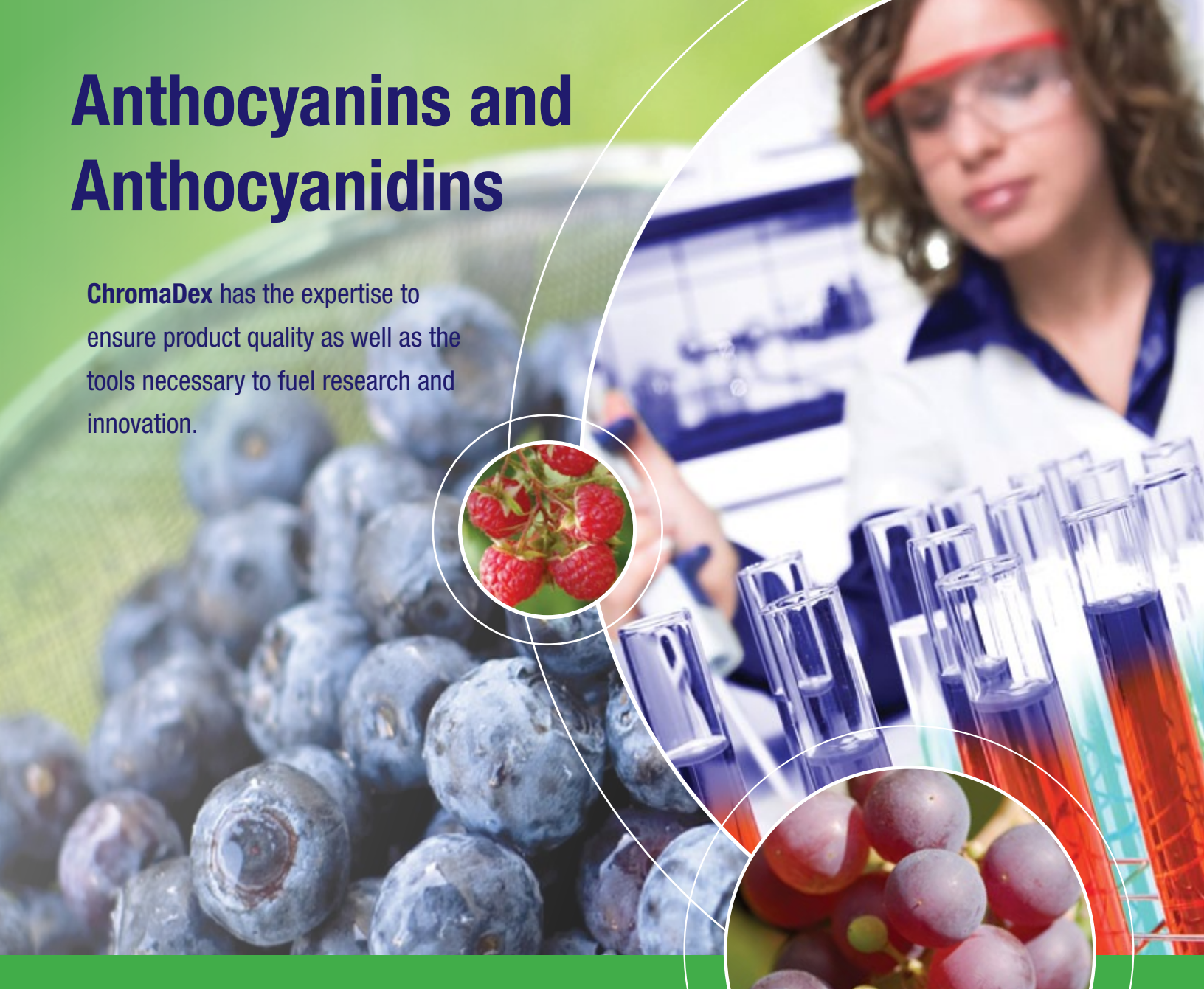


# Anthocyanins and Anthocyanidins

**ChromaDex** has the expertise to ensure product quality as well as the tools necessary to fuel research and innovation.



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## Anthocyanins

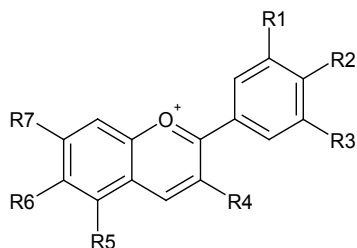
Anthocyanins are water soluble pigments that reflect light in the red to blue range of the visible spectrum. Its name comes from greek: anthos = flower, kyáneos = purple. Often observed in the plant kingdom, anthocyanins serve to color anything from fruits to the autumn leaves. These pigments act as powerful antioxidants helping to protect the plant from UV damage. Anthocyanins belong to a class of compounds called flavonoids and are glucosides of anthocyanidins. They are also part of a larger group of compounds called Polyphenols.

### Examples of Anthocyanins in Selected Foods

Food Source	Anthocyanin content in mg per 100g	Food Source	Anthocyanin content in mg per 100g
Açai	320	Raspberry	365
Blackcurrant	190-270	Wild Blueberry	558
Chokeberry	1480	Cherry	350-400
Eggplant	750	Red Currant	80-420
Orange	200	Red Grape	888
Marion Blackberry	317	Red Wine	24-35
Black Raspberry	589	Purple Corn	1642

## Anthocyanidins

Anthocyanidins are the sugar-free counterparts of anthocyanins based on the benzopyrylium (chromenylium) ion. In particular anthocyanidins are salt derivatives of the 2-phenylchromenylium cation, also known as flavylium cation. The counterion of the flavylium cation is mostly chloride. With this positive charge, the anthocyanidins differ from other flavonoids.



## Anthocyanidins Basic Structures

Anthocyanidin	R1	R2	R3	R4	R5	R6	R7
Aurantidin	H	OH	H	OH	OH	OH	OH
Cyanidin	OH	OH	H	OH	OH	H	OH
Delphinidin	OH	OH	OH	OH	OH	H	OH
Europinidin	OCH3	OH	OH	OH	OCH3	H	OH
Luteolinidin	OH	OH	H	H	OH	H	OH
Malvidin	OCH3	OH	OCH3	OH	OH	H	OH
Pelargonidin	H	OH	H	OH	OH	H	OH
Peonidin	OCH3	OH	H	OH	OH	H	OH
Petunidin	OH	OH	OCH3	OH	OH	H	OH
Rosinidin	OCH3	OH	H	OH	OH	H	OCH3







## **Polyphenols**

Polyphenols are a group of phytochemical substances, characterized by the presence of more than one phenolic group. Polyphenols are generally divided into hydrolyzable tannins (gallic acid esters of glucose and other sugars) and phenylpropanoids, such as lignins, flavonoids, and condensed tannins. Polyphenols have been shown to be strong antioxidants with potential health benefits.

Product ID	Product Name	Grade	Qty/ Unit
ASB-00001925-005	APIGENINIDIN CHLORIDE	P	5mg
ASB-00003123-005	CAPENSINIDIN CHLORIDE	SH	5mg
ASB-00003123-010	CAPENSINIDIN CHLORIDE	SH	10mg
ASB-00003955-010	CYANIDIN CHLORIDE	P	10mg
ASB-00003955-005	CYANIDIN CHLORIDE	P	5mg
ASB-00003931-005	CYANIDIN-3,5-DIGLUCOSIDE CHLORIDE (CYANIN)	SH	5mg
ASB-00009045-005	CYANIDIN-3-GALACTOSIDE CHLORIDE (IDEAIN)	SH	5mg
ASB-00011605-005	CYANIDIN-3-GLUCOSIDE CHLORIDE (KUROMANIN CHLORIDE)	SH	5mg
ASB-00011605-010	CYANIDIN-3-GLUCOSIDE CHLORIDE (KUROMANIN CHLORIDE)	SH	10mg
ASB-00011605-025	CYANIDIN-3-GLUCOSIDE CHLORIDE (KUROMANIN CHLORIDE)	SH	25mg
ASB-00003935-005	CYANIDIN-3-O-LATHYROSIDE CHLORIDE	SH	5mg
ASB-00003932-001	CYANIDIN-3-O-RHAMNOSIDE CHLORIDE	RG	1mg
ASB-00003938-005	CYANIDIN-3-O-SOPHOROSIDE CHLORIDE	SH	5mg
ASB-00011325-005	CYANIDIN-3-RUTINOSIDE CHLORIDE (KERACYANIN)	SH	5mg
ASB-00011325-010	CYANIDIN-3-RUTINOSIDE CHLORIDE (KERACYANIN)	SH	10mg
NEW	CYANIDIN-3-SAMBUBIOSIDE CHLORIDE	SH	5mg
ASB-00004125-010	DELPHINIDIN CHLORIDE	P	10mg
ASB-00004125-005	DELPHINIDIN CHLORIDE	P	5mg
ASB-00004115-005	DELPHINIDIN-3,5-DIGLUCOSIDE CHLORIDE (DELPHIN CHLORIDE)	SH	5mg
ASB-00004123-005	DELPHINIDIN-3-GLUCOSIDE CHLORIDE (MYRTILLIN)	RG	5mg
NEW	DELPHINIDIN-3-RHAMNOSIDE CHLORIDE	RG	1mg
ASB-00004121-005	DELPHINIDIN-3-O-SAMBUBIOSIDE CHLORIDE	RG	5mg
ASB-00004925-010	DIOSMETINIDINE CHLORIDE	SH	10mg
ASB-00006020-005	FISSETINIDIN CHLORIDE	SH	5mg
ASB-00006020-010	FISSETINIDIN CHLORIDE	SH	10mg
ASB-00007397-001	GOSSYPETINIDIN CHLORIDE	RG	1mg
ASB-00007515-005	GUIBOURTINIDIN CHLORIDE	SH	5mg
ASB-00007515-010	GUIBOURTINIDIN CHLORIDE	SH	10mg

Product ID	Product Name	Grade	Qty/ Unit
ASB-00011019-001	KAEMPFERIDINIDIN CHLORIDE	SH	1mg
ASB-00012530-005	LUTEOLINIDIN CHLORIDE	P	5mg
ASB-00012530-010	LUTEOLINIDIN CHLORIDE	P	10mg
ASB-00013071-005	MALVIDIN CHLORIDE	P	5mg
ASB-00013071-010	MALVIDIN CHLORIDE	P	10mg
ASB-00013071-025	MALVIDIN CHLORIDE	P	25mg
ASB-00013076-010	MALVIDIN-3,5-DIGLUCOSIDE CHLORIDE (MALVIN CHLORIDE)	SH	10mg
ASB-00013061-005	MALVIDIN-3-GALACTOSIDE CHLORIDE (PRIMULIN)	SH	5mg
ASB-00013070-005	MALVIDIN-3-GLUCOSIDE CHLORIDE (OENIN)	SH	5mg
ASB-00013284-005	METHOXYPELARGONIDIN, 4'-	SH	5mg
ASB-00013284-010	METHOXYPELARGONIDIN, 4'-	SH	10mg
ASB-00016111-005	PELARGONIDIN CHLORIDE	P	5mg
ASB-00016111-010	PELARGONIDIN CHLORIDE	P	10mg
ASB-00016111-025	PELARGONIDIN CHLORIDE	P	25mg
ASB-00016121-005	PELARGONIDIN-3,5-DIGLUCOSIDE CHLORIDE (PELARGONIN CHLORIDE)	RG	5mg
ASB-00016121-010	PELARGONIDIN-3,5-DIGLUCOSIDE CHLORIDE (PELARGONIN CHLORIDE)	RG	10mg
ASB-00016101-005	PELARGONIDIN-3-GLUCOSIDE CHLORIDE (CALLISTEPHIN)	SH	5mg
ASB-00016371-005	PEONIDIN CHLORIDE	P	5mg
ASB-00016371-010	PEONIDIN CHLORIDE	P	10mg
ASB-00016371-025	PEONIDIN CHLORIDE	P	25mg
ASB-00016380-010	PEONIDIN-3,5-DIGLUCOSIDE CHLORIDE (PEONIN CHLORIDE)	SH	10mg
ASB-00016376-005	PEONIDIN-3-O-ARABINOSIDE CHLORIDE	SH	5mg
ASB-00016376-010	PEONIDIN-3-O-ARABINOSIDE CHLORIDE	SH	10mg
ASB-00016374-001	PEONIDIN-3-O-GALACTOSIDE CHLORIDE	RG	1mg
ASB-00016374-005	PEONIDIN-3-O-GALACTOSIDE CHLORIDE	RG	5mg
ASB-00016360-001	PEONIDIN-3-O-GLUCOSIDE CHLORIDE	RG	1mg
ASB-00016360-005	PEONIDIN-3-O-GLUCOSIDE CHLORIDE	RG	5mg
NEW	PEONIDIN-3-O-RUTINOSIDE CHLORIDE	RG	1mg

Product ID	Product Name	Grade	Qty/ Unit
ASB-00016414-005	PETUNIDIN CHLORIDE	SH	5mg
ASB-00016414-010	PETUNIDIN CHLORIDE	SH	10mg
ASB-00016416-005	PETUNIDIN-3-GLUCOSIDE CHLORIDE	SH	5mg
ASB-00016230-005	PROCYANIDIN B1	P	5mg
ASB-00016230-010	PROCYANIDIN B1	P	10mg
ASB-00016231-005	PROCYANIDIN B2	P	5mg
ASB-00016231-010	PROCYANIDIN B2	P	10mg
ASB-00018340-010	ROBINETINIDIN CHLORIDE	SH	10mg
ASB-00020635-005	TRICETINIDIN CHLORIDE	SH	5mg
ASB-00020635-010	TRICETINIDIN CHLORIDE	SH	10mg

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