

FDAA, Marfey's Reagent

MAN0016377

Rev. A.0

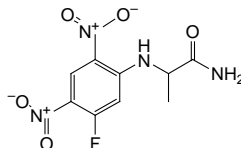
Pub. Part No. 2161295.3

48895**Number****Description**

48895

FDAA, Marfey's Reagent (1-fluoro-2,4-dinitrophenyl-5-L-alanine amide), 50mg

Molecular Weight: 272.19

 λ_{\max} : 340nm**Storage:** Upon receipt store product at room temperature.**Introduction**

Thermo Scientific FDAA is a derivatization reagent that reacts with primary amines for UV detection. The resulting derivative is detected at 340nm with nanomole sensitivity. FDAA derivatives of D-amino acids exhibit strong intramolecular bonding, which reduces their polarity relative to the corresponding L-amino acid derivatives. Consequently, the D-derivatives are selectively retained on reverse phase columns and elute much later than corresponding L-derivatives.

FDAA derivatives can be separated with simple linear gradient of triethylamine phosphate/acetonitrile on a Spheri-5 RP-18 HPLC cartridge column. FDAA reduces the need for a chiral column because the D-derivatives are retained on the column, eluting after the L-derivatives. The derivatization is easy to perform and completed in 90 minutes, resulting in derivatives that are stable for at least 48 hours.

General Protocol for Derivatizing Primary Amines**A. Materials Required**

- Acetone
- 1M Sodium bicarbonate
- 2M HCl
- 1mL Thermo Scientific™ Reacti-Vial™ Small Reaction Vial (Product No. TS-13221 clear; TS-13097 amber)
- Thermo Scientific™ Reacti-Therm™ Heater or other dry block heater

B. Sample Preparation

1. Place sample, 100 μ L of 5 μ mol, in a 1.0mL Reacti-Vial Small Reaction Vial.
2. Add 200 μ L of 1% FDAA in acetone.
3. Add 40 μ L of 1.0M sodium bicarbonate.
4. Heat at 40°C for 1 hour in a Reacti-Therm Heating Module.
5. Remove vial from the module and cool.
6. Add 20 μ L of 2M HCl. Sample is ready for analysis after degassing is complete.

C. Analysis Conditions

- HPLC cartridge column: Spheri-5 RP-18, 10 × 4.6cm
- A: 0.05M Triethylamine phosphate, pH 3.0
- B: Acetonitrile
- Linear gradient: 10-40% acetonitrile in 45 minutes
- Flow rate: 2.0mL/minute at 25°C
- Detection: 340nm

Related Thermo Scientific Products

48891	<i>p</i>-Bromophenacyl-8 Reagent, 10mL
TS-18822	Reacti-Therm Heating Module (single block)
TS-18824	Reacti-Therm III Heating Module (triple block)
TS-13221	Reacti-Vial Small Reaction Vial, 1mL clear, 12/pkg
TS-13097	Reacti-Vial Small Reaction Vial, 1mL amber, 12/pkg

General Reference

Marfey, P. (1984) *Carlsberg Res Commun* **49**:591.

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