

## HPLC MS Method for Analysis of Vitamin E ((±)- $\alpha$ -Tocopherol) and Vitamin E Acetate ( $\alpha$ -Tocopheryl Acetate) on Lipak Column

(±)- $\alpha$ -Tocopherol is a form of vitamin E, a fat-soluble antioxidant that protects cell membranes from oxidative damage by neutralizing free radicals. Widely found in dietary sources like nuts and vegetable oils, it plays a critical role in maintaining skin health, immune function, and overall cellular protection.  $\alpha$ -Tocopheryl acetate, on the other hand, is a stable esterified form of  $\alpha$ -tocopherol. Commonly used in dietary supplements and skincare products, it is converted to active  $\alpha$ -tocopherol in the body, offering a prolonged shelf life and enhanced stability in formulations.

Vitamin E , Vitamin E Acetate can be retained, and analyzed using a Lipak mixed-mode stationary phase column. The analysis utilizes an gradient method with a mobile phase consisting of water, methanol (MeOH), ammonium formate and formic acid as a buffer. Detection is achieved using UV 292 nm or MS.

### Method Parameters

<b>Column</b>	Lipak, 3.2 x 150 mm, 3 $\mu$ m, 100 Å, dual ended
<b>Mobile Phase</b>	Gradient MeOH/H <sub>2</sub> O – 90/10 – 100/0% in 10 min, 5 min hold
<b>Buffer</b>	AmFm– 10 mM, FA – 0.05%
<b>Flow Rate</b>	0.5 mL/min
<b>Detection</b>	UV 292 nm ESIMSSIM431 +, 473+

Quelle: <https://sielc.com/hplc-method-for-analysis-vitamin-e>