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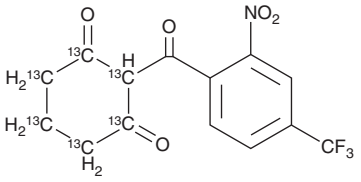
PRODUCT INFORMATION

Nitisinone-$^{13}C_6$

Item No. 28770

CAS Registry No.:	1246815-63-3
Formal Name:	2-(2-nitro-4-(trifluoromethyl)benzoyl) cyclohexane-1,3-dione-1,2,3,4,5,6-$^{13}C_6$
Synonym:	NTBC-$^{13}C_6$
MF:	$C_8[^{13}C_6]H_{10}F_3NO_5$
FW:	335.2
Purity:	≥98%
Supplied as:	A 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

Nitisinone-$^{13}C_6$ is supplied as a solid. A stock solution may be made by dissolving the nitisinone-$^{13}C_6$ in the solvent of choice, which should be purged with an inert gas. Nitisinone-$^{13}C_6$ is slightly soluble in chloroform and ethyl acetate.

Description

Nitisinone-$^{13}C_6$ is intended for use as an internal standard for the quantification of nitisinone (Item No. 17924) by GC- or LC-MS. Nitisinone is an inhibitor of 4-hydroxyphenylpyruvate dioxygenase (HPPD), which converts 4-hydroxyphenylpyruvate (HPPA) to homogentisate in the tyrosine catabolic pathway.[1] Nitisinone increases urinary levels of HPPA and 4-hydroxyphenyllactate (HPLA) in rats when administered at a dose of 10 mg/kg. Nitisinone (3 mg/kg) prevents the neonatal lethality of fumarylacetoacetate hydrolase (FAH) deficiency in mice when administered to pregnant dams.[2] It exhibits hepatoprotective effects in *FAH*$^{-/-}$ mice, such as prevention of increases in plasma levels of aspartate serine aminotransferase (AST) and conjugated bilirubin, when administration is continued following birth at a dose of 1 mg/kg. Nitisinone (100 µg) decreases urinary excretion of homogentisate and increases urinary excretion of HPPA, HPLA, and 4-hydroxyphenylacetate in a mouse model of alkaptonuria induced by ethylnitrosourea.[3] Formulations containing nitisinone have been used in the treatment of hereditary tyrosinemia type 1 (HT-1).

References

1. Ellis, M.K., Whitfield, A.C., Gowans, L.A., *et al.* Inhibition of 4-hydroxyphenylpyruvate dioxygenase by 2-(2-nitro-4-trifluoromethylbenzoyl)-cyclohexane-1,3-dione and 2-(2-chloro-4-methanesulfonylbenzoyl)-cyclohexane-1,3-dione. *Toxicol. Appl. Pharmacol.* **133(1)**, 12-19 (1995).
2. Grompe, M., Lindstedt, S., al-Dhalimy, M., *et al.* Pharmacological correction of neonatal lethal hepatic dysfunction in a murine model of hereditary tyrosinaemia type I. *Nat. Genet.* **10(4)**, 453-460 (1995).
3. Suzuki, Y., Oda, K., Yoshikawa, Y., *et al.* A novel therapeutic trial of homogentisic aciduria in a murine model of alkaptonuria. *J. Hum. Genet.* **44(2)**, 79-84 (1999).

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