Glucoraphanin (potassium salt)

Item No. 10009445

Formal Name: 1-thio-1-[5-(methylsulfinyl)-N-(sulfooxy)pentanimidate]-β-D-glucopyranose, potassium salt

MF: C_{12}H_{23}NO_{10}S_{3} • XK

FW: 437.5

Purity: ≥95%

UV/Vis.: \(\lambda_{\text{max}}\): 225 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Glucoraphanin (potassium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the glucoraphanin (potassium salt) in the solvent of choice. Glucoraphanin (potassium salt) is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of glucoraphanin (potassium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of glucoraphanin (potassium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Glucoraphanin is a natural glycoinsolate found in cruciferous vegetables, including broccoli.\(^1\) It is converted to the isothiocyanate sulforaphane by the enzyme myrosinase.\(^1\) Sulforaphane has powerful antioxidant, anti-inflammatory, and anti-carcinogenic effects.\(^1,2\) It acts by activating nuclear factor erythroid 2-related factor 2 (Nrf2), which induces the expression of phase II detoxification enzymes.\(^3,4\)

References


