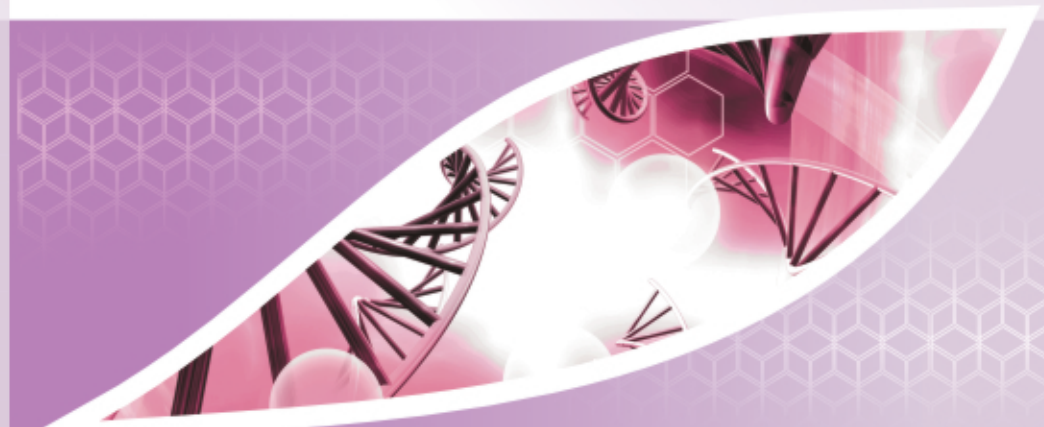




西安塞纳生物技术有限公司
XI AN SAINA BIOLOGICAL TECHNOLOGY CO.,LTD.

THE BILBERRY EXTRACT

Effective health food products
mean satisfied customers.
Something worth bearing in mind
next time you consider using
an unproven extract.
To know more, call Herbsino today.



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Bilberry is a relative of the blueberry, and it has been used for nearly 1,000 years in traditional European medicine. Bilberry grows in North America, Europe, and northern Asia. Bilberry Family have about 600 species in the worldwide, including 350 kinds of Chinese distribution. These berries freeze quite well, so we can harvest them in the summer and store them for year-round consumption.



Historically, bilberry fruit was used to treat diarrhea, scurvy, and other conditions. Today, bilberries are not just eaten as a food but widely used to decrease vascular permeability, capillary fragility and treat ophthalmological disorders.

In fact, The fruits are mainly used in the manufacture of extracts, which are easier to obtain a more stable therapeutic effect.





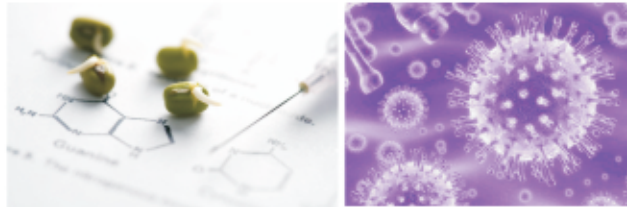
Flavonoids, specifically anthocyanins, constitute bilberry's active fraction. These natural pigments give the fruit its deep blue color and have been directly correlated to its antioxidant activity.

Anthocyanins (from Greek: flower +blue) are water-soluble vacuolar pigments that may appear red, purple, or blue.

Anthocyanins occur in leaves, flowers, and fruits of colorful plants, such as Bilberry, Cranberry, Black Currant, Elderberry, Mulberry, Chokeberry, Raspberry, Acai, Onions, kidney beans, Pomegranates, and grapes etc.

Food Resource	Anthocyanins content in mg per 100g
Acaiberry	320
Blackcurrant	190–270
Chokeberry	1,480
Orange	200
Marion blackberry	317
Black raspberry	589
Raspberry	365
Bilberry	558
Cherry	350–400
Red grape	888
Red wine	24–35
Purple corn	1,642





Over 300 structurally distinct anthocyanins have been identified in nature. Anthocyanins are one class of flavonoid compounds, which are widely distributed plant polyphenols. Flavonols, flavan-3-ols, flavones, flavanones, and flavanonols are additional classes of flavonoids that differ in their oxidation state from the anthocyanins.

Anthocyanidin	Basic structure	R1	R2	R3	R4	R5	R6	R7	Main Colour	
Apigeninidin		-H	-OH	-H		-H	-OH	-H	-OH	Orange
Aurantidin		-H	-OH	-H		-OH	-OH	-OH	-OH	Orange
Capensinidin		-OCH3	-OH	-OCH3		-OH	-OCH3	-H	-OH	Bluish-Red
Cyanidin		-OH	-OH	-H		-OH	-OH	-H	-OH	Magenta
Delphinidin		-OH	-OH	-OH		-OH	-OH	-H	-OH	Purple, Blue
Europinidin		-OCH3	-OH	-OH		-OH	-OCH3	-H	-OH	Bluish-Red
Hirsutinidin		-OCH3	-OH	-OCH3		-OH	-OH	-H	-OCH3	Bluish-Red
Luteolinidin		-OH	-OH	-H		-H	-OH	-H	-OH	Orange
Pelargonidin		-H	-OH	-H		-OH	-OH	-H	-OH	Orange, Salmon
Malvidin		-OCH3	-OH	-OCH3		-OH	-OH	-H	-OH	Purple
Peonidin		-OCH3	-OH	-H		-OH	-OH	-H	-OH	Magenta
Petunidin		-OH	-OH	-OCH3		-OH	-OH	-H	-OH	Purple
Pulchellidin		-OH	-OH	-OH		-OH	-OCH3	-H	-OH	Bluish-Red
Rosinidin		-OCH3	-OH	-H		-OH	-OH	-H	-OCH3	Red
Triacetidin		-OH	-OH	-OH		-H	-OH	-H	-OH	Red

Main groups of anthocyanidins



The pharmacological properties of Anthocyanins in Bilberry seem nowadays well ascertained; they are mainly linked to a strong antioxidant capacity, such as anti-inflammatory, vasoactive,

hypolipemic, hypoglycemic, cell-regenerating, antimicrobial, chemopreventive, etc. Almost all of these properties have been intensively studied, both in vitro and in vivo.

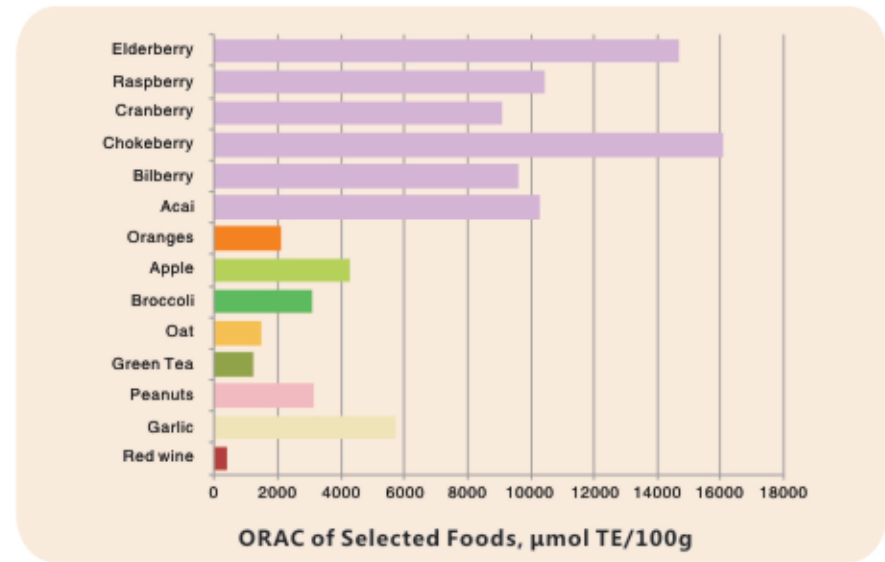
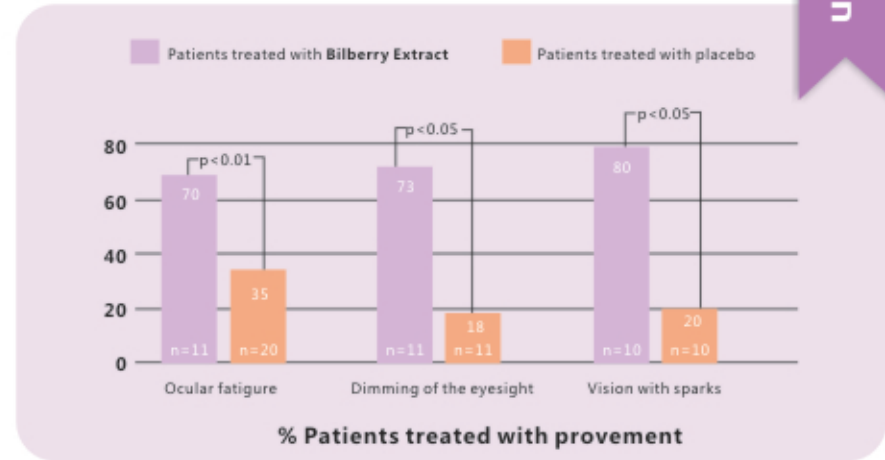
References:

Stoner GD. Black raspberries show multiple defenses in thwarting cancer. [The Ohio State University Research News](#)

Neto CC. Cranberry and blueberry: evidence for protective effects against cancer and vascular diseases. [Molecular Nutrition & Food Research](#)

Neto CC. Cranberry and its phytochemicals: a review of in vitro anticancer studies. [The Journal of Nutrition](#)

Thomasset, Sarah et al. Do anthocyanins and anthocyanidins, cancer chemopreventive pigments in the diet, merit development as potential drugs? [Cancer Chemotherapy and Pharmacology](#)



Data sources:
 Healthy Eating Index – 2005 USDA Report
 USDA Database for the ORAC of Selected Foods



We supply a variety of extract powder containing Anthocyanidins, Anthocyanins, Proanthocyanidins and Polyphenols.

Light Red to Dark Purple



5-25% Anthocyanidins
5-36% Anthocyanins
5-50% Proanthocyanidins
5-20% Polyphenols
4-50:1



Solubility in Water

Test Method: UV, HPLC, TLC

Low Levels of Heavy Metals





Identification By Thin-Layer Chromatography

Test solution: To 0.2 g of the powdered add 20 ml of methanol R. Shake for 15 min and filter.

Reference solution: Dissolve 5 mg of chrysanthem R in 10 ml of methanol R.

Plate: TLC silica gel plate R.

Mobile phase: anhydrous formic acid R, water R, butanol R (16:19:65 V/V/V).

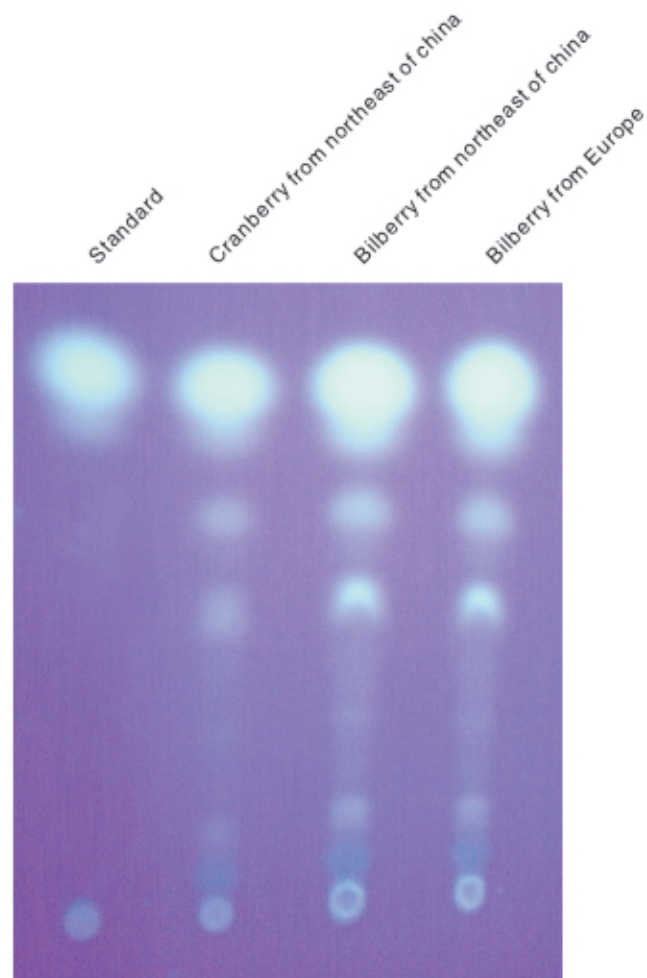
Application: 10 μ l, as bands.

Development: over a path of 10 cm.

Drying: in air.

Results : see below the sequence of the zones present in the chromatograms obtained with the reference and test solutions.

Quote: E.P.5.0

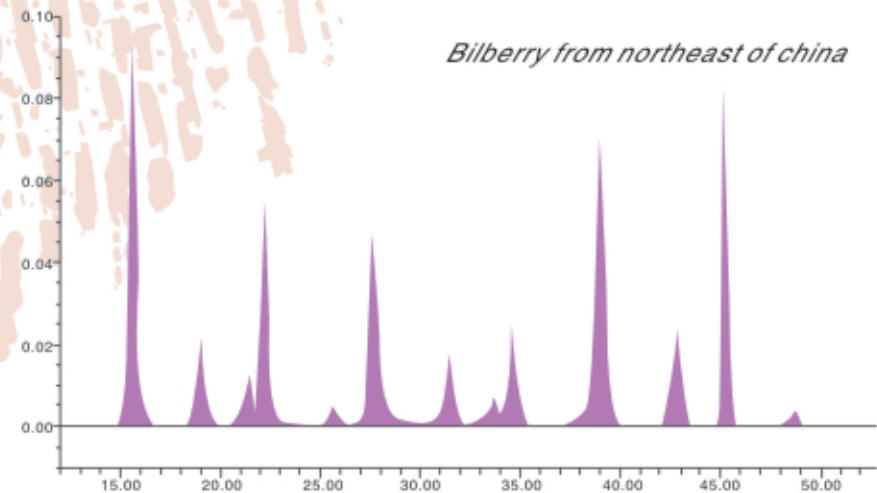
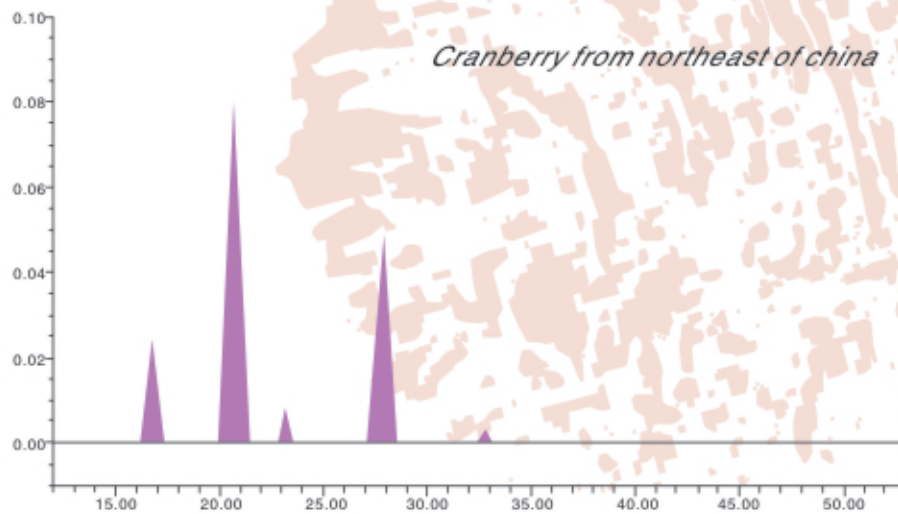
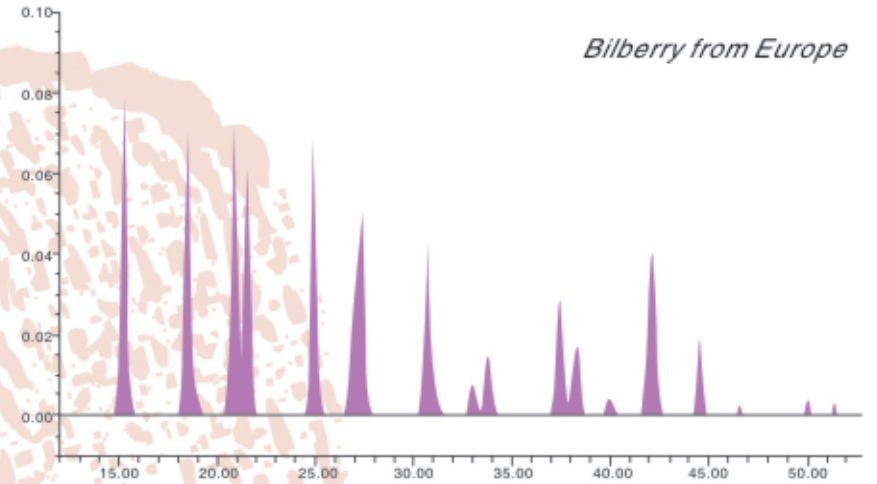
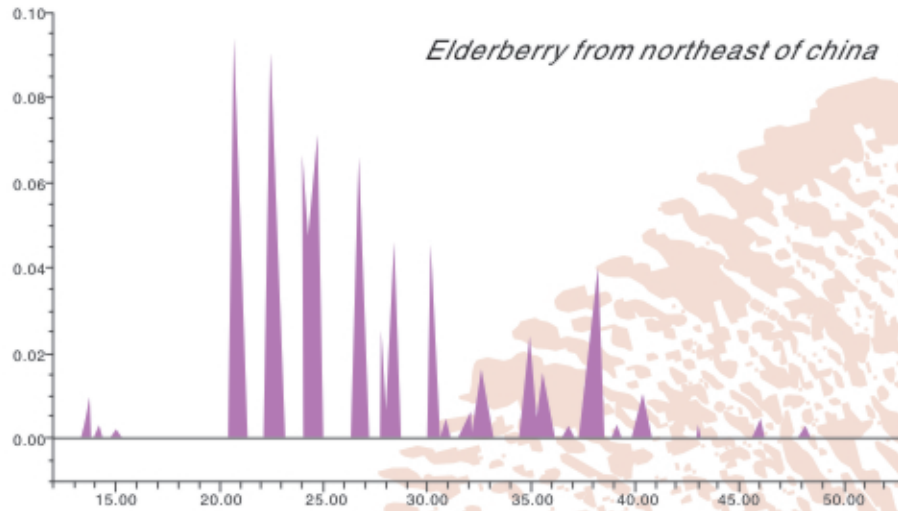


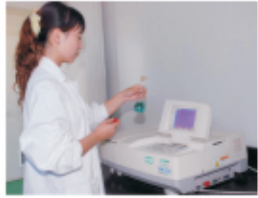


There are almost 600 species of bilberry. There are many bilberry extracts, sold at many different prices. But only one offers proven efficacy: Herbsino.

Earlier analytical methods could not detect whether anthocyanin extracts had been produced from plant materials other than bilberry. Nor were they sensitive or specific enough to determine the exact breakdown of the extract.

But now, Herbsino has perfected a new method that identifies and quantifies all the bilberry active principles.







Resource List

Human need help getting more nutrients per calorie. The following resources provide reliable, science based information on nutrition and physical activity, as well as an evolving array of tools to facilitate people' adoption of healthy choices.



NOTES:

Handwriting practice lines consisting of 15 horizontal wavy lines.