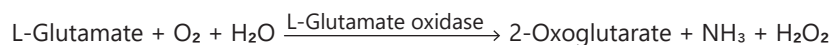
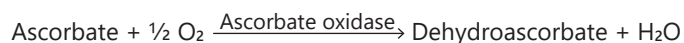


L-Asparagine Assay Kit

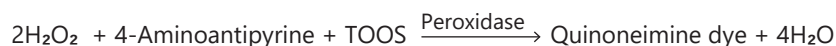
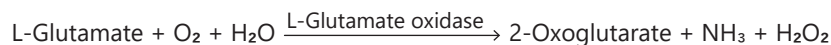
	[Contents]	Reagent A: 30 mL
		Reagent B: 30 mL
		L-Asparagine standard solution (100 mg/L) : 1.5 mL
	[Number of Assays]	60
	[Analyte]	L-Asparagine
	[Storage Temperature]	2 - 8°C
	[Expiration Date]	Indicated individually

[Principle]

Step1: The enzymes in Reagent A eliminate the effects of ascorbate, L-aspartate, L-glutamine and L-glutamate coexisting in the sample.



Step2: The enzymes in Reagent B catalyze the stoichiometric conversion of L-asparagine into a colored product.



[Sample and standard solution]

Sample solutions should be prepared to contain L-asparagine at a concentration of 10 to 200 mg/L under the following concentration limits for coexisting amino acids.

L-glutamate + L-glutamine: < 600 mg/L total

L-asparagine + L-aspartate: < 300 mg/L total

[Procedure]

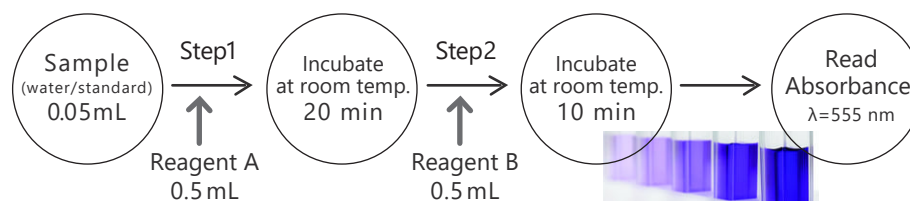
- Pipette 0.05 mL each of pure water (for blank), the standard solution and the sample solutions into separate cuvettes.
- Add 0.5 mL of Reagent A to each cuvette, mix gently, and incubate at room temperature for 20 minutes. (Step1)
- Add 0.5 mL of Reagent B to each cuvette, mix gently, and incubate at room temperature for 10 minutes. (Step2)
- Read the absorbances at 555 nm with a spectrophotometer.
- Calculate the slope of the calibration curve as follows:

$$\text{Slope} = (A_{\text{std}} - A_{\text{blk}}) / 100$$

A_{std} : absorbance of colored standard solution (100 mg/L)
 A_{blk} : absorbance of blank solution
- Calculate L-asparagine concentration of the samples as follows:

$$\text{L-asparagine concentration (mg/L)} = (A_{\text{sample}} - A_{\text{blk}}) / \text{Slope}$$

A_{sample} : absorbance of colored sample solution
 A_{blk} : absorbance of blank solution

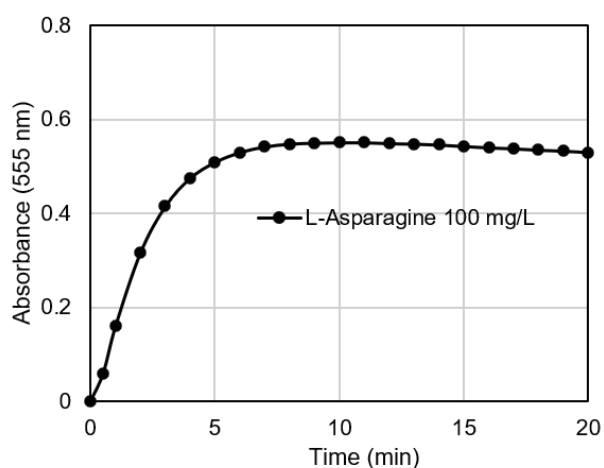


[Precautions]

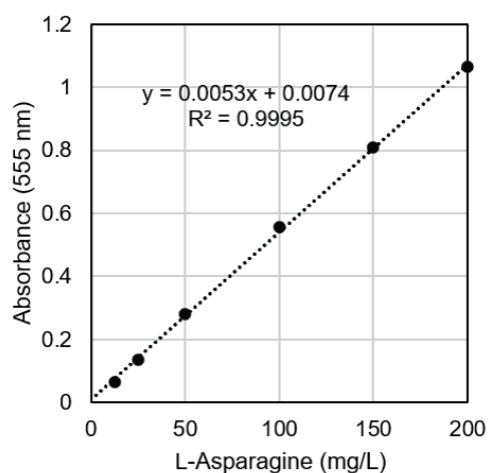
- Store the reagents at 2 - 8°C.
- Bring the reagents close to room temperature (20-30°C) before use.
- More accurate measurements can be obtained by strictly controlling the reaction time to 10 minutes after adding Reagent B.
- Samples containing high concentrations of reducing substances other than vitamin C (e.g., polyphenols) cannot be measured. Vitamin C is enzymatically removed by Reagent A during the Step1 reaction.
- For samples containing the total amount of L-glutamate and L-glutamine of 600 mg/L or more, dilute the sample or extend the reaction time for Step1.
- The reaction scale may be adjusted as appropriate according to the cuvette size in use; however, do not alter the volume ratios between the sample (or standard solution) and the reagents.

[Reference]

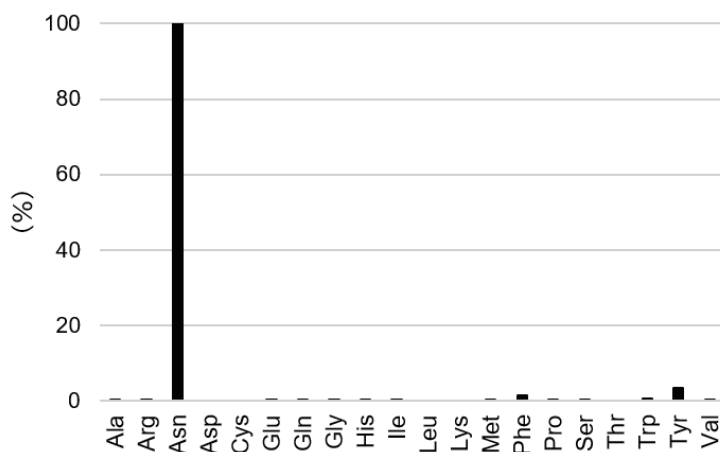
Time Course



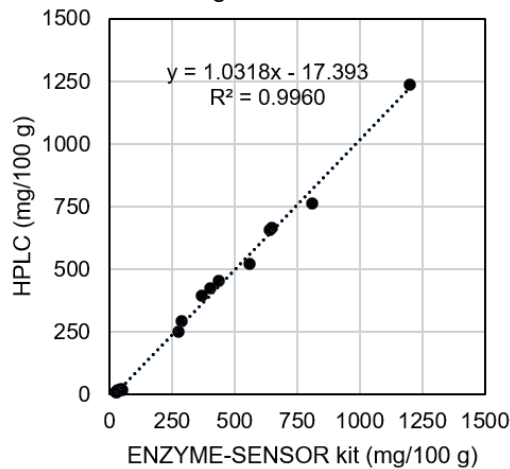
Calibration Curve



Specificity



L-Asn content
in vegetables and fruits



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