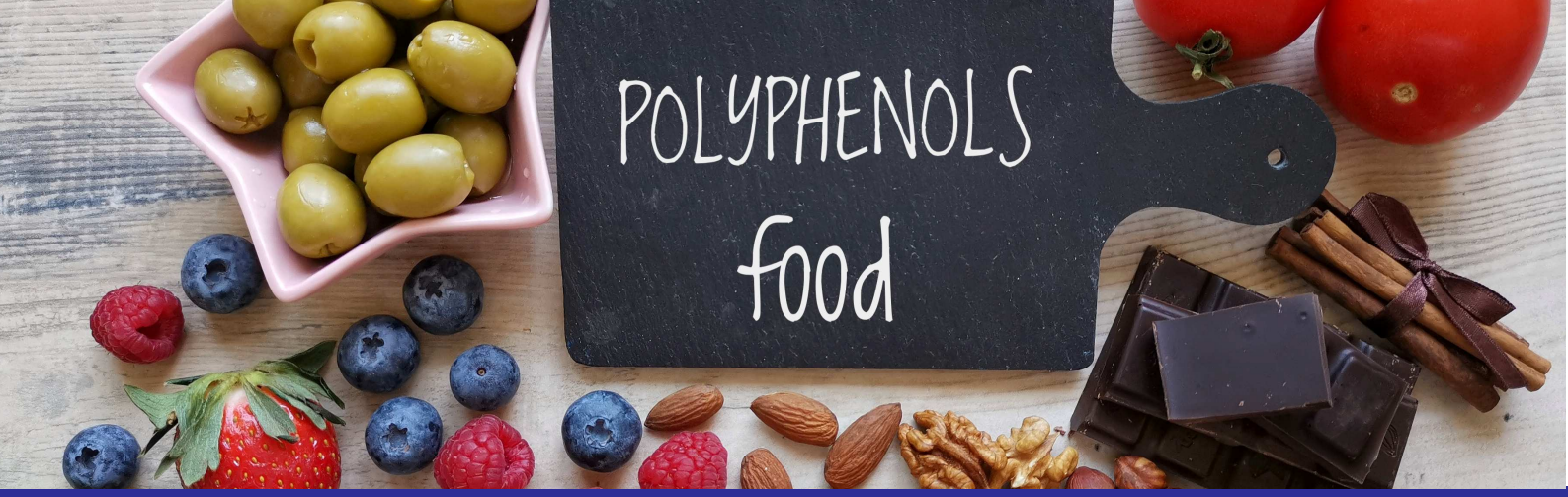

neotron
Part of the Cotecna Group

Determination of Polyphenols

Polyphenols represent a group of chemical substances common in plants, structurally characterized by the presence of one or more phenol units.[1]
Polyphenols are abundant micronutrients in human diets and they have a role in the prevention of degenerative diseases such as cancer and cardiovascular diseases.

Polyphenols have been recognised for their antioxidant properties and they are mostly present in fruits and vegetables, nuts and seeds, herbs, cocoa products (e.g. dark chocolate), wholegrain products, tea and coffee, and red wine.

Neotron Proposal

Neotron carries out the analyses of polyphenols in several matrices with different approaches.

In addition to the aspecific spectrophotometric determinations of total polyphenols (LOQ: 10 mg/100g), proanthocyanidins (LOQ: 1000 mg/kg) and total anthocyanins (LOQ: 10 mg/kg expressed as cyanidin-3-glucoside), Neotron proposes the following specific tests of catechins, procyanidins, anthocyanins, isoflavonoids and flavonoids.

The proposal could be extended based on specific profile of the product.

Analytes	Analytical Technique	Limit of Quantification (mg/kg)
CATECHINS		
Gallic Acid	HPLC/DAD-FLUO-MS	5,0
Catechin	HPLC/DAD-FLUO-MS	5,0
Catechin Gallate	HPLC/DAD-FLUO-MS	5,0
Epicatechin	HPLC/DAD-FLUO-MS	5,0
Epi-catechin gallate	HPLC/DAD-FLUO-MS	5,0
Epi-gallo-catechin	HPLC/DAD-FLUO-MS	5,0
Epi-gallo-catechin gallate	HPLC/DAD-FLUO-MS	5,0
Gallo-catechin	HPLC/DAD-FLUO-MS	5,0
Gallo-catechin-gallate	HPLC/DAD-FLUO-MS	5,0
PROCYANIDINS		
Procyanidin A2	HPLC/DAD-FLUO-MS	5,0
Procyanidin B1	HPLC/DAD-FLUO-MS	5,0
Procyanidin B2	HPLC/DAD-FLUO-MS	5,0
Procyanidin C1	HPLC/DAD-FLUO-MS	5,0

Analytes	Analytical Technique	Limit of Quantification (mg/kg)
ANTHOCYANINS		
Cyanidin 3,5-diglucoside	HPLC/DAD-MS	5,0
Cyanidin 3-arabinoside	HPLC/DAD-MS	5,0
Cyanidin 3-galactoside	HPLC/DAD-MS	5,0
Cyanidin 3-glucoside	HPLC/DAD-MS	5,0
Cyanidin 3-rutinoside	HPLC/DAD-MS	5,0
Cyanidin 3-sambubioside	HPLC/DAD-MS	5,0
Delphinidin 3-glucoside	HPLC/DAD-MS	5,0
Delphinidin 3-sambubioside	HPLC/DAD-MS	5,0
Malvidin 3,5-diglucoside	HPLC/DAD-MS	5,0
Malvidin 3-galactoside	HPLC/DAD-MS	5,0
Malvidin 3-glucoside	HPLC/DAD-MS	5,0
Pelargonidin 3-glucoside	HPLC/DAD-MS	5,0
Peonidin 3-glucoside	HPLC/DAD-MS	5,0
ISOFLAVONOIDS		
Daidzeina	HPLC-DAD	20,0
Glycitein	HPLC-DAD	20,0
Genistein	HPLC-DAD	20,0
Biochanin A	HPLC-DAD	20,0
Formononetin	HPLC-DAD	20,0
Daidzina	HPLC-DAD	20,0
Glycithin	HPLC-DAD	20,0
Genistine	HPLC-DAD	20,0
FLAVONOIDS—SINGLE DETERMINATIONS		
Rutina	HPLC-DAD	5,0 mg/kg
Hesperidin	HPLC-DAD	5,0 mg/kg
Galangin	HPLC-DAD	5,0 mg/kg
Naringin	HPLC-DAD	5,0 mg/kg
Diosmin	HPLC-DAD	5,0 mg/kg
Quercetin	HPLC-DAD	5,0 mg/kg
Resveratrol	HPLC-DAD	5,0 mg/kg
Troxerutin	HPLC-DAD	5,0 mg/kg
Apigenin	LCMS/MS	0,05-0,5 mg/Kg
Galangin	LCMS/MS	0,05-0,5 mg/Kg

For more information contact us @www.neotron.it

References:

1. *Polyphenols in Fruits and Vegetables and Its Effect on Human Health*, Giuseppina Pace Pereira Lima, Fabio Vianello, Camila Renata Corrêa, Renê Arnoux da Silva Campos, Milena Galhardo Borguini, 2014.
2. *Polyphenols: food sources and bioavailability*, Claudine Manach, Augustin Scalbert, Christine Morand, Christian Rémésy, and Liliana Jime´nez, 2004.