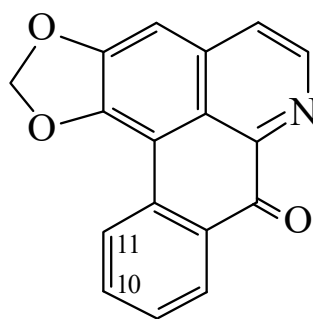




>>Entry Name: Liriodenine

Synonym(s): 8*H*-Benzo[*g*]-1,3-benzodioxolo[6,5,4-*de*]quinolin-8-one, 9Cl. 1,2-Methylenedioxyoxoaporphine. Spermathridine. Micheline B. Oxoushinsunine



CAS Registry Number: 475-75-2

Molecular Formula: C₁₇H₉NO₃

Molecular Weight: 275.263

Accurate Mass: 275.058244

Percentage Composition: C 74.18%; H 3.30%; N 5.09%; O 17.44%

Biological Source: Alkaloid from a wide variety of genera in the Annonaceae (*Annona*, *Asimina*, *Cananga*, *Cleistopholis*, *Enantia*, *Fusea*, *Isolona*, *Guatteria*, *Melodorum*, *Pseuduvaria*, *Hexalobus*, *Mitrella*, *Monodora*, *Pachypodanthium*, *Polyalthia*, *Uvariopsis*, *Schefferomitra*, *Xylopia*), Araceae (*Lysichiton*), Eupomatiaceae (*Eupomatia*), Lauraceae (*Litsea*, *Neolitsea*), Magnoliaceae (*Liriodendron*, *Magnolia*, *Michelia*, *Elmerrillia*, *Talauma*), Menispermaceae (*Pycnarrhena*, *Stephania*, *Chasmanthera*, *Pachygone*, *Rhigiocarya*), Monimiaceae (*Dryadodaphne*), Nelumbonaceae (*Nelumbo*), Papaveraceae (*Roemeria*, *Papaver*), Rhamnaceae (*Colubrina*), Rutaceae (*Zanthoxylum*), Atherospermataceae (*Atherosperma*, *Doryphora*, *Laurelia*) and Siparunaceae (*Siparuna*)

Use/Importance: Antineoplastic agent. Shows some cytotoxicity against human nasopharyngeal carcinoma cells. Shows good activity against *Trichophyton mentagraphytes* and *Syncephalestrum racemosum*. Also effective against barley net blotch, rice blast and broad bean chocolate spot disease

Physical Description: Yellow needles (CHCl₃)

Melting Point: Mp 275-276 dec.°

Calculated Log P Data: Log P 2.94 (uncertain value) (calc)

UV: [acid] λ_{max} 257 (ε 21400); 277 (ε 18200); 329 (ε 4680); 392 (ε 4900); 455 (ε 3800) (EtOH/HCl) (Derep) [neutral] λ_{max} 248 (ε 16600); 268 (ε 13500); 309 (ε 4170); 413 (ε 6610) (EtOH) (Derep) [neutral] λ_{max} 247 (ε 10960); 267 (ε 9550); 310 (ε 2884); 413 (ε 4680) (MeOH) (Berdy) [neutral] λ_{max} 204 (); 248 (); 268 (); 311 (); 415 () (EtOH) (Berdy)

Other Data: Rel. nontoxic

>>Derivative: 10-Hydroxy

Synonym(s): 10-Hydroxyliriodenine

Molecular Formula: C₁₇H₉NO₄

Molecular Weight: 291.262

Accurate Mass: 291.053159

Percentage Composition: C 70.10%; H 3.11%; N 4.81%; O 21.97%

Biological Source: Alkaloid from *Polyalthia* sp. (Annonaceae)

UV: [neutral] λ_{max} 246 (); 269 (); 280 (); 354 (); 420 () (MeOH) (Berdy)

Other Data: Data not available

>>Derivative: 11-Hydroxy

Synonym(s): Oxopukateine. 11-Hydroxyliriodenine

CAS Registry Number: 67951-19-3

Molecular Formula: C₁₇H₉NO₄

Molecular Weight: 291.262

Accurate Mass: 291.053159

Percentage Composition: C 70.10%; H 3.11%; N 4.81%; O 21.97%

Biological Source: Alkaloid from trunk wood of *Duguetia stelichantha* (Annonaceae)

Physical Description: Yellow cryst. (C₆H₆)

Melting Point: Mp 255-257°

References:

- Bick, I.R.C. *et al.*, *Tet. Lett.*, 1964, 1629, (*isol, ir, uv, pmr*)
Bick, I.R.C. *et al.*, *Aust. J. Chem.*, 1967, **20**, 1403, (*ms*)
Gottlieb, O.R. *et al.*, *Phytochemistry*, 1978, **17**, 837, (*11-Hydroxyliriodenine, uv, ir, pmr, ms, struct*)
Kessar, S.V. *et al.*, *Tet. Lett.*, 1980, **21**, 3307, (*synth, uv*)
Ningirawath, S. *et al.*, *Aust. J. Chem.*, 1983, **36**, 1061, (*synth*)
Gupta, Y.P. *et al.*, *Indian J. Chem., Sect. B*, 1983, **22**, 429, (*synth*)
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Guinaudeau, H. *et al.*, *J. Nat. Prod.*, 1994, **57**, 1033, (*rev, 10-Hydroxyliriodenine*)