CERTIFICATE OF ANALYSIS

trans-ZEATIN-O-GLUCOSIDE (ZOG)

O-β-D-GLUCOPYRANOSYLZEATIN, *trans*-isomer

$C_{16}H_{23}N_5O_6$, MW = 381.39

OLCHEMIM CODE: 001 512n
OLCHEMIM BATCH: 512-A
MANUFACTURING DATE: August 2024
EXPIRATION DATE: August 2034
CAS: 56329-06-7
BATCH SIZE: 750 mg

SYNTHESIS: Based on condensation of 6-chloropurine and 4-amino-2-methylbut-2-enyl-β-D-glucopyranoside in the presence of triethylamine. Purified by reverse and normal phase chromatography. Re-crystallised from MeOH/acetonitrile. An off-white, amorphous solid, freely soluble in water.

ANALYSIS
MELTING POINT: 124-128°C
UV: Determined after drying to constant weight over phosphorus pentoxide in vacuo.

EtOH	λ_{max} 269 nm (17,100)
EtOH/0.1 M HCl	λ_{max} 274 nm (16,300)
EtOH/0.1 M ammonia	λ_{max} 275 nm (16,500), sh 282 nm (12,800)
pH 7.2 (50 mM PBS, 0.15 NaCl)	λ_{max} 269.3 nm (17,900)
pH 2 (≅0.1 M HCl)	λ_{max} 276.5 nm (17,800)
pH 11 (≅0.1 M NaOH)	λ_{max} 275.8 nm (17,800)
50% EtOH	λ_{max} 269.4 nm (18,200)

TLC (silica-chloroform/methanol, 3/2, v/v). Rf 0.24 with one minor, unknown contaminant (Rf 0.41). Purity 95+% at 25 µg loading. No zeatin detected (Rf 0.63).

TLC (silica-nBuOH/AcOH/water, 12/3/5, v/v), Rf 0.55. Purity 95+% at 25 µg loading.

ENZYMIC HYDROLYSIS: ZOG (1 µmole) incubated with ß-glucosidase (SIGMA – G-0395, 20 U in 0.4 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 zeatin on TLC in chloroform/methanol, 3/2 (Rf 0.63) and in nBuOH/AcOH/water (12/3/5). Digestion with α-glucosidase (50 mM Na phosphate buffer, pH 6.7) under the same conditions showed < 1% production of *trans*-zeatin.

STORAGE AND STABILITY: ACID LABILE! HYGROSCOPIC! Store over silica gel in tightly sealed container at –18°C. A solution of ZOG in 75% EtOH shows no apparent decomposition after 1-year storage at 10°C.
NOTE: For quantitative work, therefore, calculate concentration from UV absorption i.e. 1 OD A 269 nm in EtOH = 22.3 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