CERTIFICATE OF ANALYSIS

DIHYDROZEATIN-O-GLUCOSIDE RIBOSIDE (DZROG)

((RS)-O-ß-D-GLUCOPYRANOSYL-9-ß-D-RIBOFURANOSYLDIHYDROZEATIN)

$C_{21}H_{33}N_5O_{10}$, FW = 515.52

OLCHEMIM CODE 001 065n
MANUFACTURING DATE: May 2024
CAS: 62512-95-2

OLCHEMIM BATCH: DZROG-C
EXPIRATION DATE: May 2033
BATCH SIZE: 600 mg

SYNTHESIS

Condensation of 6-chloropurine-9-β-D-riboside 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. Very pale-yellow, amorphous solid, freely soluble in water.

ANALYSIS

MELTING POINT: 107.0-109.0 °C (Kofler block)

UV: Determined after drying to constant weight over phosphorus pentoxide in vacuo.

50%EtOH	λ_{max} 268 nm (14.950)
pH 2 (≅0.1 M HCl)	λ_{max} 264 nm (16,800)
pH 11 (≅0.1 M ammonia)	λ_{max} 268 nm (16,150)

TLC (silica-nBuOH/AcOH/water, 12/3/5, v/v). Rf 0.43. Purity 95+% at 25 µg loading.

TLC (silica-chloroform/methanol, 3/2, v/v). Rf 0.30. Purity 95+% at 25 µg and 50 µg loading with no detectable contaminants No dihydrozeatin riboside (Rf 0.61) detected.

HPLC (150 x 4.5 mm ODS, 5 to 20% acetonitrile over 30 min, 2 ml/min), Rt 17.1 min. Purity 95+%.

ENZYMATIC HYDROLYSIS: DHZROG (1 µmole) incubated with ß-glucosidase (SIGMA – G-0395, 30 units in 0.6 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 riboside on TLC in chloroform/methanol, 3/2 (Rf 0.73) and in nBuOH/AcOH/water (12/3/5, v/v), Rf 0.61. Digestion with α-glucosidase (50 mM Na phosphate buffer, pH 6.7) under the same conditions showed < 1% production of dihydrozeatin riboside.

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 268 nm in ethanol = 34.4 µg/ml.

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

OlChemIm s.r.o., Šlechtitelů 27, P.O.Box 22, 770 10 Olomouc, Czech Republic
Tel./Fax: +420 585 427 407
email:info@olchemim.cz, OlChemIm on the Internet: http://www.olchemim.cz