



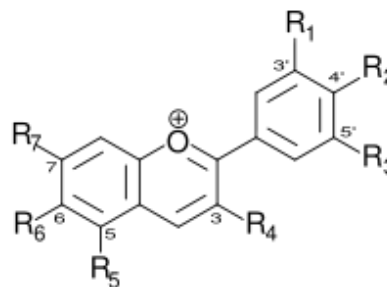
Active Cassis Extract 35

Active Cassis Extract 35 is a whole fruit extract of blackcurrants in powder form, high in health promoting anthocyanins and polyphenols. It is used in a diverse variety of nutraceutical supplements, functional foods and beverages.

The blackcurrant, *Ribes nigrum L.*, has been valued for centuries as a nutritious food and a wild, edible delicacy. The use of blackcurrant fruit as an herbal medicine emerged in the Middle Ages when it was used extensively in natural health remedies. More recently blackcurrant products have been consumed as regular food and beverage, such as in jam, teas and juice and also as a nutritional supplement to maintain optimal health and help alleviate symptoms of disease. Today there is a growing body of scientific evidence which shows how blackcurrants can protect against oxidative damage and thus contribute to preventing ageing and disease. Blackcurrant is commonly known as Cassis in France and Japan, and as Schwarze Johannisbeeren in Germany.

Nutrition

Blackcurrants are highly nutritious foods with extremely high levels of vitamin C, and also rich in vitamin A and potassium. Blackcurrants have high levels of anthocyanins, and other polyphenolics, and moderate quantities of the B vitamins thiamine and niacin. At the same time blackcurrants are low in calories and sodium.



Antioxidants, Polyphenols, Anthocyanins

Active Cassis Extract 35 is a powerful antioxidant supplement, with high levels of anthocyanins and other polyphenols.

An **antioxidant** is a molecule capable of protecting the body from oxidative stress. As oxidative stress might play an important part of many human diseases, the use of antioxidants in pharmacology is intensively studied, particularly as treatments for stroke and neurodegenerative diseases. Antioxidants are therefore widely used as ingredients in dietary supplements to maintain health and prevent diseases.

Research indicates that the antioxidant characteristics of **polyphenols** have particular health benefits. The largest and best studied polyphenols are the flavonoids, which include among them anthocyanins.

Anthocyanins are phenolic pigments and powerful antioxidants found in fruits and vegetables. Laboratory research indicates they may aid human health by reducing disease risk when included in the diet for extended periods. The anthocyanin composition of blackcurrants is unique: the

four main anthocyanins in blackcurrants are; cyanidin-3-glucoside, cyanidin-3-rutinoside, delphinidin-3-glucoside, delphinidin-3-rutinoside. **Active Cassis Extract 35 is standardized to contain not less than 35% blackcurrant anthocyanins.**

Science and Health

The rapid spread of computers and cellular phones in the home and workplace has led to an increase in eye fatigue and discomfort, blurred vision and myopia. Scientific studies have shown that the consumption of blackcurrant extracts containing high amounts of rutinoside anthocyanins will reduce eye fatigue.

H. Nakaishi et al. 2000, Effects of black currant anthocyanoside intake on dark adaptation and VDT work induced transient refractive alteration in healthy humans. Alternative Medicine Reviews 5, 553-562.

Many people suffer from poor circulation. An important scientific study showed that blackcurrant anthocyanins might lessen muscle stiffness by increasing peripheral blood flow and reducing muscular fatigue.

Eri Takenami et al. 2003, Effects of Black Currant Anthocyanins Intake on Peripheral Circulation During Typing Workload in Humans. J. Jpn. Coll. Angiol. 43, 331-334.

Y. Nakamura et al. 2002, Endothelium-dependent vasorelaxation induced by black currant concentrate in rat thoracic aorta. Japanese Journal of Pharmacology 89, 29-35.

It is now generally accepted that the composition of human intestinal microbiota has an important role in health and disease. Studies have identified Active Cassis Extract 35 as a good prebiotic agent that can promote the growth of friendly bacteria and lower the number of undesirable bacteria in the gastrointestinal tract.

A. Molan et al., 2008, Study the effect of blackcurrant extract and infused dried fruit on the growth of beneficial lactic acid bacteria and on risk markers for colon cancer in rats. Report to Just the Berries Ltd

Blackcurrant alleviates urinary tract infections and can act against viruses.

L. Boyle et al. 1996, Study of use of blackcurrant juice in nursing home residents to alleviate urinary infection and associated problems. Centre for Ageing Studies, Flinders University of South Australia.

Keßler et al. Effect of blackcurrant-, cranberry- and plum juice consumption on risk factors associated with kidney stone formation. European Journal of Clinical Nutrition 56, 1020-1023.

Y. M. Knox et al, 1998, Antiviral activity of Kurokarin extracts. Food Processing 33 (8), 21-33 (in Japanese).

Y. M. Knox et al. 2001, Activity of anthocyanins from fruit extract of Ribes nigrum L. against influenza A and B viruses. Acta Virologica 45, 209-215.

Y. M. Knox et al. 2003, Anti-influenza virus activity of crude extract of Ribes nigrum L. Phytotherapy Research 17, 120-122.

Blackcurrants contain inhibitors of the catalytic activity of the carcinogen-activating enzyme CYP1A1 and are more active against this enzyme than many other berries.

L. Kansanen et al, 1999, Inhibition of CYP1A1 in vitro by berries with different quercetin contents. In: Natural Antioxidants and Anticarcinogens in Nutrition, Health and Disease. J. T. Kumpulainen and J.T. Salonen eds. Royal Society of Chemistry 1999, pp 395-397.

L. Kansanen et al, 1996, Flavonoids and extracts of strawberry and blackcurrant are inhibitors of the carcinogen-activating enzyme CYP1A1 in vitro. In: Natural Antioxidants and Food Quality in Atherosclerosis and Cancer Prevention. J. T. Kumpulainen and J.T. Salonen eds. Royal Society of Chemistry 1996, pp 386-388.

Daily recommended dose

For general maintenance and to assist those with tired eyes or muscular fatigue we

Good nutrition contributes
to good vision.



recommend a supplementation of 12.5 mg to 50 mg of anthocyanins per day, equivalent to 36 mg to 143 mg of Active Cassis Extract 35. Higher supplementation may be effective for therapeutic care and disease prevention.

Grown in New Zealand

The legislated infrastructure of the blackcurrant industry in New Zealand is designed to maintain our excellent reputation for product safety and quality, and orderly marketing. New Zealand is recognized as having one of the most technologically advanced agricultural industries in the world. New Zealand farmers and horticulturalists lead the world in using integrated management and environmentally friendly control of blackcurrant pests and diseases. The growers, production industry, marketers and other industry related organizations work together to ensure that research and development targets the needs of consumers. The clean, unpolluted air, and intense, natural sunlight found in New Zealand help to produce the highest quality blackcurrants in the world.



Manufactured by Just the Berries

Just the Berries is a leading supplier of blackcurrant based nutraceutical ingredients for use in nutritional supplements or as a flavor or colorant. Just the Berries is unique in that it is the only company involved in all stages of product development – from development and farming of improved cultivars through to development of commercially recognized ingredient products. Just the Berries grow a blackcurrant cultivar which is ideal for use in nutraceutical products. Our scientific team has successfully developed a highly innovative manufacturing system which provides maximum recovery of anthocyanins. Active Cassis Extract 35 is manufactured under GMP conditions in a New Zealand processing facility.

Quality Assurance

A commitment to quality is evident throughout the entire manufacturing process. Just the Berries follow a comprehensive traceability system and maintain full control throughout the production process. No raw material or product is shipped until it has passed stringent quality testing. The effectiveness of our products has been consistently documented in tests, field trials and of course, actual customer usage. Our quality testing laboratory is located in Palmerston North, New Zealand.



Develop New Products and Extend Product Ranges

Active Cassis Extract 35 can be used in a diverse variety of pet foods, nutraceutical supplements, designer and functional foods and drinks. Active Cassis Extract 35 provides support against a wide array of chronic illnesses and helps maintain good health. Just the Berries research studies support several high quality antioxidant supplements which are sold in international nutraceutical markets.

As well as the highest quality ingredients, Just the Berries offers technical expertise to help in the development and commercialization of our customer's products. Just the Berries sells

to leading pharmaceutical and nutraceutical manufacturers of premium nutritional supplements and functional foods and has a comprehensive understanding of what nutraceutical merchandisers and food technologists want.

Specification

Active Cassis Extract 35

Appearance	Dark burgundy, almost black, free flowing powder
Solubility	Soluble in water
Mesh size analysis	Not less than 95% passes through 40 mesh
Loss on drying	Not more than 5.0%
Color Value	No Less than 800
Total anthocyanins	Not less than 35 g/100 g
Delphinidin rutinoside	Not less than 38.0%
Delphinidin glucoside	Not less than 7.0%
Cyanidin rutinoside	Not less than 35.0%
Cyanidin glucoside	Less than 7.0%
Microbial content	
Aerobic plate count	Less than 1000 cfu/g
Yeasts and moulds	Less than 100 cfu/g
Coliforms	Not detected
E. coli	Not detected
Salmonella	Not detected
S. aureus	Not detected
Heavy metals	
As, Cd, Pb, Hg,	Less than 10 ppm
As	Less than 1 ppm



For further information please visit www.jtbpd.com

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