

Hellenic Accreditation System



Annex F1/B23 to the Certificate No. **44-5**

SCOPE of ACCREDITATION of the Analytical Laboratory of **AGROLAB S.A. (Laboratory in Athens)**

Materials / Products Tested	Types of test/ Properties to be measured	Applied Standards/ Techniques to be used
<u>Chemical Tests</u>		
1. Food (methods referred to various food categories, accredited to a flexible scope-the detailed scope can be found in the <u>catalog of accredited activities</u> in the laboratory's website)	Determination of Acrylamide	In house method O.B.05.031 UPLC-MS/MS based on: J. Agric. Food Chem. 2006, 54, 7001-7008.
2. Cereals, bakery products, yeast products and related products	Determination of propionic acid	Method O.B.05.100 GC-FID based on : A)“Determination of propionates and propionic acid in bakery products using gas chromatography” (Khalidun M. Al Azzam, Bahruddin S., et all, International Food Research Journal 17: 1107-1112 (2010).
3. Meat, poultry and products thereof	Determination of 30 antibiotics: Amoxicillin trihydrate, Ampicillin trihydrate, Cefadroxil hydrate, Cefotaxime, Chlorotetracycline hydrochloride, Ciprofloxacin hydrochloride, Cloxacillin sodium salt hydrate, Demeclocycline hydrochloride, Diaveridine, Dicloxacillin sodium hydrate, Doxycycline, Enrofloxacin, Flumequine, Licomycin hydrochloride monohydrate, Lomefloxacin, Marbofloxacin ,Nalidixic acid, Norfloxacin, Oleandomycin, Oxolinic acid, Oxytetracycline hydrochloride, Sarafloxacin, Sulfachloropyridazine, Sulfadoxine, Sulfamerazine,Sulfamethazine, Sulfamethoxyypyridazine, Sulfamonomethoxine sodium hydrate, Sulfisoxazole, Tylosin tartrate	In house method O.B.05.036 UPLC-MS/MS based on: J. Chico <i>et al.</i> , Journal of Chromatography A, 1213 (2008), 189-199.

<p>4. . Fish and fish products</p>	<p>Determination of 31 antibiotics: Amoxicillin trihydrate, Ampicillin trihydrate, Cefadroxil hydrate, Cefotaxime, Chlorotetracycline hydrochloride, Ciprofloxacin hydrochloride, Clenbuterol, Clopidol, Cloxacillin sodium salt hydrate, Flumequine, Licomycin hydrochloride monohydrate, Marbofloxacin, Nalidixic acid, Norfloxacin, Oxacillin sodium salt hydrate, Oxolinic acid, Oxytetracycline hydrochloride, Penicillin G potassium salt, Penicillin V potassium salt, Sulfachloropyridazine, Sulfadimethoxine, Sulfadoxine, Sulfamerazine, Sulfamethazine, Sulfamethoxazole, Sulfamethoxyipyridazine, Sulfamonomethoxine sodium hydrate, Sulfapyridine, Sulfathiazole, Sulfisoxazole, Tylosin tartrate</p>	<p>In house method O.B.05.036 UPLC-MS/MS based on: J. Chico <i>et al.</i>, Journal of Chromatography A, 1213 (2008), 189-199.</p>
<p>5. Food of plant and animal origin</p> <p>ESYD/G-FYTOPROST 2016. SANTE/11813/2017)</p> <p>a. Fruits and vegetables with high water content b. Cereals, flour, legumes, dried nuts c. High fat content products of plant origin d. Milk and dairy products .</p>	<p>Determination of pesticide residues (flexible scope) :</p> <p>Organophosphates, Organochlorines, Pyrethroids, Carbamates, Triazoles, Triazines, Dinitroanilines, Amides, Bendimidazoles, Benzoyl-ureas, Sulfonyl-ureas, Phenyl-ureas, Strobilurins, Neonicotinoids, Aryloxy-alcanoic acids, polars, dithiocarbamates and others</p> <p>(the detailed scope can be found in the <u>catalog of accredited activities</u> in the laboratory website) (form <u>E.A.6.1-2</u>) (ESYD/G-FYTOPROST 2016)</p>	<p>In-house methods using:</p> <ul style="list-style-type: none"> - GC-MS/MS - LC-MS/MS - LC-QTOF <p>(O.B.05.028, O.B.05.30, O.B.05.35, O.B.05.48, O.B.05.106, O.B.05.107)</p> <ul style="list-style-type: none"> - GC-PFPD-S <p>(O.B.05.029)</p>
<p>6. Tobacco Non edible plant tissues</p> <p>ESYD/G-FYTOPROST 2016. SANTE/11813/2017</p>	<p>Determination of pesticide residues (flexible scope):</p> <p>the detailed scope can be found in the <u>catalog of accredited activities</u> in the laboratory website) (form <u>E.A.6.1-2</u>) (ESYD/G-FYTOPROST 2016).</p>	<p>In-house methods using:</p> <ul style="list-style-type: none"> - GC-MS/MS - LC-MS/MS - LC-QTOF <p>(O.B.05.027 O.B.05.44, O.B.05.045, O.B.05.049)</p> <ul style="list-style-type: none"> - GC-PFPD-S <p>(O.B.05.029)</p>
<p>Categories 5 &6 are accredited to a flexible scope. Flexibility applies to (a) the incorporation of new pesticides to existing methods / matrices (b) the addition of existing matrices to existing methods / pesticides (c) the addition of new matrices to existing methods / pesticides (d) the modification of existing methods (analytical technique, range of measurement, quatitation limit). The accredited tests are described in detail in the <u>Analytical List of Accredited Activities</u>, which is available at the laboratory web site.</p>		

7. Olive oil, pomace oil, Vegetable fats and oils	Determination of free fatty acids, cold method	Commission Regulation No 2568/91, annex II, COI/T.20/Doc No 34 as in force ISO 660:2009
	Determination of peroxide value	Commission Regulation No 2568/91, annex III, COI/T.20/Doc No 35 as in force ISO 3690:2017
	Determination of moisture (by Karl Fischer)	ISO 8534:2017
	Determination of moisture and volatiles at 103°C	ISO 662:2016-Method B
	Determination of the composition and content of sterols and triterpene dialcohols	Commission Regulation No 2568/91, annex V, COI/T.20/Doc No 30 as in force
	Determination of fatty acids methyl esters	Commission Regulation No 2568/91, annex X, COI/T.20/Doc No 33 as in force ISO 12966-1:2014
	Determination of the composition of triacylglycerols	IUPAC 2.324
8. Olive oil, pomace oil	Determination of waxes content	Commission Regulation No 2568/91, annex IV and XX, COI/T.20/Doc No 28 as in force
	Determination of stigmastadienes	Commission Regulation No 2568/91, annex XVII, COI/T.20/Doc No 11 as in force
	Determination of the difference between actual and theoretical content of triacylglycerols with ECN42 (Δ ECN42)	Commission Regulation No 2568/91, annex XVIII, COI/T.20/Doc No 20 as in force
	Determination of the extinction coefficient K (at 270 nm and 232 nm) and the parameter Δ K	Commission Regulation No 2568/91, annex IX, COI/T.20/Doc No 19 as in force
9 Olive oil, pomace oil, Vegetable oils	Determination of 14 phthalate and adipate esters (plasticisers): Di-ethyl-adipate (DEA), Di-methyl-phthalate (DMP), Di-ethyl-phthalate (DEP), Tri-butyl-phosphate (TBP), Di-isobutyl-adipate (DIBA), Di-butyl-adipate (DBA), Di-isobutyl-phthalate (DIBP), Di-butyl-phthalate (DBP), Benzyl-butyl-phthalate (BBP), Di-2-ethyl-hexyl-adipate (DEHA), Di-2-ethyl-hexyl-adipate (DEHP), Di-n-octyl-phthalate (DNOP), Di-isononyl-phthalate (DINP), Di-isodecyl-phthalate (DIDP).	O.B.12.017 In house GC-MS method.
10. Olive oil, pomace oil, Animal and Vegetable fats and oils	Determination of 4 polycyclic aromatic hydrocarbons (P.A.H.'s): Benzo-a-anthracene (BaA), Chrysene (ChR), Benzo-b-fluoranthene (BbF), Benzo-a-pyrene (BaP)	O.B.12.018 In house GC-MS method, based on ISO 15753:2012.

Microbiological Tests

1. Food and Animal feed	1. Enumeration of micro-organisms at 30°C	ISO 4833-1: 2013
	2. Enumeration of Enterobacteriaceae	ISO 21528-2:2017
	3. Enumeration of coliforms	ISO 4832:2006
	4. Enumeration of β -glucuronidase (+) <i>E. coli</i>	ISO 16649-2:2001
	5. Enumeration of <i>Bacillus cereus</i>	ISO 7932: 2004
	6. Enumeration of coagulase-positive staphylococci (<i>Staphylococcus aureus</i> and other species)	ISO 6888-2: 1999
	7. Enumeration of yeasts and moulds	ISO 21527-1 ($a_w > 0,95$) & 21527-2 :2008 ($a_w \leq 0,95$)
	8. Enumeration of <i>Cl. perfringens</i>	ISO 7937:2004
	9. Enumeration of anaerobic sulfite reducing bacteria and clostridia	ISO 15213:2003
	10. Enumeration of mesophilic lactic acid bacteria	ISO 15214:1998
	11. Detection of <i>Salmonella</i> spp (VIDAS)	AFNOR BIO12/16-09/05
	12. Detection of <i>Salmonella</i> spp (except serovars Typhi & Paratyphi)	ISO 6579-1:2017
	13. Detection of <i>Listeria</i> spp (VIDAS)	AFNORBIO 12/2-06/94
	14. Detection of <i>Listeria</i> spp and <i>Listeria monocytogenes</i>	ISO 11290-1:2017
	15. Enumeration of <i>Listeria</i> spp and <i>Listeria monocytogenes</i>	ISO 11290-2:2017
	16. Detection of Staphylococcal enterotoxin (VIDAS)	AOAC 2007.06
	17. Detection of <i>Campylobacter</i> spp	ISO 10272-1:2017
	18. Detection of <i>Vibrio parahaemolyticus</i>	ISO 21872-1:2017
	19. Detection of <i>Cronobacter</i> spp	ISO 22964:2017
2. Milk and milk products	1. Enumeration of yeasts and moulds	ISO 6611: 2004
3. Meat and meat products	1. Enumeration of presumptive <i>Pseudomonas</i> spp	ISO 13720:2010
4. Foods, animal feed and environmental production samples (except primary production stage environment)	1. Detection of <i>Salmonella</i> spp	AFNOR BKR 23/07-10/11

5. Raw meat products, raw vegetables, raw milk and raw milk dairy products	1. Detection of <i>E.coli</i> O157:H7 (VIDAS)	AFNOR BIO 12/25-05/09
6. Meat products, dairy products, seafood products, vegetable products (except raw products)	1. Detection of <i>L. monocytogenes</i> (VIDAS)	AFNOR BIO 12/09 – 07/02
7. Animal faeces and environmental samples from the primary production stage	1. Detection of <i>Salmonella spp</i> (except serovars Typhi & Paratyphi)	ISO 6579-1:2017
8. Salmonella isolates	1. Serotyping of <i>S. Enteritidis</i> , <i>S. Typhimurium</i>	ISO/TR 6579-3:2014
9. Water (water for human consumption, surface water, pool water)	1. Enumeration of culturable microorganisms at 22±2 °C & at 36±2 °C	ISO 6222:1999
	2. Enumeration of <i>E. coli</i> and coliform bacteria	ISO 9308-1:2014
	3. Enumeration of intestinal enterococci	ISO 7899-2: 2000
	4. Enumeration of <i>Faecal coliforms</i>	APHA 9222D: 2005
	5. Enumeration of the spores of sulfite-reducing anaerobes (clostridia)	ISO 6461-2:1986
	6. Enumeration <i>P.aeruginosa</i>	ISO 16266:2006
	7. Enumeration of <i>Cl. perfringens</i>	ISO 14189:2013
	8. Enumeration of <i>Legionella spp.</i>	ISO 11731:2017
	9. Detection of <i>Salmonella spp</i>	ISO 19250:2010
10. Sea Water	1. Enumeration of culturable microorganisms at 22±2 °C & at 36±2 °C	ISO 6222: 1999
	2. Enumeration of <i>E. coli</i> and coliform bacteria	ISO 9308-1:2014
	3. Enumeration of <i>Faecal coliforms</i>	APHA 9222D: 2005
	4. Enumeration of intestinal enterococci	ISO 7899-2: 2000
	5. Enumeration of <i>Cl. perfringens</i>	ISO 14189:2013

11. Treated waste water from treatment plant	1. Enumeration of intestinal enterococci	ISO 7899-2: 2000
	2. Enumeration of <i>E. coli</i> and coliform bacteria	ISO 9308-1:2014
12. Water for hemodialysis and relevant treatments	1. Enumeration of total culturable microorganisms at 20 °C (± 2°C)	ISO 23500-3:2019
<u>Sampling</u>		
1. Samples from surfaces using swabs and contact plates	1. Horizontal methods for sampling techniques for microbiological tests	ISO 18593:2018
<u>Biological Tests</u>		
1. Cotton (seeds)	Detection of GMO (detection of CaMV 35S promoter, NOS terminator, PATgene, BAR gene, and elementCTP2-CP4EPSPS)	Internal method OB.04.611 based on 1. ISO 21569:2005 2. Gaudron et al., Eur. Food Res Technol, 229: 295-305, 2009 3. Grohmann et al., J. Agric Food Chem, 57: 8913-8920, 2009 4. Sebah et al., Project GMOseek, Development of screening methods for GMOs, Final Report, 2010 5. Kodama et. al., Journal of AOAC International vol. 92, No. 1, 2009 6. Macherey-Nagel, NucleoSpin Food kit. using Real-timePCR
2. Potato and potato products (food, feed, raw materials)	Detection of amylopectin potato event EH 92-527-1	Internal method OB.04.612 based on 1. ISO 21569:2005 2. Event-specific Method for the Quantification of Amylopectin Potato Event EH92-527-1 Using Real-time PCR, Protocol EH92-527-1-CRL for GM Food and Feed, CRLVL09/05VP 3. Macherey-Nagel, NucleoSpin Food kit. using Real-Time PCR
3. Rice and rice products (food, feed, raw materials)	Detection of Rice Line LLRICE 62 GM-event LL 601 Bt 63 Rice	Internal method OB.04.613 based on 1. ISO 21569:2005 2. Event Protocol LLRICE62 – CRL for GM Food and Feed 3. R. Koppel, F. Zimmerli & A. Breitenmoser, Eur. Food Res Technol (2010) 230:731-736 4. Report on the validation of an event-specific method for the detection method for identification of Rice GM-event LLRICE 601 using a Real Time PCR assay. CRL for GM Food and Feed 5. CRL-EM-02/06, verification report Rice Bt63 6. Macherey-Nagel, NucleoSpin Food kit using Real-Time PCR

4. Rice and rice products (food, feed, raw materials)	Detection of GMO (detection of CaMV 35S promoter, NOS terminator)	Internal met. (OB.04.611) based on: 1. ISO 21569:2005 2. Gaudron et al., Eur. Food Res Technol, 229: 295-305, 2009 3. Kodama et. al., Journal of AOAC International vol. 92, No. 1, 2009 4. Macherey-Nagel, NucleoSpin Food kit using Real-Time PCR
5. Soya and soya products (seeds, food, feed, raw materials)	Detection of GMO (CMV 35S promoter, NOS terminator, PAT gene, BAR gene, CTP2-CP4EPSPS element and S-adenosyl-L-methionine synthetase promoter)	Internal met. (OB.04.611) based on: 1. ISO 21569:2005 2. Gaudron et al., Eur. Food Res Technol, 229: 295-305, 2009 3. Grohmann et al., J. Agric Food Chem, 57: 8913-8920, 2009 4. Sebah et al., Project GMOseek, Development of screening methods for GMOs, Final Report, 2010 5. C. Bahrtdt, et al., Anal Bioanal Chem 396:2103-2112, 2010 6. Kodama et. al., Journal of AOAC International vol. 92, No. 1, 2009 7. Macherey-Nagel, NucleoSpin Food kit using Real-Time PCR
6. Corn and corn products (seeds, food, feed, raw materials)	Detection of GMO (CMV 35S promoter, NOS terminator, PAT gene, BAR gene, CTP2-CP4EPSPS element)	Internal met. (OB.04.611) based on: 1. ISO 21569:2005 2. Gaudron et al., Eur. Food Res Technol, 229: 295-305, 2009 3. Grohmann et al., J. Agric Food Chem, 57: 8913-8920, 2009 4. Sebah et al., Project GMOseek, Development of screening methods for GMOs, Final Report, 2010 5. Kodama et. al., Journal of AOAC International vol. 92, No. 1, 2009 6. Macherey-Nagel, NucleoSpin Food kit. using Real-Time PCR
7. Soya and soya products (seeds, food, feed, raw materials)	Quantification of genetically modified Roundup Ready Soya (GTS 40-3-2)	Internal met. (OB.04.614) based on: 1. ISO 21570:2005 2. Macherey-Nagel, NucleoSpin Food kit. using Real-Time PCR
8. Corn and corn products (seeds, food, feed, raw materials)	Quantification of CaMV 35S promoter in maize	Internal method (OB.04.615) based on: 1. ISO 21570:2005 2. Kodama et al. J. of AOAC International vol. 92, No 1, 2009 3. Kuribara et al. J. of AOAC International vol. 85, No 5, 2002 4. Macherey-Nagel, NucleoSpin Food kit. using Real-Time PCR

9. Soya and soya products (seeds, food, feed, raw materials)	Detection of 14 GM soya events (FG72, MON87769, MON87705, A2704-12, MON89788, A5547-127, DP-305423-1, DP-356043-5, MON87701, CV127, MON87708, DAS-68416-4 DAS-81419-2, DAS-44406-6)	Internal method (OB.04.622) based on: 1. Event specific methods of Research Centre, European Union Reference Lab for GM Food and Feed. 2. Macherey-Nagel, NucleoSpin Food kit. using Real-Time PCR
10. Food	Detection of <i>Equuscaballus</i> (HORSE) DNA	Internal method (OB.04.618) based on: 1. DNAnimal Ident RT IPC (LR/HR) HORSE Eurofins. 2. Macherey-Nagel, NucleoSpin Food kit. using Real-Time PCR
11. Food	Detection of Equidae & porcine DNA	Internal method (OB.04.624) based on: 1. DNAnimal Screen Halal IPC (LR) Eurofins 2. Macherey-Nagel, NucleoSpin Food kit. using Real-Time PCR
<u>Immunochemical Tests</u>		
1. Food	Quantification of gluten/gliadin	Internal method (OB.04.620) based on: 1. ELOT EN 15633.01:2009 2. Sandwich Enzyme Immunoassay (AOAC RI120601)
2. Food	Quantification of casein allergen	Internal method (OB.04.621) based on: 1. ELOT EN 15633.01:2009 2. Sandwich ELISA Kit AgraQuant Casein Assay

Site of assesement : Laboratory permanent premises, Industrial area, Markopoulo, Attiki

Approved signatories: A. Giannousios, E. Kokkalis, D.Koraki, P. Konstantinou.

This Scope of Accreditation replaces the previous one dated 29.03.2019

The Accreditation Certificate No. 44-5 to ELOT ISO/IEC 17025:2017, is valid until 26.11.2021

Athens, 20.12.2019



Spyridon Podaras
CEO of ESYD