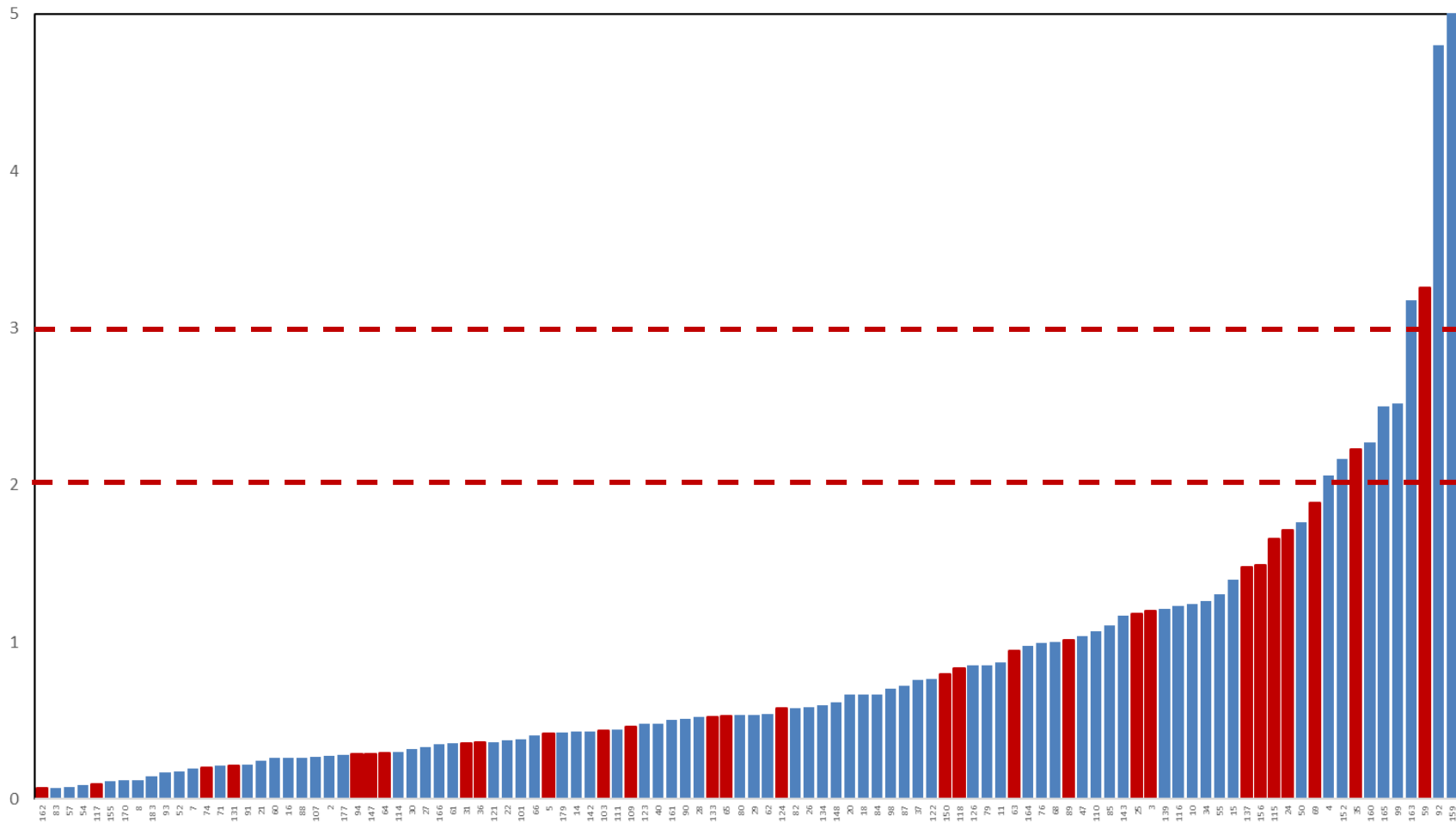
Oxamyl was not included in the evaluation of Category A



Category A Classification

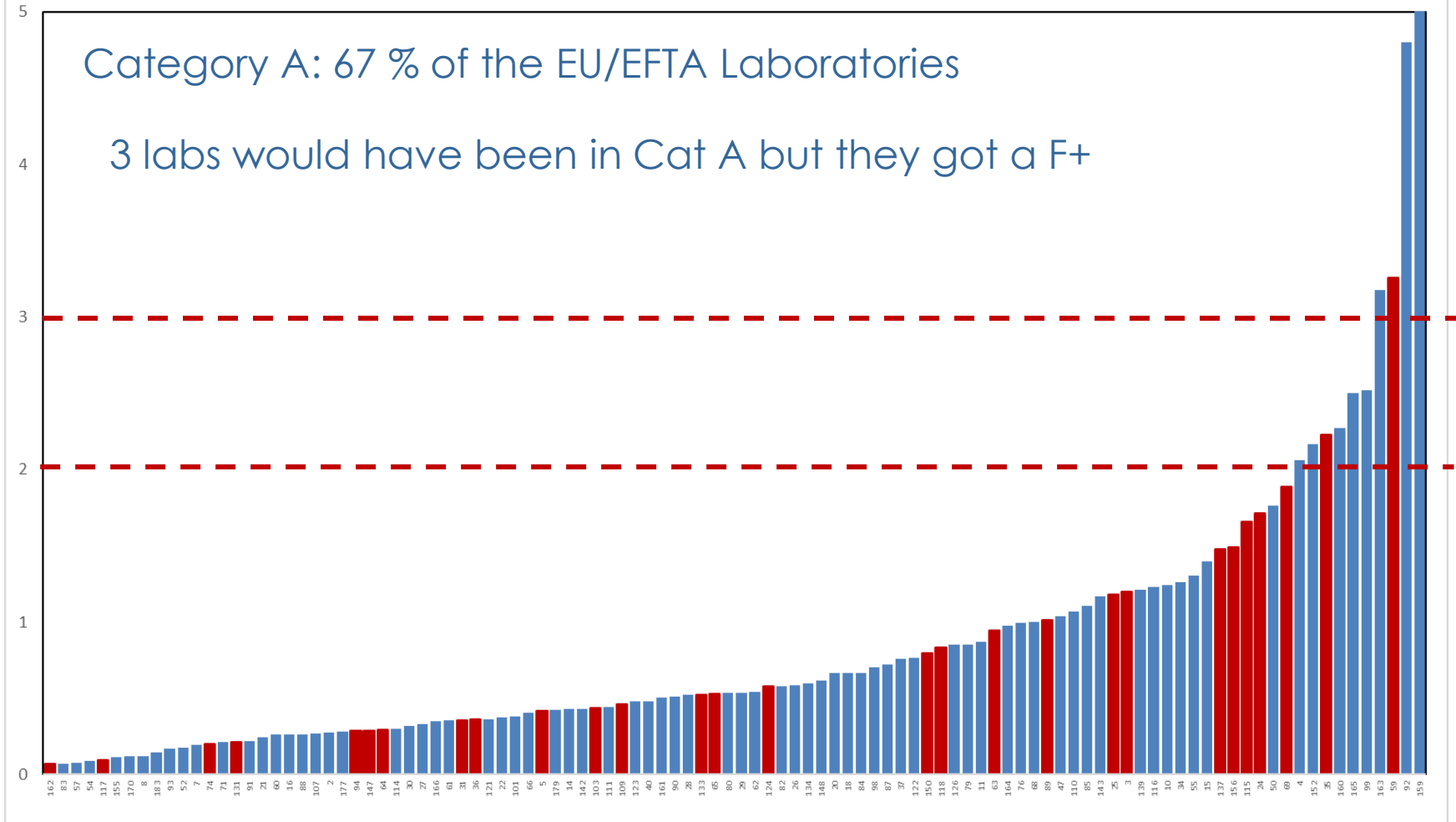
EU/EFTA Laboratories

■ NRL
■ OfL



EU/EFTA Laboratories

■ NRL
■ OfL



EU/EFTA Laboratories

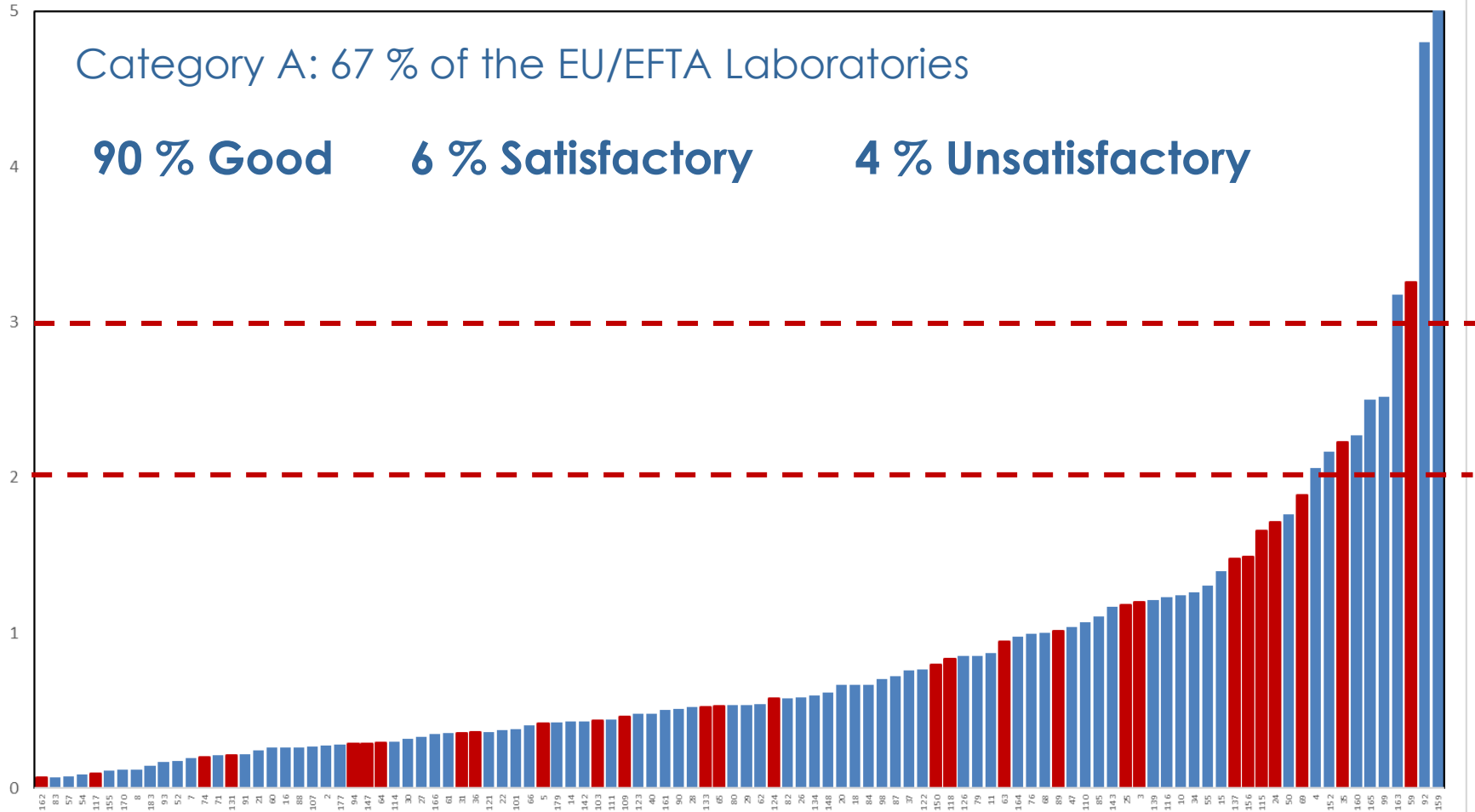
■ NRL
■ OfL

Category A: 67 % of the EU/EFTA Laboratories

90 % Good

6 % Satisfactory

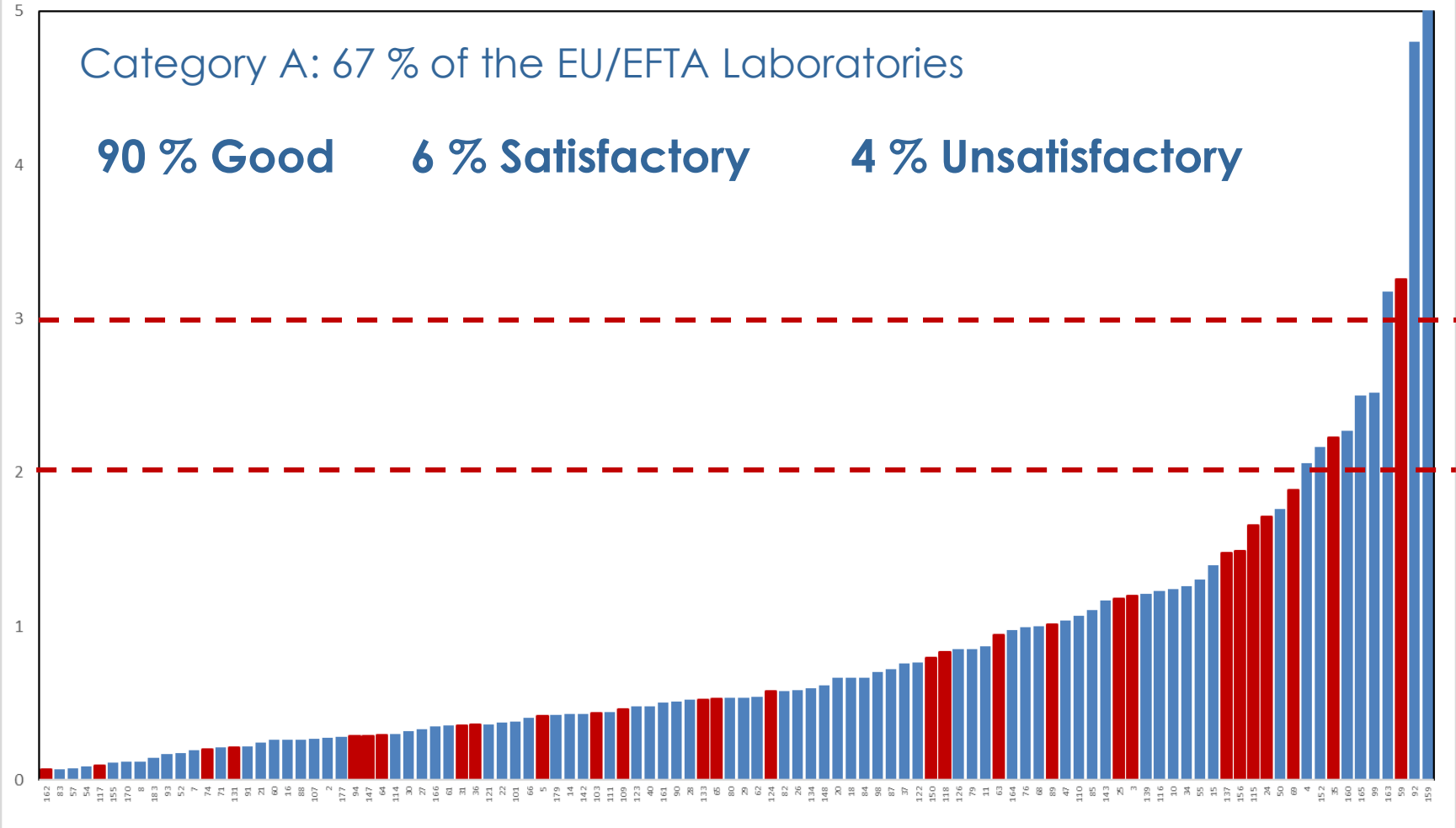
4 % Unsatisfactory



EU/EFTA Laboratories

28 NRLs in Category A
 3 NRLs in Category B

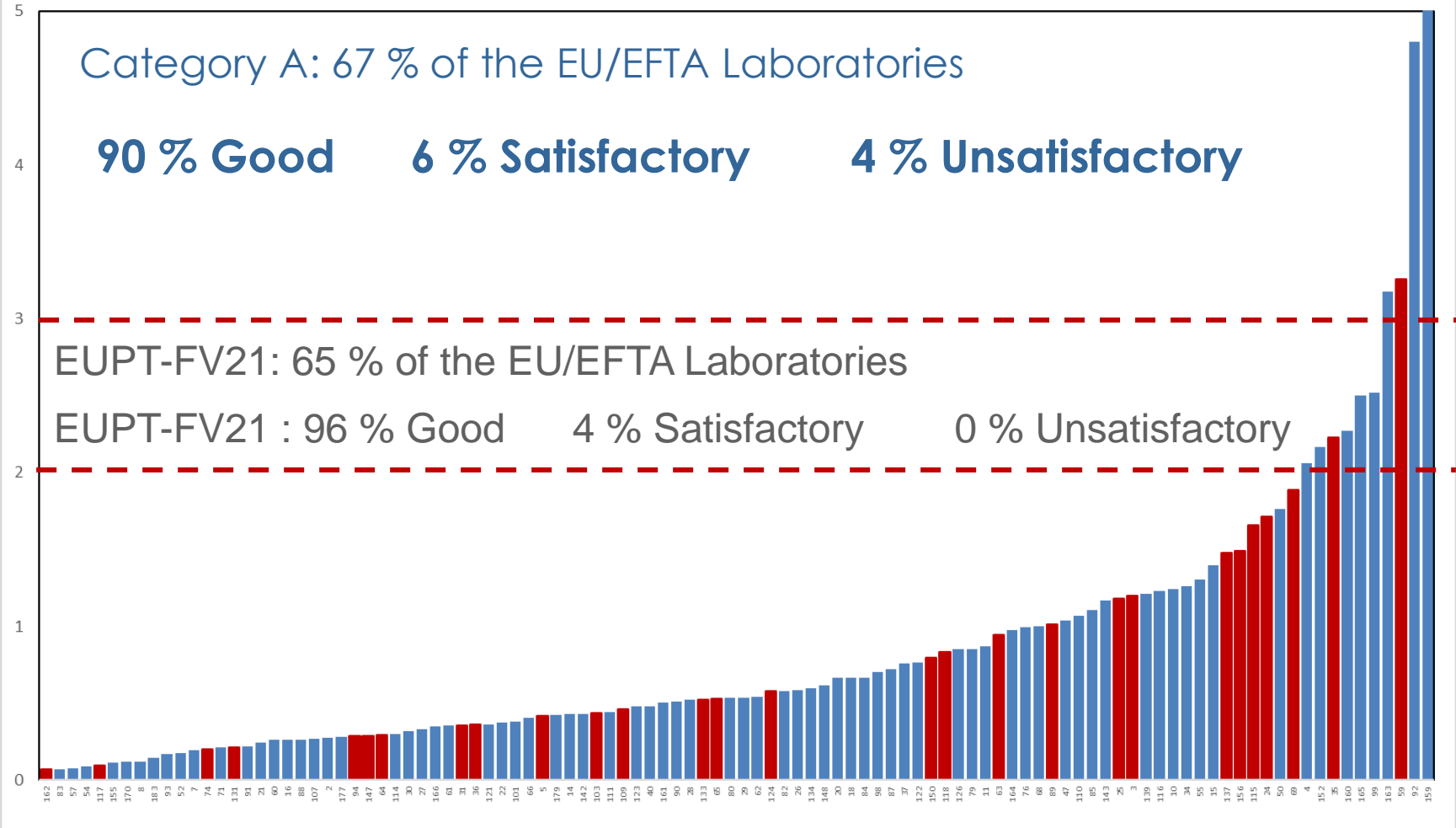
■ NRL
■ OfL



EU/EFTA Laboratories

28 NRLs in Category A
3 NRLs in Category B

■ NRL
■ OfL



5 EU/EFTA laboratories reported **5** **mandatory** pesticides as false positives

Lab Code	Pesticide	Reporting level (mg/kg)	Concentration (mg/kg)	Determination technique
41	Spirotetramat	0.01	1.1	LC - MS/MS
42	Parathion-ethyl	0.01	0.045	GC-MS
58	Malathion	0.01	0.037	GC-MS/MS (QQQ)
157	Diethofencarb	0.01	0.073	LC-Orbitrap
172	Oxadixyl	0.01	0.021	GC-MS/MS (QQQ)



1 non-EU/EFTA laboratory reported 1 **mandatory** pesticide as false positive

Lab Code	Pesticide	Reporting level (mg/kg)	Concentration (mg/kg)	Determination technique
140	Phenthoate	0.005	0.017	LC-MS/MS QQQ

Total

6 laboratories reported **6** mandatory pesticides as false positives

Lab Code	Pesticide	Reporting level (mg/kg)	Concentration (mg/kg)	Determination technique
41	Spirotetramat	0.01	1.1	LC - MS/MS
42	Parathion-ethyl	0.01	0.045	GC-MS
58	Malathion	0.01	0.037	GC-MS/MS (QQQ)
140	Phenthoate	0.005	0.017	LC-MS/MS QQQ
157	Diethofencarb	0.01	0.073	LC-Orbitrap
172	Oxadixyl	0.01	0.021	GC-MS/MS (QQQ)



2 laboratories reported **2 voluntary** pesticides as false positives (one of them non-EU (EFTA))

Lab Code	Pesticide	Reporting level (mg/kg)	Concentration (mg/kg)	Determination technique
4	Tritosulfuron	0.01	0.0103	LC-MS/MS QQQ
96	Quintozene	0.01	0.156	GC- (μ) ECD

EUPT-FV23

End of February-Beginning March 2021



Aubergine

**Thank You
for Your Attention**



EURL EUROPEAN
UNION
REFERENCE
LABORATORY