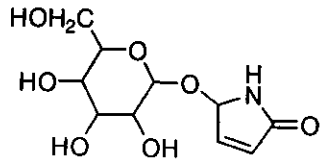
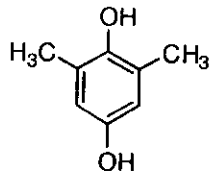
Farina, F. et al., Synthesis, 1973, 167, (合成法, 配糖体)
Masuko, M. et al., Phytochemistry, 1983, 22, 1278, (分離, UV, IR, H-NMR, C13-NMR, CD, 構造決定)

§ 1,5-Dihydro-5-hydroxy-2*H*-pyrrol-2-one; (*R*)-form, *O*-β-D-Glucopyranoside
[化学名・別名]Dihydromaleimide β-D-glucoside. Isosuccinimide β-D-glucoside
[CAS No.]26696-59-3
[化合物分類]アルカロイド化合物(Pyrrole alkaloids)
[構造式]

[分子式]$C_{10}H_{15}NO_7$
[分子量]261.231
[天然基原]次の植物に含まれるアルカロイド: *Pisum sativum* (マメ科)
[性状]プリズム結晶
[融点]Mp 185-188 ℃
[比旋光度]:$[\alpha]_D^{22.5}$ -73.7
[その他のデータ]The identity (structural and stereochemical) of the various isolates of this glucoside is not certain. May be identical with Pisatoside

----------文 献 ----------
Liu, T.-Y. et al., Plant Physiol., 1970, 45, 424, (分離, 配糖体)
Farina, F. et al., Synthesis, 1973, 167, (合成法, 配糖体)
Masuko, M. et al., Phytochemistry, 1983, 22, 1278, (分離, UV, IR, H-NMR, C13-NMR, CD, 構造決定)

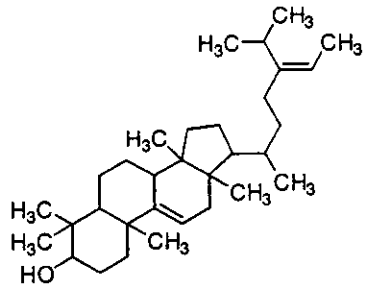
§ 2,6-Dimethyl-1,4-benzenediol (CAS 名)
[化学名・別名]2,6-Dimethylhydroquinone (旧 CAS 名). 2,5-Dihydroxy-*m*-xylene. 2,6-Dimethylquinol. *m*-Xylohydroquinone. 2,6-Xylohydroquinone
[CAS No.]654-42-2
[関連 CAS No.]21111-81-9
[化合物分類]単環芳香族(Simple phenols)
[構造式]

[分子式]$C_8H_{10}O_2$
[分子量]138.166
[天然基原]Claimed isoln. from *Pisum sativum*
[性状]結晶 (xylene)
[融点]Mp 149-151 ℃
[その他のデータ]水蒸気蒸留で得られる. 未確認の天然物として分離
[傷害・毒性]ヒトに関する研究報告(受精能の低下). 催奇形成作用. 50 %致死量(LD_{50})(マウス, 経口) 186 mg/kg
[化学物質毒性データ総覧(RTECS)登録番号]MX5900000

----------文 献 ----------
Bruice, T.C. et al., J.O.C., 1953, 18, 83, (1-Me ether)
Elix, J.A. et al., Aust. J. Chem., 1993, 46, 95, (di-Me ether)
Lewis, R.J., Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold, 1992, DSG700
Lewis, R.J., Reproductively Active Chemicals, Van Nostrand Reinhold, 1991, DSG700

***RTECS (化学物質毒性データ) ***
生体影響物質　　: 生殖影響物質. ヒト. 天然物.
健康障害に関するデータ
急性毒性に関するデータ
〈〈試験方法〉〉 LD50 試験(50%致死量試験).
曝露経路　　: 腹腔内投与.
被験動物　　: げっ歯類-マウス.
投与量・期間 : 117 mg/kg
毒性影響　　: 〔知覚組織と特異感覚〕(視覚)眼瞼下垂.
〔行動〕傾眠(全身活動度の低下).
〔行動〕振戦.
参照文献
Indian Journal of Experimental Biology. (Publications & Information Directorate, CSIR, Hillside Rd., New Delhi 110 012, India) 2,23,1964

毒性影響　　：〔生殖〕［父系影響］精子形成(遺伝物質，精子の形態・運動性・数を含む).
参照文献
Journal of Medicine and International Medical Abstracts and Reviews. (Calcutta, India) 22,19,1958
EPA TSCA Section 8(b) CHEMICAL INVENTORY

§ 24-Ethylidenelanost-9(11)-en-3-ol; (3 β,24(24')Z)-form
[CAS No.]155062-80-9
[化合物分類]テルペノイド(Lanostane triterpenoids)
[構造式]

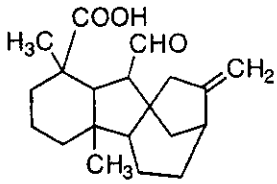


[分子式]$C_{32}H_{54}O$
[分子量]454.778
[天然基原]*Pisum sativum* の種子

---文献---

Akihisa, T. et al., Phytochemistry, 1994, 35, 1309, (分離, H-NMR, Mass)

§ Gibberellin A_{12} ; 7-Aldehyde
[化学名・別名]Gibberellin A_{12} 7-aldehyde
[CAS No.]19436-07-8
[化合物分類]テルペノイド(Gibberellins)
[構造式]

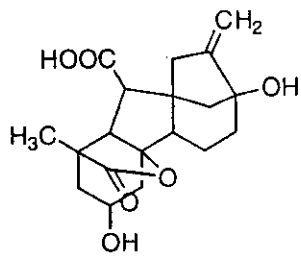


[分子式]$C_{20}H_{28}O_5$
[分子量]316.439
[天然基原]*Phaseolus* spp. *Pisum sativum*, その他の植物属
[用途]Gibberellin A_{12} の前駆物質

---文献---

Jones, K.C. et al., Phytochemistry, 1968, 7, 283-291, (GA_{14})
Hao, X.-J. et al., Chin. Chem. Lett., 1997, 8, 951-952, (GA_{12}, 合成法)
Toyota, M. et al., J.A.C.S., 2000, 122, 9036-9037; 2001, 123, 1856-1861, (合成法, GA_{12}, GA_{111}:GA_{112})

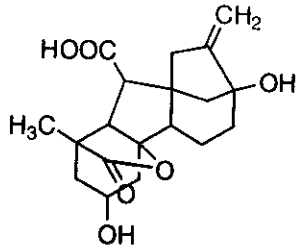
§ Gibberellin A_{29} ; 2 α-Hydroxy
[化学名・別名]Gibberellin A_{81}, 2-*epi*-Gibberellin A_{29}
[CAS No.]103462-00-6
[化合物分類]テルペノイド(Gibberellins)
[構造式]



[分子式]$C_{19}H_{24}O_6$
[分子量]348.395
[天然基原]garden pea (*Pisum sativum*), *Lathyrus odoratus*, オレンジ(*Citrus sinensis*)
[性状]ガム

---文献---

Beale, M.H. et al., J.C.S. Perkin 1, 1991, 1191, (GA_{81}, 成書, 合成法)

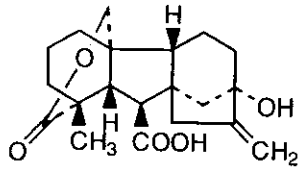


[分子式] $C_{19}H_{24}O_6$
[分子量] 348.395
[天然基原] garden pea (*Pisum sativum*), *Lathyrus odoratus*, オレンジ(*Citrus sinensis*)
[性状] ガム

----------文 献----------

Beale, M.H. et al., J.C.S. Perkin 1, 1991, 1191, (GA$_{81}$, 成書, 合成法)

§ Gibberellin A$_{44}$

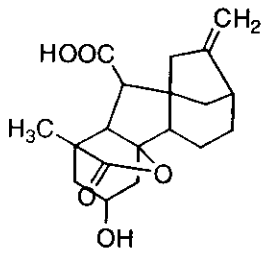


[化学名・別名] 13-Hydroxygibberellin A$_{15}$
[CAS No.] 36434-15-8
[化合物分類] テルペノイド(Gibberellins)
[構造式]
[分子式] $C_{20}H_{26}O_5$
[分子量] 346.422
[天然基原] *Pisum sativum*, *Pisum vulgaris*, *Vicia faba*, その他の植物
[性状] 結晶 (Me_2CO/EtOH)
[融点] Mp 230-233 ℃
[比旋光度]: $[\alpha]_D$ +5.85 (c, 0.513 in EtOH)

----------文 献----------

Hiraga, K. et al., Agric. Biol. Chem., 1972, 36, 345; 1974, 38, 2521, (Gibberellin A$_{38}$)
Fukui, H. et al., Agric. Biol. Chem., 1972, 36, 1003, (分離, 構造決定)
Gaskin, P. et al., Agric. Biol. Chem., 1980, 44, 1589, (分離)

§ Gibberellin A$_9$; 2 β-Hydroxy

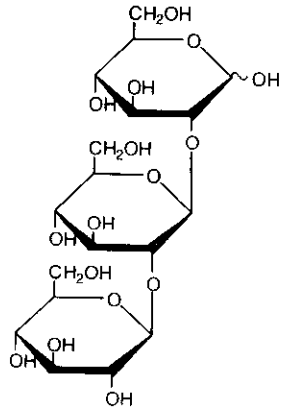


[化学名・別名] Gibberellin A$_{51}$
[CAS No.] 56978-14-4
[化合物分類] テルペノイド(Gibberellins)
[構造式]
[分子式] $C_{19}H_{24}O_5$
[分子量] 332.396
[天然基原] *Pisum sativum* の未熟な種子
[性状] 結晶 (EtOAc/hexane)
[融点] Mp 190-193 ℃

----------文 献----------

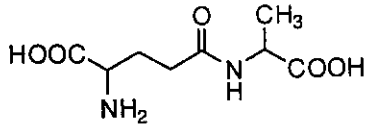
Kamiya, Y. et al., Phytochemistry, 1983, 22, 681-689, (生合成)
Abouamer, K.M. et al., J.C.S. Perkin 1, 1987, 1991-1994, (GA$_9$, 結晶構造)
Sassa, T. et al., Agric. Biol. Chem., 1989, 37, 303-304, (GA$_9$)
Shimano, M. et al., Chem. Pharm. Bull., 1990, 38, 276-278, (GA$_{55}$, 合成法)
Yamauchi, T. et al., Phytochemistry, 1995, 38, 1345-1348, (3-Epi-GA$_{63}$)

§ β-D-Glucopyranosyl-(1 → 2)-β-D-glucopyranosyl-(1 → 2)-β-D-glucose (CAS 名)



[化学名・別名] Sophorotriose
[CAS No.] 32581-40-1
[関連 CAS No.] 50906-47-3
[化合物分類] 炭水化物(Oligosaccharides)
[構造式]
[分子式] $C_{18}H_{32}O_{16}$
[分子量] 504.441
[天然基原] 次の植物から得られる配糖体: *Solanum potato* の種子, *Pisum sativum* の葉, 病原性菌 *Agrobacterium radiobacter* の細胞外多糖類. Present in major antigenic determinants on lipoglycens of *Acholeplasma granularum* and *Acholeplasma axanthum*

§ *N*-γ-Glutamylalanine; L-D-form

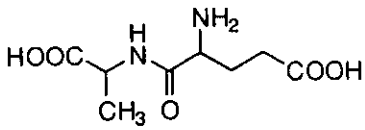


[化合物分類]アミノ酸とペプチド(Dipeptides)
[構造式]
[分子式]$C_8H_{14}N_2O_5$
[分子量]218.209
[天然基原]次の植物から分離: 若いエンドウ豆のシュート *Pisum sativum*
[融点]Mp 210-211 ℃で分解
[比旋光度]:$[\alpha]_D^{29}$ +44 (c, 1 in H_2O)

----------文献----------

Morris, C.J. et al., J. Biol. Chem., 1964, 239, 1833-1835, (L, L-form, 分離)
Fukuda, M. et al., Biochim. Biophys. Acta, 1973, 304, 363-366, (L, D-form, L, L-form, 分離, 合成法)

§ α-Glutamylalanine; L-D-form



[CAS No.]42592-56-3
[化合物分類]アミノ酸とペプチド(Dipeptides)
[構造式]
[分子式]$C_8H_{14}N_2O_5$
[分子量]218.209
[天然基原]次の植物から分離: *Pisum sativum* の発芽種子
[融点]Mp 210-211 ℃で分解
[比旋光度]:$[\alpha]_D^{29}$ +41 (c, 1.0 in H_2O)

----------文献----------

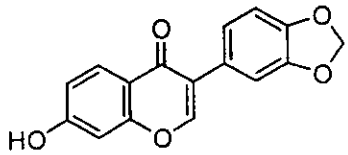
Fukuda, M. et al., Biochim. Biophys. Acta, 1973, 304, 363, (分離, 構造決定, 合成法)
Fukuda, M. et al., Phytochemistry, 1973, 12, 2593, (分離)

§ 15-Hentriacontanol
[CAS No.]27759-56-4
[化合物分類]脂肪族化合物(Saturated unbranched alcohols)
[構造式]$H_3C(CH_2)_{15}CH(OH)(CH_2)_{13}CH_3$
[分子式]$C_{31}H_{64}O$
[分子量]452.846
[天然基原]*Pisum sativum*
[融点]Mp 81.5 ℃

----------文献----------

Sulzbacher, M.J., J. Appl. Chem., 1955, 5, 637-641, (合成法)
Macey, M.J.K. et al., Phytochemistry, 1970, 9, 5, (分離)

§ 7-Hydroxy-3',4'-methylenedioxyisoflavone
[化学名・別名]3-(1,3-Benzodioxol-5-yl) -7-hydroxy-4*H*-1-benzopyran-4-one(CAS 名). Pseudobaptigenin. psi-Baptigenin



[CAS No.]90-29-9
[化合物分類]フラボノイド(Isoflavones; 3 × O-置換基)
[構造式]
[分子式]$C_{16}H_{10}O_5$
[分子量]282.252
[天然基原]次の植物から分離: *Baptisia* spp., *Cladrastis platycarpa*, *Cladrastis shikokiana*, いくつかの *Dalbergia* spp., *Maackia amurensis*, *Pisum sativum*, *Pterocarpus erinaceus*, *Trifolium hybridum*, *Trifolium pratense*
[融点]Mp 296-298 ℃

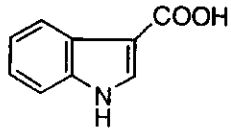
----------文献----------

Schmidt, O. et al., Monatsh. Chem., 1929, 53, 454, (分離, 構造決定)
Ingham, J.L., Prog. Chem. Org. Nat. Prod., 1983, 43, 1, (レビュー, 生育)
Yankep, E. et al., Phytochemistry, 1997, 46, 591-593, (*O*-Geranylpseudobaptigenin)

§ 1*H*-Indole-3-carboxylic acid
[化学名・別名]Indole-β-carboxylic acid
[CAS No.]771-50-6

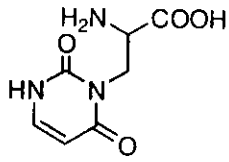
Schmidt, O. et al., Monatsh. Chem., 1929, 53, 454, (分離, 構造決定)
Ingham, J.L., Prog. Chem. Org. Nat. Prod., 1983, 43, 1, (レビュー, 生育)
Yankep, E. et al., Phytochemistry, 1997, 46, 591-593, (*O*-Geranylpseudobaptigenin)

§ 1*H*-Indole-3-carboxylic acid
[化学名・別名]Indole-β-carboxylic acid
[CAS No.]771-50-6
[化合物分類]アルカロイド化合物(Simple indole alkaloids), アルカロイド化合物(Nitrogenous marine toxins)
[構造式]



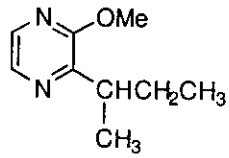
[分子式]$C_9H_7NO_2$
[分子量]161.16
[天然基原]植物に存在, 例えば, *Pyrus malus*, *Pisum sativum*, *Brassica* spp, 海草類 *Undaria pinnatifida* と *Botryocladia leptopoda*
[融点]Mp 210-218 ℃ (198-200 ℃)
[PKa 値]pK_{a1} 3.87; pK_{a2} 15.59 (25 ℃, NH)
[販売元]Aldrich:28473-4; Fluka:57225; Rare Chemicals Library:S60373-2; Sigma:I2006
----------文 献----------
Aldridge, D.C. et al., J.C.S.(C), 1971, 1623, (分離)
Abe, H. et al., Agric. Biol. Chem., 1972, 36, 2259, (分離, UV, Mass)
Bano, S. et al., Planta Med., 1987, 53, 117, (分離, UV, H-NMR, C13-NMR, Mass, esters)

§ Isowillardiine; (*S*)-form
[CAS No.]21381-33-9
[化合物分類]アミノ酸とペプチド(Non-protein α-aminoacids)
アルカロイド化合物(Pyrimidines)
[構造式]



[分子式]$C_7H_9N_3O_4$
[分子量]199.166
[天然基原]*Pisum sativum* (マメ科)の種子
----------文 献----------
Lambein, F. et al., Biochem. Biophys. Res. Commun., 1968, 32, 474, (分離, UV, 構造決定)
Janzen, D.H. et al., Phytochemistry, 1977, 16, 223, (生合成, 毒性)
Al-Baldaw, N.F., CA, 1980, 93, 180253m, (代謝)

§ 2-Methoxy-3-(1-methylpropyl)pyrazine(CAS 名)
[化学名・別名]2-*sec*-Butyl-3-methoxypyrazine(旧 CAS 名)
[CAS No.]24168-70-5
[化合物分類]アルカロイド化合物(Pyrazine and quinoxaline alkaloids), アルカロイド化合物(Pyrazine and quinoxaline alkaloids)
[構造式]

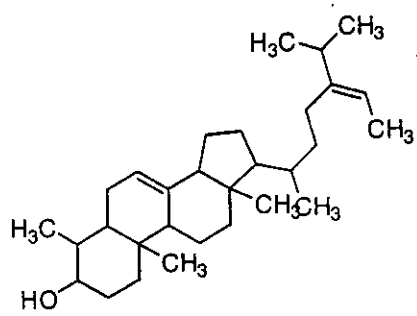


[分子式]$C_9H_{14}N_2O$
[分子量]166.222
[天然基原]野菜の揮発性物質, 例えば, *Pisum sativum* (エンドウ豆). Found in galbanum and petitgrain oils
[用途]香水及び香料原料
[販売元]Aldrich:24311-6
----------文 献----------
Bramwell, A.F. et al., Tet. Lett., 1969, 3215
Murray, K.E. et al., Chem. Ind. (London), 1970, 897
Murray, K.E. et al., J. Sci. Food Agric., 1975, 26, 973

§ 4-Methylergosta-7,24(28)-dien-3-ol; (3 β,4 α,5 α)-form
[化学名・別名]24-Methylenelophenol. Gramisterol. Gramisterin
[CAS No.]1176-52-9
[化合物分類]ステロイド(Ergostane steroids;excluding withanolides and brassinolides). (C28).
[構造式]

Schreiber, K. et al., Tetrahedron, 1964, 20, 2575, (分離)
Osske, G. et al., Tetrahedron, 1965, 21, 1559, (分離)
Pyrek, J.St., Chem. Comm., 1969, 107, (分離)
Della Greca, M. et al., Phytochemistry, 1990, 29, 1797, (分離, H-NMR)

§ 4-Methylstigmasta-7,24(28)-dien-3-ol; (3 β,4 α,5 α,24Z)-form

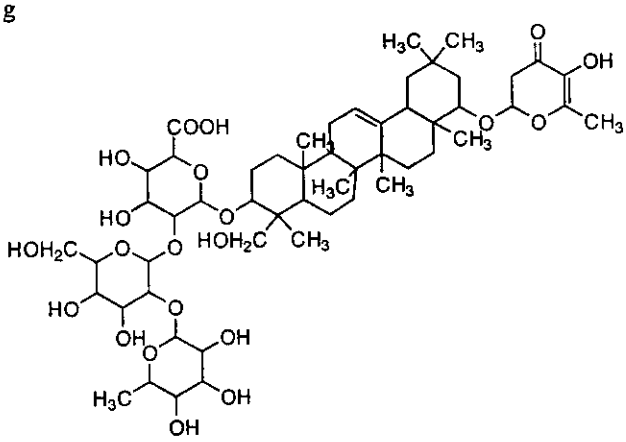


[化学名・別名] α-Sitosterol. Citrostadienol. 24-Ethylidenelophenol
[CAS No.] 474-40-8
[化合物分類] ステロイド(Stigmastane steroids). (C29)
[構造式]
[分子式] $C_{30}H_{50}O$
[分子量] 426.724
[天然基原] ポテト(*Solanum tuberosum*), garden peas (*Pisum sativum*), シトラスオイル, その他の植物
[性状] 結晶 (Et_2O/EtOH)
[融点] Mp 162-164 ℃
[比旋光度]: $[\alpha]_D$ +24 (c, 1 in $CHCl_3$)
[その他のデータ] α-Sitosterol was not homogeneous

----------文献----------

Bates, R.B. et al., Tet. Lett., 1968, 6163, (構造決定)
St. Pyrek, J., Chem. Comm., 1969, 107, (分離)
St. Pyrek, J. et al., Pol. J. Chem. (Rocz. Chem.), 1977, 51, 951, (分離, H-NMR)

§ 12-Oleanene-3,22,24-triol; (3 β,22 β)-form, 22-(2,3-Dihydro-5-hydroxy-6-methyl-4-oxo-2-pyranyl) ether, 3-*O*-[α-L-rhamnopyranosyl-(1 → 2)-β-D-galactopyranosyl-(1 → 2)-β-D-glucuronopyranoside]

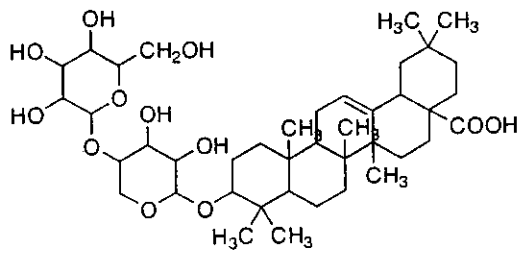


[化学名・別名] Chromosaponin I. Soyasaponin β g
[CAS No.] 143519-54-4
[化合物分類] テルペノイド
(Oleanane triterpenoids)
[構造式]
[分子式] $C_{54}H_{84}O_{23}$
[分子量] 1069.245
[天然基原] garden pea (*Pisum sativum*), scarlet runner bean (*Phaseolus coccineus*)の種子
[用途] Has reducing props.
[性状] 粉末
[融点] Mp 210-212 ℃ (分解)
[比旋光度]: $[\alpha]_D^{17}$ -82.6 (c, 0.5 in MeOH 溶液)

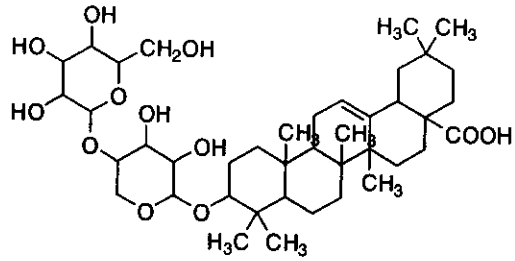
----------文献----------

Tsurumi, S. et al., Phytochemistry, 1992, 31, 2435, (Chromosaponin I)
Tsujino, Y. et al., Chem. Lett., 1994, 711, (Chromosaponin I)

§ Oleanolic acid 3-glycosides; Diglycosides, 3-*O*-[β-D-Glucopyranosyl-(1 → 4)-β-D-xylopyranoside]



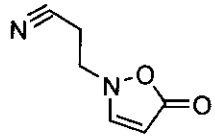
[CAS No.] 215171-28-1
[化合物分類] テルペノイド(Oleanane triterpenoids)
[構造式]
[分子式] $C_{41}H_{66}O_{12}$
[分子量] 750.965
[天然基原] *Pisum sativum* の茎



[分子式] $C_{41}H_{68}O_{12}$
[分子量] 750.965
[天然基原] *Pisum sativum* の茎

---文 献---

§ 5-Oxo-2(5*H*)-isoxazolepropanoic acid; Nitrile
[化学名・別名] 5-Oxo-2(5*H*)-isoxazolepropanenitrile (CAS 名). 2-(2-Cyanoethyl)-3-isoxazolin-5-one
[CAS No.] 51580-99-5
[化合物分類] アルカロイド化合物 (Isoazole alkaloids)
[構造式]

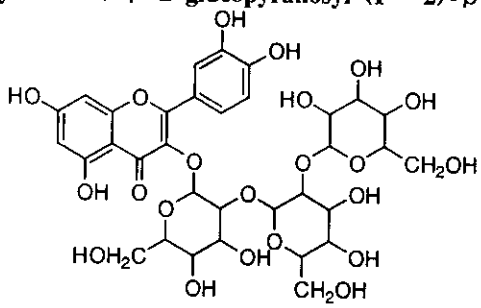


[分子式] $C_6H_6N_2O_2$
[分子量] 138.126
[天然基原] *Lathyrus odoratus*, *Pisum sativum*

---文 献---

v. Rompuy, L. et al., J.C.S. Perkin 1, 1973, 2503, (合成法)
Ikegami, F. et al., Chem. Pharm. Bull., 1984, 32, 2450, (分離, UV, IR, H-NMR, Mass, 構造決定)

§ 3,3',4',5,7-Pentahydroxyflavone; 3-*O*-[β-D-Glucopyranosyl-(1 → 2)-β-D-glucopyranosyl-(1 → 2)-β-D-glucopyranoside]
[CAS No.] 38681-85-5
[化合物分類] フラボノイド (Flavonols; 5 × O-置換基)
[構造式]

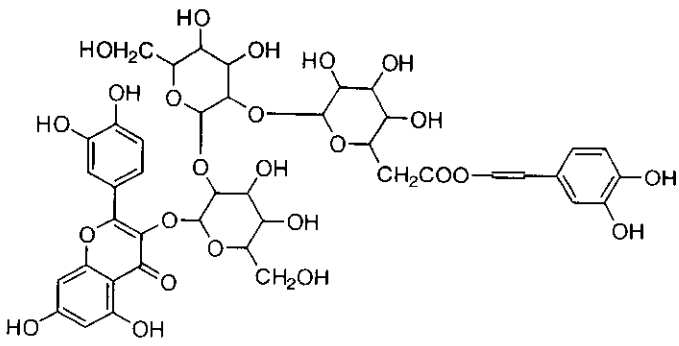


[分子式] $C_{33}H_{40}O_{22}$
[分子量] 788.666
[天然基原] 次の植物から分離: *Pisum sativum*, *Hibiscus rosasinensis*

---文 献---

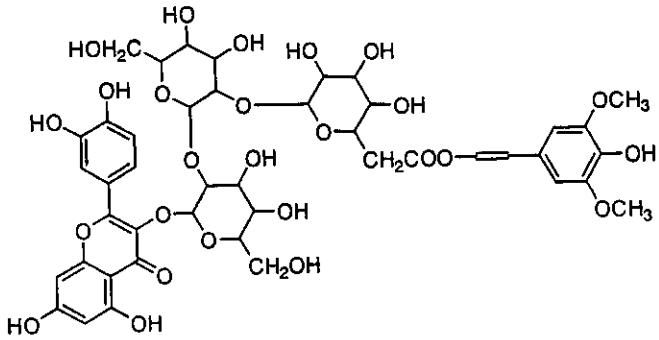
Rigaud, L., Annalen, 1854, 90, 283; 289, (分離)
Pakudina, Z.P. et al., Khim. Prir. Soedin., 1965, 1, 67, (分離, 誘導体)
Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, no. 1522, (生育)
IARC Monog., 1983, 31, 213; Suppl. 7, 71, (レビュー, 毒性)
Vogt, T. et al., Phytochemistry, 1988, 27, (分離)
The Flavonoids: Advances in Research since 1980, (Ed. Harborne, J.B.), Chapman and Hall, London, 1988

§ 3,3',4',5,7-Pentahydroxyflavone; 3-*O*-[3,4-Dihydroxy-*E*-cinnamoyl-(→ 6)-β-D-glucopyranosyl-(1 → 2)-β-D-glucopyranosyl-(1 → 2)-β-D-glucopyranoside]
[化学名・別名] Quercetin 3-(6"-caffeoylsophorotrioside)
[化合物分類] フラボノイド
(Flavonols; 4 × O-置換基)
[構造式]



[分子式] $C_{42}H_{46}O_{25}$
[分子量] 950.81
[天然基原] *Pisum sativum*

[化学名・別名]Quercetin 3-(6"-sinapoylsophorotrioside)
[化合物分類]フラボノイド(Flavonols; 4 × O-置換基)
[構造式]



[分子式]$C_{44}H_{50}O_{26}$
[分子量]994.863
[天然基原]*Pisum sativum*

----------文献----------

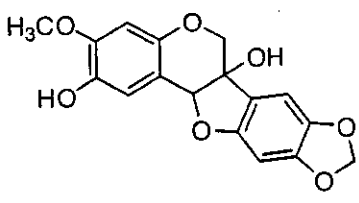
Pereyrade Sanh`ugo, O.J. et al., Experientia, 1972, 28, 380, (分離)
Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, no. 1522, (生育)
Fraser, A.W. et al., Phytochemistry, 1973, 12, 1787, (分離)
IARC Monog., 1983, 31, 213; Suppl. 7, 71, (レビュー, 毒性)
Vogt, T. et al., Phytochemistry, 1988, 27, (分離)
The Flavonoids: Advances in Research since 1980, (Ed. Harborne, J.B.), Chapman and Hall, London, 1988

§ 3,3',4',5,7-Pentahydroxyflavone; 3-*O*-[4-Hydroxy-*E*-cinnamoyl-(→ 6)-β-D-glucopyranosyl-(1 → 2)-β-D-glucopyranosyl-(1 → 2)-β-D-glucopyranoside]
[化合物分類]フラボノイド(Flavonoids 構造は一部又は全てが未知) フラボノイド(Flavonols; 5 × O-置換基)
[構造式]有効な構造式はない
[分子式]$C_{42}H_{46}O_{24}$
[分子量]934.811
[天然基原]次の植物から分離: *Pisum sativum*

----------文献----------

Rigaud, L., Annalen, 1854, 90, 283; 289, (分離)
Pakudina, Z.P. et al., Khim. Prir. Soedin., 1965, 1, 67, (分離, 誘導体)
Pereyrade Sanh`ugo, O.J. et al., Experientia, 1972, 28, 380, (分離)
Karrer, W. et al., Konstitution und Vorkommen der Organischen Pflanzenstoffe, 2nd edn., Birkhäuser Verlag, Basel, 1972, no. 1522, (生育)
Fraser, A.W. et al., Phytochemistry, 1973, 12, 1787, (分離)
IARC Monog., 1983, 31, 213; Suppl. 7, 71, (レビュー, 毒性)
The Flavonoids: Advances in Research since 1980, (Ed. Harborne, J.B.), Chapman and Hall, London, 1988

§ 2,3,6*a*,8,9-Pentahydroxypterocarpan; 3-Me, 8,9-methylene ether



2,6*a*-
[化学名・別名]
Dihydroxy-3-methoxy-8,9-methylenedioxypterocarpan. 2-Hydroxypisatin
[化合物分類]フラボノイド(6a-Hydroxypterocarpan flavonoids)
[構造式]
[分子式]$C_{17}H_{14}O_7$
[分子量]330.293
[天然基原]次の植物から分離: $CuCl_2$-treated seedlings of *Pisum sativum*
[用途]植物毒
[比旋光度]:$[\alpha]_D^{28}$ +216 (c, 0.3 in EtOH)

----------文献----------

Kobayashi, A. et al., Phytochemistry, 1993, 22, 77, (2-Hydroxypisatin)

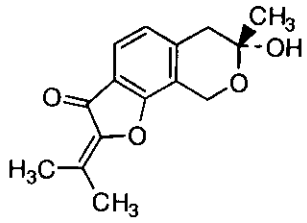
§ Pergillin

[分子量]330.293
[天然基原]次の植物から分離: $CuCl_2$-treated seedlings of *Pisum sativum*
[用途]植物毒
[比旋光度]:$[\alpha]_D^{28}$ +216 (c, 0.3 in EtOH)

----------文 献----------

Kobayashi, A. et al., Phytochemistry, 1993, 22, 77, (2-Hydroxypisatin)

§ Pergillin
[化学名・別名]6,9-Dihydro-7-hydroxy-7-methyl-2-(1-methylethylidene)-7*H*-furo[3,2-*h*][2]benzopyran-3(2*H*)-one(CAS 名)
[CAS No.]74798-20-2
[化合物分類]ベンゾピラノイド(Furo-2-benzopyrans)
[構造式]

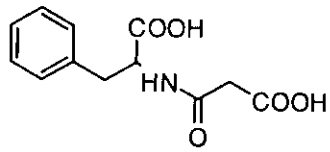


[分子式]$C_{15}H_{16}O_4$
[分子量]260.289
[天然基原]Prod. by *Aspergillus ustus* growing on seeds of *Pisum sativum*
[用途]植物成長阻害因子

----------文 献----------

Cutler, H.G. et al., J. Agric. Food Chem., 1980, 28, 989, (分離)

§ Phenylalanine; (*R*)-form, *N*-Carboxyacetyl
[化学名・別名]*N*-Carboxyacetyl-D-phenylalanine. *N*-Malonyl-D-phenylalanine
[化合物分類]アミノ酸とペプチド(Non-protein α-aminoacids),
[構造式]



[分子式]$C_{12}H_{13}NO_5$
[分子量]251.238
[天然基原]次の植物から分離: *Pisum sativum* の発芽種子

----------文 献----------

Kasai, T. et al., Agric. Biol. Chem., 1976, 40, 2489, (L-Phenylalanine amide)
Ogawa, T. et al., Agric. Biol. Chem., 1977, 41, 1811, (*N*-Carboxyacetyl-D-phenylalanine)
Adam, K.-P. et al., Phytochemistry, 1995, 40, 1577, (*N*-Caffeoylphenylalanine)

§ Pisumin
[CAS No.]86753-56-2
[化合物分類]構造未知の天然物
[一般的性質]構造は未知
[天然基原]次の植物から分離: light-exposed epicotyl of *Pisum sativum*
[用途]成長阻害因子
[性状]粉末
[その他のデータ]λ_{max} 212 nm (ε 29820) (EtOH)

----------文 献----------

Hasegawa, K. et al., Plant Physiol., 1983, 72, 391, (分離, IR, UV, Mass)

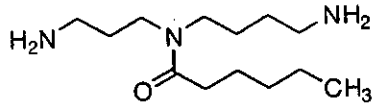
§ Pyruvic acid(旧 CAS 名)
[化学名・別名]2-Oxopropanoic acid(CAS 名). Pyroracemic acid. Acetylformic acid. FEMA 2970
[CAS No.]127-17-3
[関連 CAS No.]57-60-3, 113-24-6, 2922-61-4, 4151-33-1, 19728-98-4, 19729-01-2, 63892-24-0, 64291-68-5, 74949-64-7
[化合物分類]脂肪族化合物(Saturated unbranched carboxylic acids and lactones)
[構造式]$H_3CCOCOOH$
[分子式]$C_3H_4O_3$
[分子量]88.063
[天然基原]発酵過程を含む一時代謝の中間体. Present in muscle in redox equilib. with Lactic acid. *Bauhinia purpurea*, *Cicer arietinum*, *Delonix regia*, *Pisum sativum*, *Trigonella caerulea*. A common constit., as a chiral cyclic acetal linked to saccharide residues, of bacterial polysaccharides. Isol. from cane sugar fermentation broth and peppermint
[用途]Reagent for regeneration of carbonyl compds. from semicarbazones, phenylhydrazones and oximes. 香

[化学物質毒性データ総覧(RTECS)登録番号]UZ0829800
[販売元]Aldrich:10736-0; Fluka:15940; Sigma:P3411

----------文献----------

Virtanen, A.I. et al., Nature (London), 1939, 144, 597, (分離)
Mukherjee, D. et al., Curr. Sci., 1974, 43, 118, (分離)
Mukherjee, D. et al., Phytochemistry, 1975, 14, 1915, (分離)
Mukherjee, D. et al., Experientia, 1977, 33, 304, (分離)
Cooper, A.J.L. et al., Chem. Rev., 1983, 83, 321, (レビュー)
Neh, K.H., Gordian, 1986, 86, 9; CA, 105, 5347q, (分離)

§ Spermidine; *N'*-Hexanoyl
[化学名・別名]*N*^{5}-Hexanoylspermidine
[CAS No.]97141-37-2
[化合物分類]アルカロイド化合物(Acyclic spermine alkaloids), アルカロイド化合物(Miscellaneous simple amide alkaloids)
[構造式]

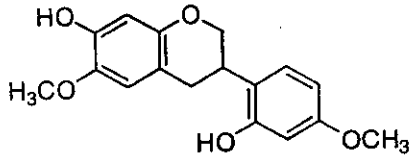


[分子式]$C_{13}H_{29}N_3O$
[分子量]243.392
[天然基原]次の植物に含まれるアルカロイド: senescing ovaries of pea (*Pisum sativum*)

----------文献----------

Perez-Amador, M.A. et al., Plant Physiol., 1996, 110, 1177, (Hexanoylspermidine)

§ 2',4',6,7-Tetrahydroxyisoflavan; 4',6-Di-Me ether
[化学名・別名]2',7-Dihydroxy-4',6-dimethoxyisoflavan.
6-Methoxyvestitol
[CAS No.]56752-02-4
[化合物分類]フラボノイド(Isoflavans)
[構造式]

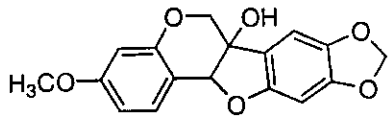


[分子式]$C_{17}H_{18}O_5$
[分子量]302.326
[天然基原]次の植物から分離: cultures of *Fusarium solani* growing on *Pisum sativum*

----------文献----------

Pueppke, S.G. et al., Physiol. Plant Pathol., 1976, 8, 51

§ 3,6*a*,8,9-Tetrahydroxypterocarpan; (6*aR*,11*aR*)-form, 3-Me, 8,9-methylene ether
[化学名・別名]6*a*-Hydroxy-3-methoxy-8,9-methylenedioxypterocarpan. Pisatin
[CAS No.]469-01-2
[その他の CAS No.]20186-22-5
[化合物分類]フラボノイド(6a-Hydroxypterocarpan flavonoids)
[構造式]



[分子式]$C_{17}H_{14}O_6$
[分子量]314.294
[天然基原]次の植物から得られるストレス代謝物: *Caragana* spp., *Lathyrus* spp., *Pisum fulvum*, *Pisum sativum*, *Tephrosia bidwilli*, *Trifolium pratense*
[用途]ファイトアレキシン
[性状]結晶 (EtOH or C_6H_6)
[融点]Mp 61 ℃
[比旋光度]:$[\alpha]_D^{20}$ +280 (c, 0.11 in EtOH)
[溶解性]BERDY SOL: メタノール, 四塩化炭素, 二硫化炭素, エーテルに可溶; 水, ヘキサンに易溶
UV: [neutral] λ_{max} 213 (ε 56230); 280 (ε 4170); 282 ; 286 (ε 4800); 287 ; 309 (ε 7244); 310 (MeOH) (Berdy) [neutral] λ_{max} 286 (ε 4800); 309 (ε 7250) (EtOH) (Berdy)

----------文献----------

Perrin, D.R. et al., J.A.C.S., 1962, 84, 1919; 1922, (分離)
Kelsey, T.C. et al., Phytochemistry, 1975, 14, 1103, (分離, 構造決定)
Bilton, J.N. et al., Phytochemistry, 1976, 15, 1411, (分離)
de Martinis, C., J. Cryst. Mol. Struct., 1978, 8, 247, (構造決定)
Ingham, J.L. et al., Phytochemistry, 1980, 19, 1203, (絶対構造)

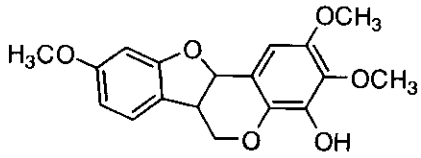
[溶解性]BERDY SOL: メタノール, 四塩化炭素, 二硫化炭素, エーテルに可溶; 水, ヘキサンに易溶
UV: [neutral] λ max 213 (ε 56230); 280 (ε 4170); 282 ; 286 (ε 4800); 287 ; 309 (ε 7244); 310 (MeOH) (Berdy) [neutral] λ max 286 (ε 4800); 309 (ε 7250) (EtOH) (Berdy)

----------文 献----------

Perrin, D.R. et al., J.A.C.S., 1962, 84, 1919; 1922, (分離)
Kelsey, T.C. et al., Phytochemistry, 1975, 14, 1103, (分離, 構造決定)
Bilton, J.N. et al., Phytochemistry, 1976, 15, 1411, (分離)
de Martinis, C., J. Cryst. Mol. Struct., 1978, 8, 247, (構造決定)
Ingham, J.L. et al., Phytochemistry, 1980, 19, 1203, (絶対構造)
Ingham, J.L., Prog. Chem. Org. Nat. Prod., 1983, 43, 1, (生育)

§ 2,3,4,9-Tetrahydroxypterocarpan; 2,3,9-Tri-Me ether

[化学名・別名] 4-Hydroxy-2,3,9-trimethoxypterocarpan. 6*a*,11*a*-Dihydro-2,3,9-trimethoxy-6*H*-benzofuro [3,2-*c*] [1]benzopyran-4-ol (CAS 名)
[CAS No.]56841-82-8
[化合物分類]フラボノイド(Simple pterocarpan flavonoids)
[構造式]



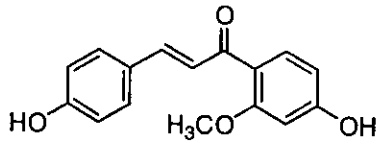
[分子式]$C_{18}H_{18}O_6$
[分子量]330.337
[天然基原]次の植物から分離: *Pisum sativum*
[用途]抗カビ性を示す
[性状]針状結晶 (Me_2CO 溶液)
[融点]Mp 141-145 ℃
[比旋光度]: $[\alpha]_D^{23}$ -185 (EtOH)

----------文 献----------

Pueppke, S.G. et al., J.C.S. Perkin 1, 1975, 946, (分離)

§ 2',4,4'-Trihydroxychalcone; 2'-Me ether

[化学名・別名] 3-(4-Hydroxyphenyl) -1-(4-hydroxy-2-methoxyphenyl) -2-propen-1-one. 4,4'-Dihydroxy-2'-methoxychalcone
[CAS No.]51828-10-5
[化合物分類]フラボノイド(Chalcone flavonoids; 3 × O-置換基)
[構造式]



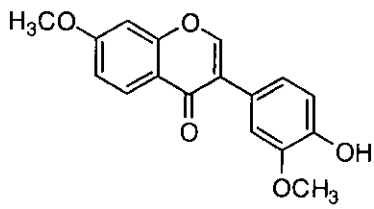
[分子式]$C_{16}H_{14}O_4$
[分子量]270.284
[天然基原]*Pisum sativum* のストレス代謝物, また *Caesalpinia japonica* からも分離される
[性状]橙色の結晶 (EtOH 溶液)
[融点]Mp 210-212 ℃

----------文 献----------

Tindale, M.D. et al., Phytochemistry, 1969, 8, 1713, (分離, 構造決定)
Manners, G.D. et al., Phytochemistry, 1974, 13, 292, (分離)
Namikoshi, M. et al., Chem. Pharm. Bull., 1987, 35, 3568, (4,4'-Dihydroxy-2'-methoxychalcone)

§ 3',4',7-Trihydroxyisoflavone; 3',7-Di-Me ether

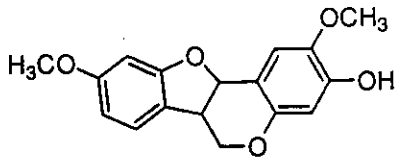
[化学名・別名]4'-Hydroxy-3',7-dimethoxyflavone. Sayanedin
[CAS No.]30564-92-2
[化合物分類]フラボノイド(Isoflavones; 3 × O-置換基)
[構造式]



[分子式]$C_{17}H_{14}O_5$
[分子量]298.295
[天然基原]次の植物から分離: *Pisum sativum* のさや
[性状]針状結晶 (hexane)
[融点]Mp 165-166 ℃

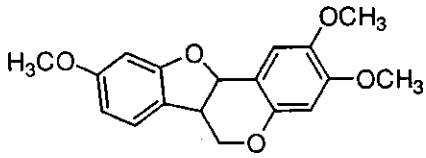
----------文 献----------

Dhar, M.L. et al., J. Sci. Ind. Res., 1955, 14B, 73, (分離)
Harborne, J.B. et al., J.O.C., 1963, 28, 881, (分離)
Braga de Oliveira, A. et al., Ann. Acad. Bras. Cienc., 1968, 40, 147, (分離)

[CAS No.]56752-00-2
[化合物分類]フラボノイド(Simple pterocarpan flavonoids)
[構造式]

[分子式]$C_{17}H_{16}O_5$
[分子量]300.31
[天然基原]次の植物から分離: root crowns of *Pisum sativum*
[用途]抗カビ活性を示す
[性状]板状結晶 (Me_2CO)
[融点]Mp 146-148 ℃
[比旋光度]:$[\alpha]_D^{23}$ -297 (EtOH)

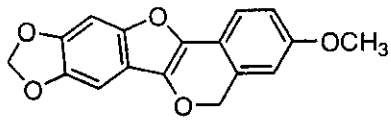
----------文献----------

Kalra, V.K. et al., Indian J. Chem., 1967, 5, 607, (合成法)
Pueppke, S.G. et al., J.C.S. Perkin 1, 1975, 946, (分離)
Ingham, J.L. et al., Z. Naturforsch., C, 1980, 35, 197, (Sparticarpin)

§ 2,3,9-Trihydroxypterocarpan; Tri-Me ether
[化学名・別名]2,3,9-Trimethoxypterocarpan. 2-Methoxyhomopterocarpin
[CAS No.]56782-49-1
[化合物分類]フラボノイド(Simple pterocarpan flavonoids)
[構造式]

[分子式]$C_{18}H_{18}O_5$
[分子量]314.337
[天然基原]次の植物から分離: *Pisum sativum*
[用途]抗菌性を示す
[性状]針状結晶 (C_6H_6/heptane)
[融点]Mp 122-124 ℃
[比旋光度]:$[\alpha]_D^{23}$ -228 (EtOH)

----------文献----------

Kalra, V.K. et al., Indian J. Chem., 1967, 5, 607, (合成法)
Pueppke, S.G. et al., J.C.S. Perkin 1, 1975, 946, (分離)
Ingham, J.L. et al., Z. Naturforsch., C, 1980, 35, 197, (Sparticarpin)

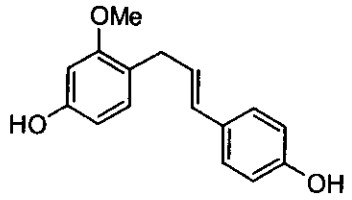
§ 3,8,9-Trihydroxypterocarpene; 3-Me, 8,9-methylene ether
[化学名・別名]3-Methoxy-6*H*-[1,3]dioxolo[5,6]benzofuro[3,2-*c*][1]benzopyran(CAS 名). 3-Methoxy-8,9-methylenedioxypterocarpene. Flemichapparin B. Anhydropisatin. 6*a*,11*a*-Dehydropterocarpin
[CAS No.]3187-53-9
[化合物分類]フラボノイド(Pterocarpene flavonoids)
[構造式]

[分子式]$C_{17}H_{12}O_5$
[分子量]296.279
[天然基原]次の植物から分離: *Flemingia chappar*, *Lonchocarpus urucu*, *Pisum sativum* (phytoalexin), *Sophora japonica*
[用途]抗カビ活性を示す
[性状]針状結晶 (EtOH)
[融点]Mp 184-186 ℃ (179-180 ℃)
UV: [neutral] λ_{max} 215 (ε 25100); 241 ; 244 (ε 15850); 265 ; 291 (ε 6310); 299 ; 324 ; 339 (ε 38000); 358 (ε 14450) (EtOH) (Berdy)

----------文献----------

Adityachaudhury, N., Chem. Ind. (London), 1970, 745, (分離, 構造決定)
Adityachaudhury, N., Phytochemistry, 1973, 12, 425, (分離, 構造決定)
Braz Filho, R. et al., Phytochemistry, 1975, 14, 1454, (分離)
Komatsu, M. et al., Yakugaku Zasshi, 1976, 96, 254, (分離)
Malan, E. et al., Phytochemistry, 1990, 29, 3307, (3-Hydroxy-8,9-methylenedioxypterocarpene)
Miyase, T. et al., Phytochemistry, 1999, 52, 311-319, (Lespedezol A_3)

§ Xenognosin A
[化学名・別名]4-[3-(4-Hydroxyphenyl)-2-propenyl]-3-methoxyphenol(CAS 名). 1-(4-Hydroxyphenyl)-3-

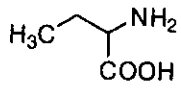
Malan, E. et al., Phytochemistry, 1990, 29, 3307, (3-Hydroxy-8,9-methylenedioxypterocarpene)
Miyase, T. et al., Phytochemistry, 1999, 52, 311-319, (Lespedezol A_4)

§ Xenognosin A
[化学名・別名]4-[3-(4-Hydroxyphenyl)-2-propenyl]-3-methoxyphenol(CAS 名). 1-(4-Hydroxyphenyl)-3-(4-hydroxy-2-methoxyphenyl)propene
[CAS No.]76907-79-4
[化合物分類]フラボノイド(Cinnamylphenol flavonoids)
[構造式]


[分子式]$C_{16}H_{16}O_3$
[分子量]256.301
[天然基原]次の植物から分離: トラガカントゴム, エンドウ豆(*Pisum sativum*)のストレス代謝物
[性状]厚みのある青白い黄色のオイル

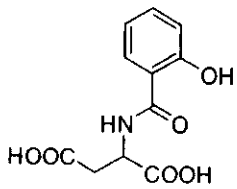
----------文 献----------
Lynn, D.G. et al., J.A.C.S., 1981, 103, 1868, (分離)
El-Feraly, F.S. et al., J.O.C., 1982, 47, 1527, (合成法, C13-NMR)
Carlson, R.E. et al., Phytochemistry, 1982, 21, 1733, (分離)
Kamat, V.S. et al., Tet. Lett., 1982, 23, 1541, (合成法)

§§マメ科インゲンマメ(*Phaseolus vulgaris* L.)の果実, 種子または発芽種子(モヤシ)。

§ 2-Aminobutanoic acid; (*R*)-form
[化学名・別名]D-form
[CAS No.]2623-91-8
[化合物分類]アミノ酸とペプチド(Non-protein α-aminoacids)
[構造式]


[分子式]$C_4H_9NO_2$
[分子量]103.121
[天然基原]*Glycine max* の発芽種子, *Dolichos lablab*, *Canavalia gladiata*, *Arachis hypogaea*, *Pisum sativum*, *Phaseolus vulgaris* and *Vigna sesquipedalis* after hydrol.
[性状]葉状結晶 (EtOH 溶液)
[融点]Mp 292 ℃で分解
[比旋光度]:$[\alpha]_D^{20}$ -7.86 (H_2O) (5 *M* HCl)
[販売元]Aldrich:11612-2; Fluka:7210; Sigma:A1629

----------文 献----------
Glowiak, T. et al., Bull. Acad. Pol. Sci., Ser. Sci. Chim., 1978, 26, 43, (結晶構造)
Chenault, H.K. et al., J.O.C., 1987, 52, 2608, (分割, H-NMR)

§ Aspartic acid; (*S*)-form, *N*-(2-Hydroxybenzoyl)
[化学名・別名]*N*-Salicyloylaspartic acid
[CAS No.]56145-94-9
[化合物分類]アミノ酸とペプチド(Non-protein α-aminoacids)
[構造式]


[分子式]$C_{11}H_{11}NO_6$
[分子量]253.211
[天然基原]インゲン豆(*Phaseolus vulgaris*), ブドウ(*Vitis* spp.)
UV: [neutral] λ_{max} 238 ; 305 (MeOH) (Berdy)
[化学物質毒性データ総覧(RTECS)登録番号]CI9455500
[販売元]Rare Chemicals Library:S86969-4

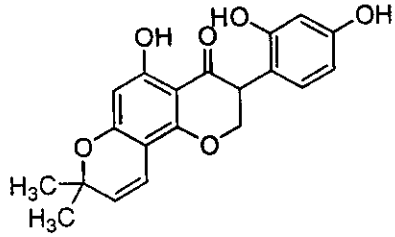
----------文 献----------
Bourne, D.J. et al., Phytochemistry, 1991, 30, 4041, (*N*-Salicyloylaspartic acid)

***RTECS (化学物質毒性データ) ***
生体影響物質 : 医薬品.
健康障害に関するデータ
急性毒性に関するデータ

参照文献
Farmaco, Edizione Scientifica. (Casella Postale 227, 27100 Pavia, Italy) 30,399,1975

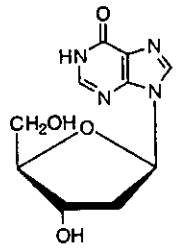
§ Astragalin; *O*''-Xylosyl
[化合物分類]フラボノイド(Flavonols; 4 × O-置換基)
[構造式]有効な構造式はない
[分子式]$C_{26}H_{28}O_{15}$
[分子量]580.498
[天然基原]次の植物から分離: *Phaseolus vulgaris*
----------文献----------
Huebner, G. et al., Planta Med., 1999, 65, 636-642, (3''-xylosylglucosyl)

§ Cyclokievitone
[化学名・別名]3-(2,4-Dihydroxyphenyl) -2,3-dihydro-5-hydroxy-8,8-dimethyl-4*H*,8*H*-benzo[1,2-*b*:3,4-*b*']dipyran-4-one(CAS 名). 1'',2''-Dehydrocyclokievitone
[CAS No.]74175-82-9
[化合物分類]フラボノイド(Isoflavanones), フラボノイド(Cyclised C-isopentenylated flavonoids)
[構造式]



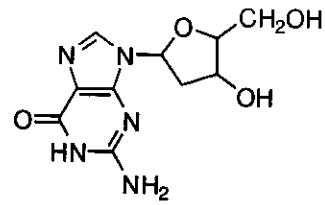
[分子式]$C_{20}H_{18}O_6$
[分子量]354.359
[天然基原]次の植物のさやから分離: *Phaseolus vulgaris*, その他の *Phaseolus* spp.
[用途]ファイトアレキシン
[溶解性]BERDY SOL: メタノール, エーテルに可溶; 水に難溶
UV: [neutral] λ_{max} 270 ; 355 (MeOH) (Berdy)
----------文献----------
Woodward, M.D., Phytochemistry, 1979, 18, 2007, (分離, UV, H-NMR, Mass)
O'Neill, M.J. et al., Z. Naturforsch., C, 1983, 38, 693; 1984, 39, 888, (分離)

§ 2'-Deoxyinosine
[化学名・別名]9-(2-Deoxyribofuranosyl) hypoxanthine. Hypoxanthine 2-deoxyriboside
[CAS No.]29868-32-4
[その他の CAS No.]890-38-0
[化合物分類]炭水化物(Nucleosides)
[構造式]



[分子式]$C_{10}H_{12}N_4O_4$
[分子量]252.229
[天然基原]次の植物から分離: ニシンの精液の DNA, *Phaseolus vulgaris*, *Laminaria saccharina*, *Furcellaria fastigiata*, *Lactobacillus* spp. 等
[用途]Ambiguous nucleoside forming base pairs with all four conventional nucleosides
[性状]針状結晶 (MeOH), 結晶(H_2O)
[融点]Mp 218 ℃で分解
[比旋光度]:$[\alpha]_D^{27}$ +7.92 (c, 0.53 in 0.1 *M* NaOH). $[\alpha]_D^{30}$ -21 (c, 1 in H_2O)
----------文献----------
Brown, D.M. et al., J.C.S., 1950, 1990, (構造決定)
Manson, L.A. et al., J. Biol. Chem., 1951, 191, 87, (分離)
Banhidi, Z.G. et al., Acta Chem. Scand., 1953, 7, 713, (分離)

§ 2'-Deoxyribofuranosylguanine; β-D-form

[化学名・別名]2'-Deoxyguanosine. Guanine deoxyriboside
[CAS No.]961-07-9
[化合物分類]炭水化物(Nucleosides), 炭水化物(2-Deoxy sugars)
[構造式]

[分子式]$C_{10}H_{13}N_5O_4$
[分子量]267.244
[天然基原]すべてのデオキシリボ核酸の成分. 植物から分離, 例えば, *Phaseolus vulgaris*
[性状]結晶・一水和物
[融点]Mp 300 ℃ (also said to be indefinite)
[比旋光度]:$[\alpha]_D^{26}$ -20.3 (c, 1.2 in DMF). $[\alpha]_D^{19}$ -47.7 (0.1 *M* NaOH). $[\alpha]_D^{24}$ -30.2 (H_2O)
UV: [acid] λ_{max} 254 (ε 10700); 274 (ε 7710) (HCl) (Berdy) [base] λ_{max} 259 (ε 9960) (NAOH) (Berdy)
[その他のデータ]λ_{max} 252 (ε 13 700) (pH 7); 255 (12 100), 272 sh (8 460) (pH 1); 258-66 nm (12 000) (pH 11) (H_2O)
[化学物質毒性データ総覧(RTECS)登録番号]MF8760000
[販売元]Fluka:31070; Sigma:D0901

----------文 献----------

Montgomery, J.A. et al., Adv. Carbohydr. Chem., 1962, 17, 301, (レビュー)

***RTECS (化学物質毒性データ) ***

生体影響物質　　: 変異原性物質.

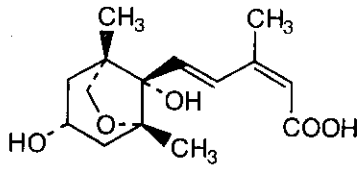
変異原性に関するデータ

〈〈試験方法〉〉 DNA 阻害.
　試験系　　: げっ歯類-ハムスター肺.
　投与量・期間 : 1 mmol/L
参照文献
Biochimie.(SPPIF, B.P.22, F-41353 Vineuil, France) 64,809,1982

〈〈試験方法〉〉 細胞遺伝学的分析.
　試験系　　: げっ歯類-ハムスター線維芽細胞.
　投与量・期間 : 500 umol/L
参照文献
Cytologia.(Japan Pub. Trading Co. (USA), 1255 Howard St., San Francisco, CA 94103) 49,667,1984

〈〈試験方法〉〉 姉妹染色分体交換.
　試験系　　: げっ歯類-ハムスター線維芽細胞.
　投与量・期間 : 500 umol/L
参照文献
Cytologia.(Japan Pub. Trading Co. (USA), 1255 Howard St., San Francisco, CA 94103) 49,667,1984

§ Dihydrophaseic acid

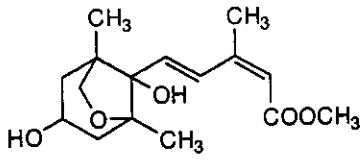
[化学名・別名]5-(3,8-Dihydroxy-1,5-dimethyl-6-oxabicyclo[3.2.1]oct-8-yl)-3-methyl-2,4-pentadienoic acid (CAS 名)
[CAS No.]41756-77-8
[関連 CAS No.]60102-40-1, 128821-82-9, 128821-83-0, 128821-85-2, 128821-86-3
[化合物分類]テルペノイド(Cyclofarnesane sesquiterpenoids)
[構造式]

[分子式]$C_{15}H_{22}O_5$
[分子量]282.336
[天然基原]*Echinocystits macrocarpa*, *Phaseolus vulgaris*, *Sectium edule*, その他の植物属
[用途]Metab. of Abscisic acid acid in various plants
[性状]無定型

----------文 献----------

Takasugi, M. et al., Chem. Lett., 1973, 245, (分離)
Walton, D.C. et al., Planta, 1973, 112, 87, (分離, ester)
Zeevaart, J.A.D. et al., Phytochemistry, 1976, 15, 493, (Epidihydrophaseic acid)

§ Dihydrophaseic acid; Me ester

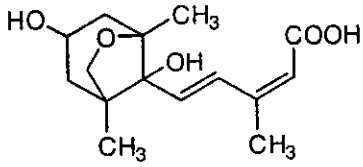
[化合物分類]テルペノイド(Cyclofarnesane sesquiterpenoids)
[構造式]
[分子式]$C_{16}H_{24}O_5$
[分子量]296.363
[天然基原]次の植物から分離: *Phaseolus vulgaris* の種子
[その他のデータ]λ max 267 nm (log ε 1.99) (MeOH)



----------文献----------

Takasugi, M. et al., Chem. Lett., 1973, 245, (分離)
Walton, D.C. et al., Planta, 1973, 112, 87, (分離, ester)

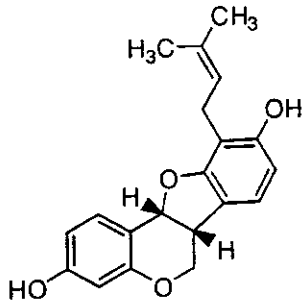
§ Dihydrophaseic acid; 3-Epimer
[化学名・別名]Epidihydrophaseic acid
[CAS No.]60102-38-7
[化合物分類]テルペノイド(Cyclofarnesane sesquiterpenoids)
[構造式]
[分子式]$C_{15}H_{22}O_5$
[分子量]282.336
[天然基原]次の植物から分離: *Phaseolus vulgaris*
[性状]無定型



----------文献----------

Zeevaart, J.A.D. et al., Phytochemistry, 1976, 15, 493, (Epidihydrophaseic acid)

§ 3,9-Dihydroxy-10-prenylpterocarpan
[化学名・別名]6*a*,11*a*-Dihydro-10-(3-methyl-2-butenyl)-6*H*-benzofuro[3,2-*c*][1]benzopyran-3,9-diol(CAS 名). Phaseollidin
[CAS No.]37831-70-2
[化合物分類]フラボノイド(Simple pterocarpan flavonoids)
[構造式]
[分子式]$C_{20}H_{20}O_4$
[分子量]324.376
[天然基原]次の植物から分離: インゲン豆 *Phaseolus vulgaris*, mung bean *eolus aureus*, rice bean *Phaseolus calcaratus*, ササゲ *Dolichos biflorus*, and nth bean *Lablab niger*
[用途]抗カビ抗菌性. 緑豆ファイトアレキシン
[融点]Mp 67-69 ℃
[溶解性]BERDY SOL: メタノール, エーテルに可溶; fairly sol. hexane; poorly sol. H2O
UV: [neutral] λ max 208 (ε 39800); 237 (sh) (ε 19100); 281 (ε 7940); 286 (ε 8910) (EtOH) (Derep) [neutral] λ max 214 ; 281 ; 287 (MeOH) (Berdy) [neutral] λ max 208 (ε 39800); 281 (ε 7940); 286 (ε 8900) (EtOH) (Berdy) [base] λ max 230 ; 248 ; 289 ; 291 (EtOH-NaOH) (Berdy)



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Scheffer, T.C., Annu. Rev. Phytopathol., 1966, 4, 147, (レビュー)
Perrin, D.R. et al., Tet. Lett., 1972, 1673, (構造決定, NMR, UV, Mass)
Burden, R.S. et al., Tet. Lett., 1972, 4175, (分離, 構造決定)
Ingham, J.L., Prog. Chem. Org. Nat. Prod., 1983, 43, 1, (レビュー, 生育)
McKee, T.C. et al., J. Nat. Prod., 1997, 60, 431, (分離, C13-NMR, Sandwicensin)

§ Dimethyl sulfoxide, BAN, INN, USAN
[化学名・別名]Sulfinylbismethane(CAS 名). Methyl sulfoxide. DMSO. Dermavet. Iduridine. NSC 763. その他多くの名前
[CAS No.]67-68-5
[関連 CAS No.]2206-27-1
[化合物分類]薬物: 抗炎症薬(Antiinflammatory agents), 薬物: 鎮痛薬(Analgesics)
[構造式]MeSOMe
[分子式]C_2H_6OS
[分子量]78.135
[基原]Manuf. by oxidation of Dimethyl sulfide
[天然基原]Found in broad bean *Phaseolus vulgaris*, アルファルファ *Medicago sativa*, その他多くの植物

[用途]有機物合成の溶剤として広く用いられる. いくつかの無機塩を溶解し, 多くの反応を容易にする. 酸化剤. Pharmaceutical aid for vet. applications. 局所的な抗炎症剤
[性状]液体
[融点]Mp 18.5 ℃
[沸点]Bp 189 ℃. $Bp_{0.37}$ 20 ℃
[溶解性]水, 有機溶媒に混和する
[濃度]d^{20}_4 1.1
[屈折率]n^{25}_D 1.479 ((1.4775))
[Log P 計算値]Log P -1.38 (計算値)
[その他のデータ]Dielectric constant ε 46.45. Dipole moment 4.3d. Viscosity 1.991 cP.Virtually odourless when pure, most coml. samples contain traces of odorous Bis(methylthio)methane. 150 ℃で安定し, sl. dec. above this temp. requiring addn. of an acid scavenger, e.g $NaHCO_3$. Forms a Na deriv. Dimsyl sodium
[傷害・毒性]発火温度:95 ℃(oc), 自然発火点:215 ℃. 150 ℃で放熱し分解することができる. May dec. explosively in presence of high concs. of halide ions. 皮膚の紅潮, 疥癬, 肌荒れを引き起こし, 眼へダメージを与える. 低い経口毒性, しかし皮膚から容易に吸収し有害作用を起こす報告がある. Can act as a carrier for skin absorption of other chemicals
[化学物質毒性データ総覧(RTECS)登録番号]PV6210000
[販売元]Aldrich:27685-5; Fluka:41650; Sigma:D4922; Supelco:R49-5905

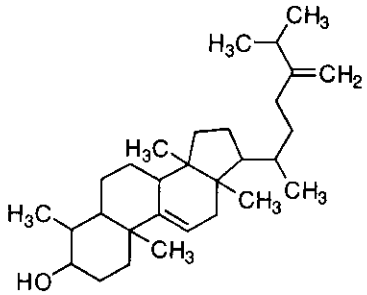
----------文 献----------

Martin, D. et al., Angew. Chem., Int. Ed., 1967, 6, 318, (レビュー)
Kharasch, N. et al., Ann. N.Y. Acad. Sci., 1983, 411, 391, (レビュー, 構造決定, 性質)
Swanson, B.N. et al., Rev. Clin. Basic Pharmacol., 1985, 5, 1, (レビュー, 薬理)

***RTECS (化学物質毒性データ) ***

生体影響物質 : 催腫瘍物質. 医薬品. 変異原性物質. 生殖影響物質. ヒト. 一時刺激物質.

§ 4,14-Dimethylergosta-9(11),24(28)-dien-3-ol; (3 β,4 α,5 α)-form
[CAS No.]77704-66-6
[化合物分類]ステロイド(Ergostane steroids;excluding withanolides and brassinolides). (C28).
[構造式]

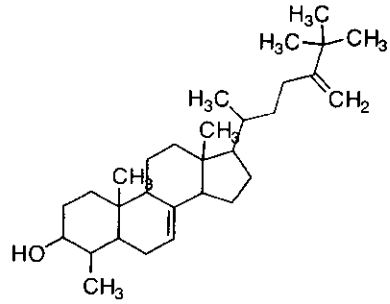


[分子式]$C_{30}H_{50}O$
[分子量]426.724
[正確な分子量]426.386165
[天然基原]次の植物から分離: *Phaseolus vulgaris* の種子
[融点]Mp 105-107 ℃ (as acetate)

----------文 献----------

Akihisa, T. et al., Phytochemistry, 1989, 28, 1219, (isol

§ 4,25-Dimethylergosta-7,24(28)-dien-3-ol; (3 β,4 α,5 α)-form
[化学名・別名]25-Methylgramisterol
[CAS No.]123086-79-3
[化合物分類]ステロイド(Ergostane steroids;excluding withanolides and brassinolides). (C28).
[構造式]

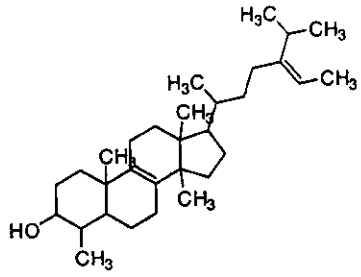


[分子式]$C_{30}H_{50}O$
[分子量]426.724
[正確な分子量]426.386165
[天然基原]*Phaseolus vulgaris* の種子

----------文 献----------

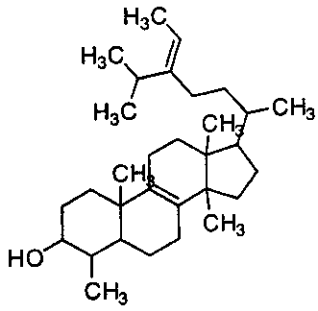
Akihisa, T. et al., Phytochemistry, 1989, 28, 1219

§ 4,14-Dimethylstigmasta-8,24(28)-dien-3-ol; (3 β,4 α,5 α,24(28)*E*)-form
[CAS No.]123164-57-8
[化合物分類]ステロイド(Stigmastane steroids). (C29).
[構造式]



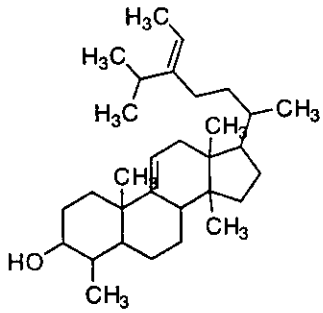
[分子式]$C_{31}H_{52}O$
[分子量]440.754
[正確な分子量]440.401815
[天然基原]*Phaseolus vulgaris*
----------文献----------
Akihisa, T. et al., Phytochemistry, 1989, 28, 1219

§ 4,14-Dimethylstigmasta-8,24(28)-dien-3-ol; (3 β,4 α,5 α,24(28)Z)-form
[CAS No.]73148-03-5
[化合物分類]ステロイド(Stigmastane steroids). (C29)
[構造式]



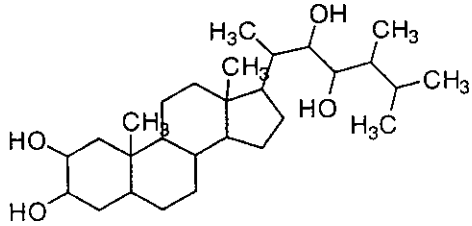
[分子式]$C_{31}H_{52}O$
[分子量]440.754
[正確な分子量]440.401815
[天然基原]*Phaseolus vulgaris*
----------文献----------
Akihisa, T. et al., Phytochemistry, 1989, 28, 1219

§ 4,14-Dimethylstigmasta-9(11),24(28)-dien-3-ol; (3 β,4 α,5 α,24(28)Z)-form
[CAS No.]123086-83-9
[化合物分類]ステロイド(Stigmastane steroids). (C29), テルペノイド(Lanostane triterpenoids)
[構造式]



[分子式]$C_{31}H_{52}O$
[分子量]440.754
[正確な分子量]440.401815
[天然基原]*Phaseolus vulgaris*
----------文献----------
Akihisa, T. et al., Phytochemistry, 1989, 28, 1219
Akikisa, T. et al., Chem. Pharm. Bull., 1996, 44, 1202, (分離, H-NMR, Mass)

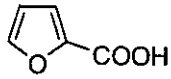
§ Ergostane-2,3,22,23-tetrol; (2 α,3 α,5 α,22*R*,23*R*,24*S*)-form
[化学名・別名]6-Deoxocastasterone
[CAS No.]87833-54-3
[化合物分類]AJ1300, ステロイド(Ergostane steroids;excluding withanolides and brassinolides). (C28).
[構造式]



[分子式]$C_{28}H_{50}O_4$
[分子量]450.701
[正確な分子量]450.37091
[天然基原]次の植物から分離: *Phaseolus vulgaris*
----------文献----------
Schneider. J.A. et al., Tet. Lett., 1983, 24, 3859

Spengler, B. et al., Phytochemistry, 1995, 40, 907, (分離, H-NMR, Mass, 合成法)
Fujioka, S. et al., Phytochemistry, 2000, 53, 549-553, (分離, H-NMR, C13-NMR, 合成法)

§ 2-Furancarboxylic acid (CAS 名)
[化学名・別名]2-Furoic acid (旧 CAS 名). α-Furoic acid. Pyromucic acid
[CAS No.]88-14-2
[関連 CAS No.]1334-82-3
[その他の CAS No.]26447-28-9
[化合物分類]含酸素複素環式化合物(Furans)
[構造式]



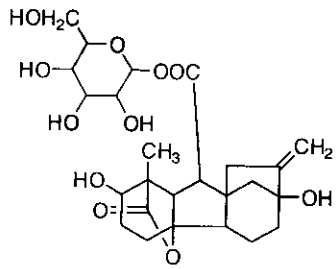
[分子式]$C_5H_4O_3$
[分子量]112.085
[正確な分子量]112.016045
[天然基原]次の植物から分離: *Phaseolus vulgaris* の根
[性状]葉状結晶 (H_2O)
[融点]Mp 133-134 ℃
[沸点]Bp 230-232 ℃. Bp_{20} 141-144 ℃
[溶解性]Mod. sol. cold H2O; v. sol. hot
[傷害・毒性]50 %致死量(LD_{50})(マウス, 腹膜内) 100 mg/kg
[化学物質毒性データ総覧(RTECS)登録番号]LV1763000
[販売元]Aldrich:F2050-5; Fluka:48000; Sigma:F8377

----------文 献----------

Lever, M. et al., Anal. Biochem., 1984, 139, 205, (用途, hydrazide)
Lewis, R.J., Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold, 1992, EKM000; FQF000; MKH600

***RTECS (化学物質毒性データ) ***
生体影響物質　　：変異原性物質.
健康障害に関するデータ
変異原性に関するデータ
〈〈試験方法〉〉微生物を用いた突然変異試験.
試験系　　：大腸菌 Salmonella typhimurium
投与量・期間：10 ug/plate
参照文献
Journal of Pharmacobio-Dynamics.(Japan Pub. Trading Co. (USA), 1255 Howard St., San Francisco, CA 94103) 1,15,1978

§ Gibberellin A_1 ; β-D-Glucopyranosyl ester
[CAS No.]54788-51-1
[化合物分類]テルペノイド(Gibberellins)
[構造式]

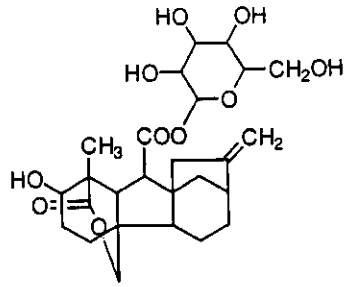


[分子式]$C_{25}H_{34}O_{11}$
[分子量]510.537
[正確な分子量]510.210115
[天然基原]*Phaseolus vulgaris* の種子

----------文 献----------

Gaskin, P. et al., Phytochemistry, 1995, 38, 1, (3-Epigibberellin A_1)

§ Gibberellin A_{15} ; 3 β-Hydroxy, β-D-glucopyranosyl ester
[化学名・別名]Gibberellin A_{37} glucosyl ester
[CAS No.]36702-72-4
[化合物分類]テルペノイド(Gibberellins)
[構造式]

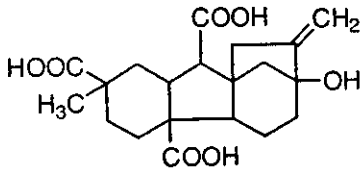


[分子式] $C_{26}H_{36}O_{10}$
[分子量] 508.564
[正確な分子量] 508.23085
[天然基原] *Phaseolus vulgaris* の種子

---文献---

Bearder, J.R. et al., J.C.S. Perkin 1, 1973, 2824, (Gibberellin A_{37})
Yamane, H. et al., Phytochemistry, 1977, 16, 831, (分離)

§ Gibberellin A_{19} ; 20-Carboxylic acid

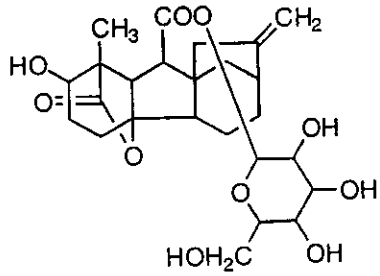


[化学名・別名] Gibberellin A_{17}
[CAS No.] 18411-79-5
[化合物分類] テルペノイド (Gibberellins)
[構造式]
[分子式] $C_{20}H_{26}O_7$
[分子量] 378.421
[正確な分子量] 378.167855
[天然基原] 次の植物から分離: *Phaseolus vulgaris* の種子
[性状] 無定型
[融点] Mp 140-150 ℃

---文献---

Pryce, R.J. et al., Tet. Lett., 1967, 4173, (Gibberellin A_{17})

§ Gibberellin A_4 ; β-D-Glucopyranosyl ester



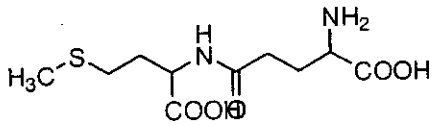
[CAS No.] 54788-52-2
[化合物分類] テルペノイド (Gibberellins)
[構造式]

[分子式] $C_{25}H_{34}O_{10}$
[分子量] 494.538
[正確な分子量] 494.2152
[天然基原] *Phaseolus vulgaris* の種子

---文献---

Picciarelli, P. et al., Phytochemistry, 1991, 30, 1789, (Dihydrohydroxygibberellin A_4)

§ *N*-γ-Glutamylmethionine; L-L-form



[CAS No.] 17663-87-5
[化合物分類] アミノ酸とペプチド (Dipeptides)
[構造式]
[分子式] $C_{10}H_{18}N_2O_5S$
[分子量] 278.329
[正確な分子量] 278.093643
[天然基原] 次の植物から分離: タマネギ (*Allium cepa*) の種子, インゲン豆 (*Phaseolus vulgaris*), mung bean (*Vigna radiata*), ニンニク (Allium sativum), black gram (*Vigna mungo*)
[用途] 金属又は腎毒性医薬品に対する抗腎臓毒性に使用する
[融点] Mp 203-205 ℃, Mp 228-231 ℃
[比旋光度]: $[\alpha]_D^{20}$ -9 (c, 1.4 in H_2O)

---文献---

Virtanen, A.I. et al., Suom. Kemistil. B, 1961, 34, 53; CA, 56, 716, (分離)
Morris, C.J. et al., J. Biol. Chem., 1963, 238, 650, (分離, 合成法)
Kasai, T. et al., Agric. Biol. Chem., 1971, 35, 1603; 1972, 36, 967, (分離)
Kristensen, I. et al., Phytochemistry, 1974, 13, 2803, (分離)
Otoul, E. et al., Phytochemistry, 1975. 14, 173, (分離)