CERTIFICATE OF ANALYSIS

DIHYDROZEATIN-O-GLUCOSIDE (DZOG)

(RS)-O-ß-D-GLUCOPYRANOSYLDIHYDROZEATIN

$C_{16}H_{25}N_5O_6$, FW = 383.41

OLCHEMIM CODE: 001 064n
OLCHEMIM BATCH: DZOG-C
MANUFACTURING DATE: May 2024
EXPIRATION DATE: May 2033
CAS: 62512-96-3
BATCH SIZE: 150 mg

SYNTHESIS: Condensation of 6-chloropurine and (R,S)-4-amino-2-methylbutyl-ß-D-glucopyranoside in the presence of triethylamine. Purified by reverse and normal phase chromatography. Re-crystallised from EtOH/acetonitrile. A cream-coloured, amorphous solid, freely soluble in water.

ANALYSIS
MELTING POINT: 133.0-135.0 °C (Kofler block)
UV: Determined after drying to constant weight over phosphorus pentoxide in vacuo

50% EtOH	λ_{max} 270 nm	(15,320)
pH 2 (≅0.1 M HCl)	λ_{max} 273 nm	(14,882)
pH 11 (≅0.1 M ammonia)	λ_{max} 275 nm	(15,101)
shoulder	282 nm	(12,037)

TLC (silica-nBuOH/AcOH/water, 12/3/5). Rf 0.40. Purity 95+% at 25 µg loading. No dihydrozeatin detected (Rf 0.61).
TLC (silica-chloroform/methanol, 3/2). Rf 0.35 with one minor, unknown contaminant (Rf 0.39). Purity 95+% at 25 µg loading. No dihydrozeatin detected (Rf 0.73).
HPLC (150 x 4.5 mm ODS, 5 to 20% acetonitrile over 30 min, 2 ml/min). Rt 13.8 min. Purity 95+%.
ENZYMIC HYDROLYSIS: DHZOG (1 µmole) incubated with ß-glucosidase (SIGMA – G-0395, 44 U in 0.8 ml 60 mM Na acetate buffer, pH 5.3) for 1 h at 35°C shows >98% conversion into a compound which co-chromatographs in a 1:1 mix with dihydrozeatin on TLC in chloroform/methanol, 3/2 (Rf 0.73) and in nBuOH/AcOH/water (12/3/5), Rf 0.61.

Digestion with α-glucosidase (50 mM Na phosphate buffer, pH 6.7) under the same conditions showed < 1% production of dihydrozeatin.

STORAGE & STABILITY: ACID LABILE! HYGROSCOPIC! Store over silica gel in tightly sealed container at –18°C. NOTE: This vial contains approx. 10% more than the stated quantity. This is to ensure that you can dispense the required amount. However the product is unlikely to be anhydrous when it reaches you. For quantitative work, therefore, calculate concentration from UV absorption i.e. 1 OD at 270 nm in ethanol = 25.4 µg/ml.

FOR LABORATORY USE BY EXPERIENCED PERSONNEL ONLY; NOT FOR DRUG, HOUSEHOLD OR OTHER USES

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