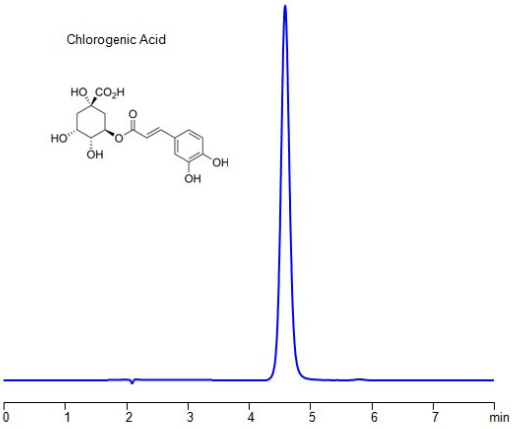
HPLC Method for Analysis of Chlorogenic Acid on Newcrom BH Column



Column:	Newcrom BH
Column size:	4.6 × 150 mm, 5 µm
Column part number:	NBH-46.150.0510
Mobile phase:	MeCN/H_2O – 10/90%
Buffer:	H_2SO_4 – 0.1%
Flow rate:	1.0 ml/min
Detection:	UV - Vis 325 nm
Injection Volume:	2 µL
Sample:	1 mg/ml
Diluent:	MeCN/H2O – 50/50%
LOD:	52 ppb

Separation type: Liquid Chromatography Reversed-phase

Chlorogenic acid is a natural compound that belongs to the polyphenol family, which is abundant in various plants. It is particularly prevalent in coffee beans, fruits, vegetables, and whole grains. One of its primary dietary sources is coffee, where it is found in significant amounts.

Key points about chlorogenic acid include:

Antioxidant Properties: Chlorogenic acid is known for its antioxidant properties, which means it can help neutralize free radicals in the body. Free radicals are molecules that can damage cells and contribute to aging and various diseases.

Potential Health Benefits: Research suggests that chlorogenic acid may have several potential health benefits, including improving heart health by reducing blood pressure and improving blood vessel function. It may also have anti-inflammatory effects.

Weight Loss: Chlorogenic acid has been studied for its potential role in weight loss. Some research indicates that it may help reduce body weight by influencing metabolism and fat absorption.

Blood Sugar Regulation: There is evidence to suggest that chlorogenic acid may have a positive impact on blood sugar levels. It may help regulate glucose metabolism, making it of interest in managing diabetes and insulin resistance.

Sources: Besides coffee, chlorogenic acid is found in fruits like apples, pears, and berries, as well as in vegetables like tomatoes and artichokes. It’s also present in some whole grains.

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Chlorogenic Acid can be retained and analyzed on a reversed-phase Newcrom BH column with a mobile phase consisting of water, Acetonitrile (MeCN), and sulfuric acid. This analytical method can be detected with high resolution and peak symmetry at a wavelength of 220 nm using UV detection

Method Parameters

Column	Newcrom BH, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H2O – 10/90%
Buffer	H2SO4 – 0.1%
Flow Rate	1.0 mL/min
Detection	UV Vis 325 nm
Sample	1 mg/ml
Injection Volume	2 µL

Quelle: https://sielc.com/hplc-determination-of-chlorogenic-acid