Product Data Sheet

Product Name: Phytochelatin 2, PC2

Catalog Number: AS-60791 (1 mg) Lot Number: See label on vial

Sequence: H-γ-Glu-Cys-γ-Glu-Cys-Gly-OH (3-letter code)
$(\gamma E\text{-}C)_2$-G (1-letter code)

Molecular Weight: 539.6

% Peak Area by HPLC: ≥ 95

Appearance: Lyophilized white powder

Peptide Reconstitution: Phytochelatin 2 peptide is freely soluble in H_2O.

Storage: Phytochelatin 2 peptide is shipped at ambient temperature. Upon receipt, store lyophilized peptide at –20°C or lower. Reconstituted peptide can be aliquoted and stored at –20°C or lower.

Description: A glutathione-derived heavy metal-detoxifying peptide of higher plants consisting of 2 units of γGlu-Cys. Ref: Grill, E. et al. *Science* **230**, 674 (1985); Rauser, WE. *Plant Physiol.* **109**, 1141 (1995).

Additional Information: *Listed below are relevant information that may provide a guideline on how to use this product. End users will have to adapt to their own specific applications.*

Custom ordered phytochelatins (PC_2, PC_3, PC_4 and PC_5) [PC_n, $(\gamma\text{-Glu-Cys})_n$-Gly, where n = 2–5] were obtained from Anaspec, San Jose, CA, USA. Ten microliter aliquots of 8 mM stock solution of each standard (Cys, GSH, γ-EC, NAC, PC_2, PC_3, PC_4, and PC_5) were prepared using deionized water and stored in the dark at −20 °C. With the exception of NAC, appropriate portions of each stock were mixed together and further diluted with extraction buffer (6.3 mM DTPA with 0.1%, v/v, TFA) to create a series of seven working standards (S1–S7) with concentrations of Cys, GSH and γ-EC at 1, 2, 3, 4, 5, 7.5 and 10 pmol μL^{-1} injected and PC_2–PC_5 at 0.2, 0.4, 0.6, 0.8, 1.0, 1.5, and 2.0 pmol μL^{-1} injected-Minocha, R. et al. J. *Chromatography A* **1207**, 72 (2008).

For quantification of PC_n, respective standards ranging from PC_1 to PC_5 were obtained from Anaspec Inc. (Anaspec Inc., San Jose, CA, USA). All standard solutions were prepared and diluted in 1:1 acetonitrile:water solvent mixture. Separate stock solutions of 100 mg mL^{-1} of each phytochelatin were prepared and stored at −80 °C. Aliquots of these solutions were mixed to obtain a 10 mg mL^{-1} mixed working standard stock solution that was stored at −20 °C. Six-point calibration curves of mixed PC_n analytes were prepared daily at 1, 10, 100, 250, 500, and 1000 µg mL^{-1} concentrations using the 10 mg mL^{-1} stock solution. The final volume was bought up to 0.5 mL using 1:1 acetonitrile:water solvent mixture and stored at −4 °C-Andra, SS. et al. *Environment. Pollution* **157**, 2173 (2009).

Published Citations:

Miao, AJ. & WX Wang *Environ. Sci. Technol.* **41**, 1777 (2007).
Mendoza-Cozat, DG et al. *Plant J*. **54**, 249 (2008).
Minocha, R. et al. J. *Chromatography A* **1207**, 72 (2008).
Andra, SS. et al. *Environment. Pollution* **157**, 2173 (2009).
Heikal, L. et al. *Nitric Oxide* **20**, 157 (2009).
Lavoie, M. et al. *Aquatic Tox.* **92**, 65 (2009).
Zeng, X. et al. *Environ. & Experim. Bot.* doi:10.1016/j.envexpbot.2009.03.003 (2009).

Related Products:

Name	Cat #	Size
Phytochelatin 3, PC3 ((γE-C)3-G)	AS-60790	1 mg
Phytochelatin 4, PC4 ((γE-C)4-G)	AS-60789	1 mg
Phytochelatin 5, PC5 ((γE-C)5-G)	AS-61190	1 mg
Phytochelatin 6, PC6 ((γE-C)6-G)	AS-61191	1 mg

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