

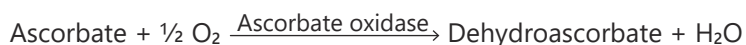
L-Arginine Assay Kit



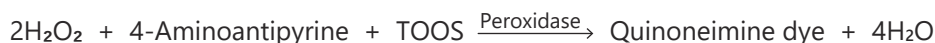
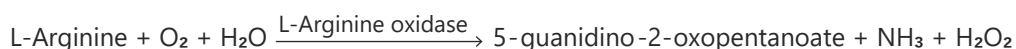
[Contents]	Reagent A: 30 mL
	Reagent B: 30 mL
	L-Arginine standard solution (100 mg/L) : 1.5 mL
[Number of Assays]	60
[Analyte]	L-Arginine
[Storage Temperature]	2 - 8°C
[Expiration Date]	Indicated individually

[Principle]

Step1: The enzyme in Reagent A eliminates the effects of ascorbate coexisting in the sample.



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



[Sample and standard solution]

Sample solutions should be prepared to contain L-arginine at a concentration of 20 to 300 mg/L.

The L-arginine standard solution (100 mg/L) should be used as supplied.

[Procedure]

1. Pipette 0.05 mL each of pure water (for blank), the standard solution and the sample solutions into separate cuvettes.
2. Add 0.5 mL of Reagent A to each cuvette, mix gently, and incubate at room temperature for 10 minutes. (Step1)
3. Add 0.5 mL of Reagent B to each cuvette, mix gently, and incubate at room temperature for 20 minutes. (Step2)
4. Read the absorbances at 555 nm with a spectrophotometer.

5. Calculate the slope of the calibration curve as follows:

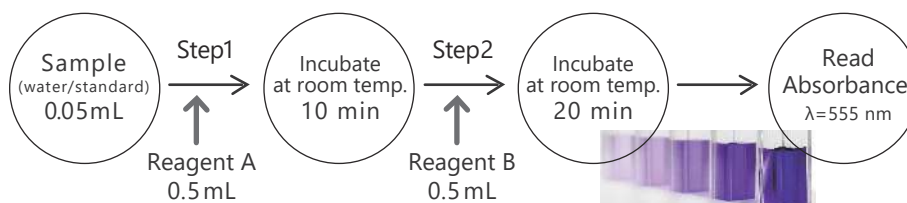
$$\text{Slope} = (\text{A}_{\text{std}} - \text{A}_{\text{blk}}) / 100$$

A_{std} : absorbance of colored standard solution (100 mg/L)
 A_{blk} : absorbance of blank solution

6. Calculate L-arginine concentration of the samples as follows:

$$\text{L-arginine concentration (mg/L)} = (\text{A}_{\text{sample}} - \text{A}_{\text{blk}}) / \text{Slope}$$

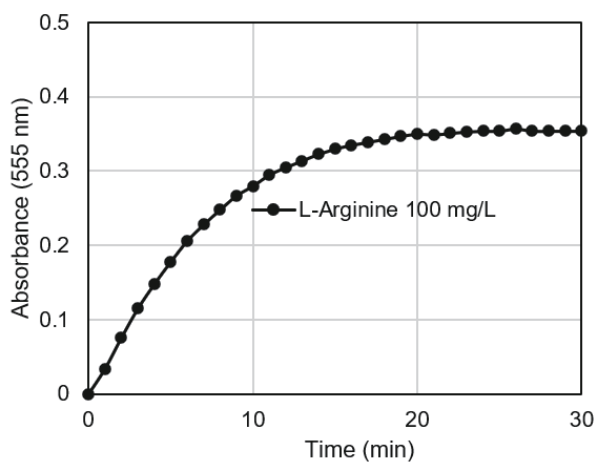
A_{sample} : absorbance of colored sample solution
 A_{blk} : absorbance of blank solution



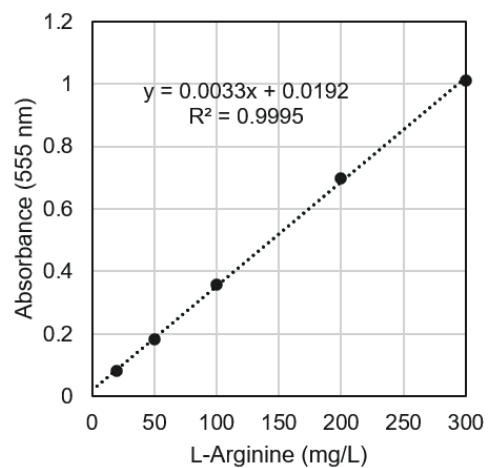
[Precautions]

- 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.
- 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.

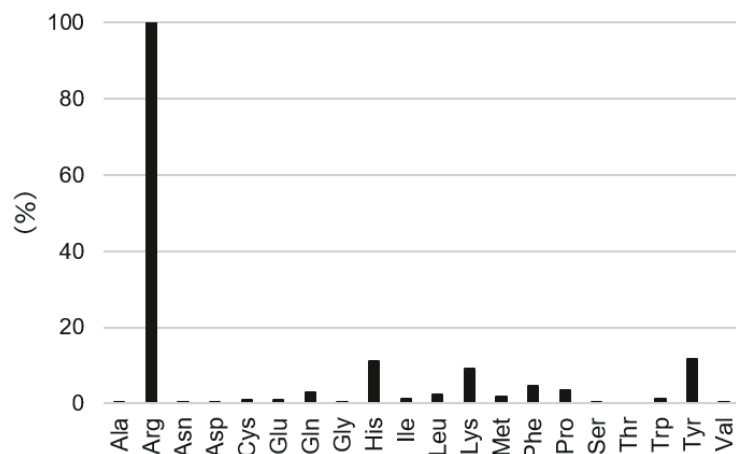
Time Course



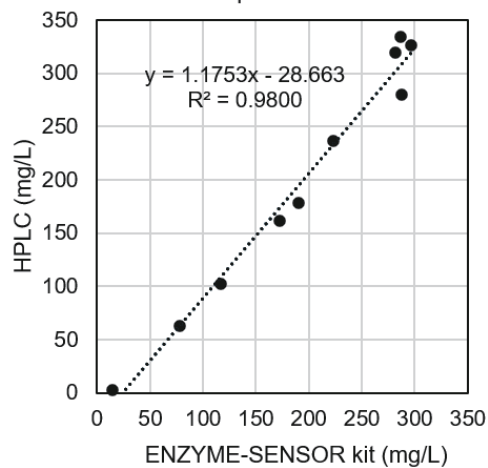
Calibration Curve



Specificity



L-Arg content in Japanese sake



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