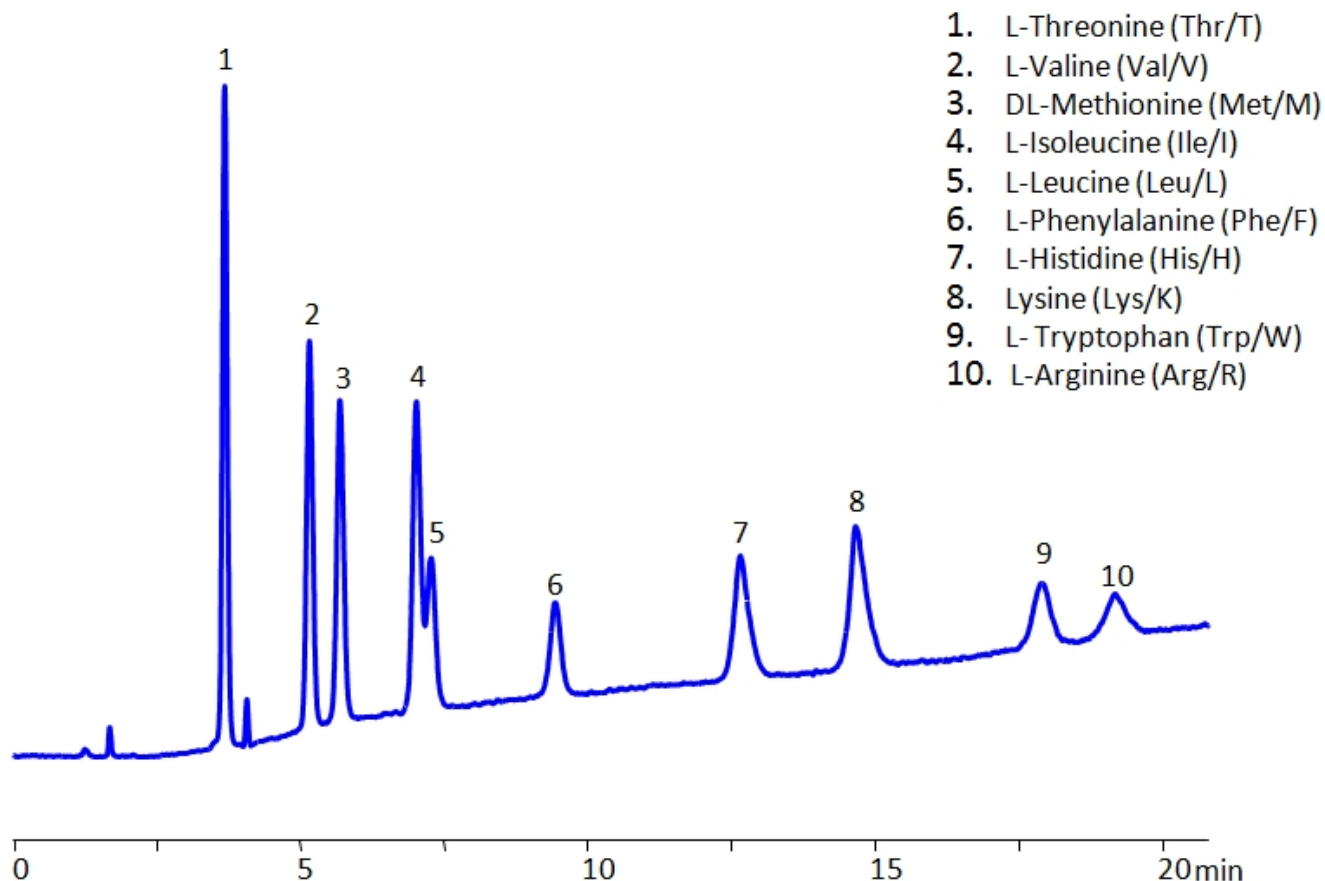


HPLC Separation of Mixture of Nine Essential Amino acids and Arginine on Newcrom AH Column

<https://sielc.com/hplc-separation-of-mixture-of-essential-amino-acids-on-newcrom-ah-column>

Chromatogram



Column:	Newcrom AH
Column size:	4.6 × 150 mm, 5 µm
Mobile phase:	MeCN – 5%
Buffer:	Gradient Formic Acid – 3-9%, 20 min
Flow rate:	1 ml/min
Detection:	CAD

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of L-Threonine , Valine , Methionine , Isoleucine , Leucine , Phenylalanine , Histidine , Tryptophan , Lysine , Arginine .

Essential amino acids cannot be made by the body. As a result, they must come from food. The 9 essential amino acids are: histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine.

L-Threonine is an essential amino acid with the chemical formula $C_4H_9NO_3$. It cannot be produced within the body and must be obtained through consuming it. It's found in many protein-rich foods, including but not limited to eggs, meat, dairy, legumes, and seeds. It is necessary in the body as a building block of protein like collagen and elastin. The two proteins are crucial for skin, hair, and connective tissue.

L-Valine is an essential amino acid with the chemical formula $C_5H_{11}NO_2$. It cannot be produced within the body and must be obtained through consuming it. It's found in foods including but not limited to nuts, legumes, whole grains, and seeds. It is especially beneficial for athletes. It is important for muscle repair, growth, and energy regulation.

DL-Methionine is an essential amino acid with the chemical formula $C_5H_{11}NO_2S$. It cannot be produced within the body and must be obtained through consuming it. It is required for protein synthesis. It also helps build and repair tissue including, but not limited to, skin, hair, muscles, and nails. In a veterinary context, DL-Methionine is used to address bladder issues in dogs.

L-Isoleucine is an essential amino acid with the chemical formula $C_6H_{13}NO_2$. It cannot be produced within the body and must be obtained through consuming it. It is a building block of protein that are essential for muscle growth, repair, and other bodily functions. It also helps regulate blood sugar levels and supports the immune system. It is found in foods like meat, fish, eggs, dairy, beans, lentils, nuts, and seeds.

L-Leucine is an essential amino acid with the chemical formula $C_6H_{13}NO_2$. It cannot be produced within the body and must be obtained through consuming it. It stimulates production of protein that are essential for muscle building and repair. Meats are the easiest way to get L-Leucine in significant amounts.

Method Parameters

Mobile Phase	MeCN – 5%
Buffer	Gradient Formic Acid – 3-9%, 20 min
Flow Rate	1.0 ml/min
Detection	CAD
Class of Compounds	Drug, Acid, Hydrophilic, Ionizable, Vitamin, Supplements, Amino acid
Analyzing Compounds	L-Threonine,Valine,Methionine,Isoleucine,Leucine,Phenylalanine,Histidine,Tryptophan,Lysin

HPLC Column Used

Newcrom AH, 4.6 x 150 mm, 5 μ m, 100 A, dual ended

[Order this column at hplc-shop.de](http://hplc-shop.de) →