

# Application Report 237

## Resolution of Oxidized and Reduced Glutathione on Ascentis™ RP-Amide

Glutathione as oxidized and reduced species are important modulators of cellular redox status. The two forms are resolved on Ascentis RP-Amide. Retention of the oxidized form can be extended to approximately 10 min in the absence of any organic modifier in the mobile phase, while that of the reduced form to just under 4 min.

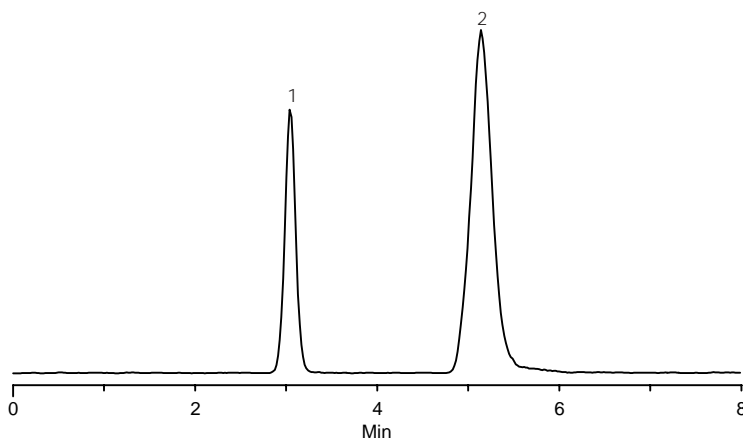
### Key Words

glutathione; GSH; GSSG; G6529, G6654; 70-18-8, 27025-41-8;  $\gamma$ -L-Glutamyl-L-cysteinyl-glycine;  $\gamma$ -Glu-Cys-Gly

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Acquisition System: Micro-Tech Scientific UltraPlus II / Thermo LCQ Advantage

Notebook Reference: 1531



G002925

### Conditions

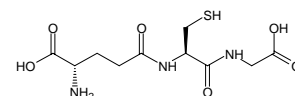
column: Ascentis RP-Amide, 15 cm x 1.0 mm I.D., 5  $\mu$ m particles (custom)  
mobile phase: 97:3, (25 mM formic acid, pH 3.0 with ammonium hydroxide):  
methanol  
flow rate: 45  $\mu$ L/min  
temp.: ambient  
det.: ESI(+), XIC at  $m/z = 308 \pm 0.5, 613 \pm 0.5$  shown  
injection: 1  $\mu$ L  
sample: as indicated in 10 mM formic acid, 0.1 mM EDTA

### Peak IDs

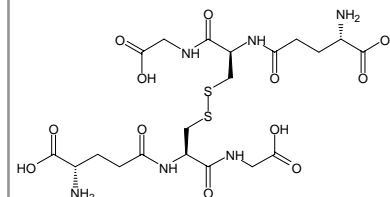
1. Glutathione (reduced) (20 mg/L);  
(M+H)<sup>+</sup> = 308.2
2. Glutathione (oxidized) (20 mg/L);  
(M+H)<sup>+</sup> = 613.1

### Structures

Glutathione (reduced) - G002926



Glutathione (oxidized) - G002927



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