

The best-studied treatment for PBC is ursodeoxycholic acid, which is thought to replace toxic endogenous bile acids, stimulate bile acid secretion, and exert local immunosuppressive and cytotoxic effects.<sup>1,4,5,7,9</sup> The value of ursodeoxycholic acid is controversial; its reported therapeutic benefits in terms of delaying disease progression and the need for liver transplantation<sup>3,10</sup> have not been confirmed by meta-analysis or systematic review.<sup>11,12</sup> Both of these were, however, criticised<sup>13,14</sup> on the grounds that most of the studies included had follow-up periods of only 2 years. In consequence, some do not recommend its use,<sup>12,15</sup> but others still believe it to be the treatment of choice.<sup>1,7,13,14,16</sup> Its advocates consider that it appears to be efficacious for about 10 years and improves long-term survival by delaying the progression of hepatic fibrosis, development of oesophageal varices, and the need for liver transplantation. However, it is not effective in the presence of extensive fibrosis or cirrhosis in advanced disease.<sup>13,14,16</sup>

Both penicillamine and azathioprine have been used in PBC, but trials have failed to show any benefit from treatment<sup>5-7</sup> and their use has declined. A systematic review<sup>17</sup> identified a significant increase in the occurrence of adverse effects with penicillamine and concluded that its use could not be supported for patients with PBC. Corticosteroids, colchicine, cyclosporin, and chlorambucil have also been tried, but toxicity has restricted their use.<sup>5,7</sup> They may be of benefit<sup>2,4,6,7</sup> when used with ursodeoxycholic acid, although some guidelines<sup>5</sup> do not recommend their use. A systematic review<sup>18</sup> of studies with methotrexate concluded that it tended to increase mortality or the need for liver transplantation and should not therefore be used in patients with PBC outside clinical trials. Budesonide<sup>7</sup> and bezafibrate<sup>17</sup> have also been tried.

Symptomatic treatment includes the use of bile acid sequestrants, such as colestyramine, to treat both pruritus and hypercholesterolaemia. Ursodeoxycholic acid may also improve pruritus in up to 40% of patients, and rifampicin, phenobarbital, and opioid antagonists are used as second-line therapies.<sup>1,4,5,8</sup> Vitamin D and calcium supplementation will prevent osteomalacia; supplementation with vitamins A, E, and K may also be necessary.<sup>1,4,5,8</sup> Liver transplantation is recommended for liver failure, although PBC can recur in the allograft.<sup>5,13,14,16</sup>

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**Gallstones.** Gallstones (cholelithiasis) occur when mechanisms for the solubilisation of cholesterol or bilirubin fail or are overcome. They may be divided into those formed of pure cholesterol, which are usually solitary; pigment stones, largely made up of bilirubin or its derivatives; and mixed stones of cholesterol, bile pigment, and calcium salts, which form the great majority of cases seen in the West.

Gallstones are generally more common in women than in men. The prevalence also increases with age and obesity, although rapid weight loss as a result of dieting or surgery is associated with an increased risk.

As many as two-thirds of patients with gallstones are asymptomatic. Symptoms usually relate to the site of the stone although biliary colic is often present regardless of whether the stone is in the gallbladder or biliary tract. If the stone blocks the exit from the gallbladder, inflammation and bacterial infection may follow (acute cholecystitis), sometimes leading to perforation and subsequent peritonitis. Less commonly, obstruction of the common bile duct by gallstones (choledocholithiasis) may lead to

cholestasis and jaundice; infection of the bile ducts and septicaemia may follow. Pancreatitis may also be associated with gallstone disease, and there may be an increased risk of developing malignant neoplasms of the gallbladder.

**Treatment.** Asymptomatic gallstones discovered during other investigations should not be treated, and even mildly symptomatic patients may be managed with analgesics and subsequent observation. Potent analgesics such as morphine may be needed in more severe cases (see Biliary and Renal Colic, p.5). In symptomatic patients the preferred treatment for gallstones is surgical removal of the gallbladder; laparoscopic cholecystectomy causes less postoperative morbidity than open surgery, and has largely replaced other methods of treatment.

In patients unsuited to, or unwilling to undergo, surgery for gallbladder stones, drug therapy, alone or with lithotripsy, may be considered.

Exogenous bile acids have been tried in an attempt to dissolve the cholesterol component of gallstones. Ursodeoxycholic acid is more effective and is associated with fewer adverse effects than chenodeoxycholic acid. Combination therapy has also been tried but this is no more effective than ursodeoxycholic acid alone. Dissolution of gallstones is slow but can be achieved in about one-third of cases with the best results seen with small stones. However, about half of all successfully treated patients will develop further gallstones within 10 years. Studies of prophylactic bile acid therapy have mostly yielded disappointing results, although such therapy may be of benefit in patients on very-low-calorie diets, after surgery for weight loss, and in those receiving treatment with octreotide.

Somewhat larger stones may respond to extracorporeal shock-wave lithotripsy, or fluoroscopically guided laser lithotripsy, which may be more effective. Oral bile acids should then be given to dissolve the stone fragments.

Another method that has been used is the direct instillation of a solvent (usually methyl *tert*-butyl ether) into the gallbladder, which dissolves stones within a matter of hours, and is effective against almost all cholesterol-based stones regardless of size and number. Care is required to avoid overflow of the solvent into the common bile duct or the duodenum, where it can cause inflammation. Other solvents, such as ethyl propionate have been investigated as potentially less toxic alternatives, and edetic acid has been suggested as a possible solvent for non-cholesterol gallstones. As with all non-surgical methods, recurrence is likely.

Patients with **stones in the common bile duct or acute cholecystitis** require prompt therapy because of the risk of serious complications; endoscopic sphincterotomy and physical retrieval of the stones with a basket or balloon appears to be the preferred treatment, with open surgery as an alternative. A biliary stent to allow bile flow around the stone has been used as a temporary measure in patients with stones too large to remove by endoscopic sphincterotomy. Lithotripsy or infusion of a solvent such as monooctanoic or methyl *tert*-butyl ether are possible alternatives in patients unfit for surgery.

In patients who develop cholecystitis or cholangitis antibacterial therapy may be required (see Biliary-tract Infections, p.164). References.

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### Preparations

**BP 2008:** Ursodeoxycholic Acid Capsules; Ursodeoxycholic Acid Tablets; **USP 31:** Ursodiol Capsules.

### Proprietary Preparations

(details are given in Part 3)

- Arg.:** Dexo; Solatrut; UDCA; Ursidesox; Ursomax; Urzac; **Austral.:** Ursolfalk; **Austria:** Ursofalk; **Belg.:** Ursochol; Ursofalk; **Braz.:** Ursocol; **Canad.:** Ursor; **Chile:** Solobil; Ursofalk; **Cz.:** Ursochol; Ursofalk; Ursosan; **Fin.:** Adursal; **Fr.:** Delursan; Ursolan; **Ger.:** Cholit-Ursan; Cholofalk; UDC; Ursot; Ursolcho; Ursofalk; **Gr.:** Ursolfalk; **Hong Kong:** Ursolfalk; Ursosan; **Hung.:** Ursopal; **India:** Udril; **Indon:** Estazor; Pramur; Urdafalk; Urdhex; **Ir.:** Ursolfalk; **Israel:** Ursofalk; Ursol; **Ital.:** Benursil; Bilepax; Coledosil; Descol; Desoxil; Deursil; Dissolursil; Epsolit; Fraurs; Galmaxil; Lentorsil; Litol; Litrosil; Tauro; Tudcabil; **Undes:** Ursol; Ursolan; Ursosan; Ursodexil; Ursodiol; Ursofalk; Ursolofor; Ursolact; Ursolisin; Ursoprof; **Jpn:** Urs; Ursol; Ursolan; **Malaysia:** Ursopal; **Mex.:** Ursolfofalk; **Neth.:** Ursoloch; Ursopal; **Norw.:** Ursopal; **NZ:** Actigall; Ursofalk; **Philippines:** Ursopal; **Pol.:** Prolursan; Ursocam; Ursofalk; Ursopol; **Port.:** Destolit; Ursopal;

folk; **Rus.:** Ursosan (Уркосан); **S.Afr.:** Ursotan†; **Singapore:** Ursolfalk; **Spain:** Ursobiane; Ursochol; **Swed.:** Ursolfalk; **Switz.:** De-ursil; Ursochol; Ursofalk; **Thail.:** Udhep; Ursofalk; Ursolin; **Turk.:** Ursofalk; **UK:** Destolit; Ursod; Ursok; **Uros:** Ursogal; **USA:** Actigall; Urs.

**Multi-ingredient:** **Austria:** Lithofalk†; **Ger.:** Lithofalk; Ursol Mix†; **Gr.:** Lithofalk†; **Ital.:** Bilenor; **Jpn:** Cabe 2; Eki Cabe.

### Urtica

Brännässleblad (nettle leaf); Brennessel; Dilgeliu lapai (nettle leaf); Kopřivový list (nettle leaf); Lišč pokrzywy (nettle leaf); Nokoskenlehti (nettle leaf); Ortie; Ortie dioique; Ortie, feuille d' (nettle leaf); Ortiga; Pokrzywa zwyczajna; Stinging Nettle; Urtica dioica; Urtica folium (nettle leaf).

**Pharmacopoeias.** In **Ger.** and **US** (both specify the root and rhizome of *Urtica dioica*).

**Eur.** (see p.vii) includes the leaf of *Urtica* spp. and also a form of *Urtica dioica* for homeopathic preparations.

**Br.** includes a form of *Urtica urens* for homeopathic preparations.

**Ph. Eur. 6.2** (Nettle Leaf; *Urtica dioica*). The whole or cut dried leaves of *Urtica dioica*, *Urtica urens*, or a mixture of the 2 species. It contains a minimum of 0.3% for the sum of caffeoylmalic acid and chlorogenic acid expressed as chlorogenic acid ( $C_{16}H_{18}O_4 = 354.3$ ), calculated on the dried basis.

**Ph. Eur. 6.2** (Common Stinging Nettle for Homoeopathic Preparations). The whole, fresh, flowering plant of *Urtica dioica*. Protect from light.

**BP 2008** (Urtica Urens Herb for Homeopathic Preparations). Fresh leaves and flowers of *Urtica urens*. The plant produces an itchy, burning sensation.

**USP 31** (Stinging Nettle). The dried roots and rhizomes of *Urtica dioica* (Urticaceae), and may contain *Urtica urens*, known in commerce as dwarf nettle, as a minor component. It contains not less than 0.8% of total amino acids, not less than 0.05% of sitosterol, and not less than 0.003% scopoletin ( $C_{10}H_8O_4 = 192.2$ ), calculated on the dried basis. Store in airtight containers. Protect from light.

### Profile

*Urtica* (*Urtica dioica*) has been used in herbal medicine, mainly for urinary-tract and rheumatic disorders. *Urtica urens* has been used similarly.

**Homoeopathy.** *Urtica* has been used in homoeopathic medicines under the following names: Common stinging nettle; *Urtica dioica*; *Urtica urens*; *Urt. u.*

### Preparations

#### Proprietary Preparations

(details are given in Part 3)

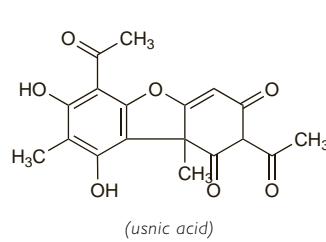
- Austria:** Uro-POS; **Braz.:** Imuno Max; **Cz.:** Kopřivový Čaj, Kopřivova Nat; **Chlavat.:** **Ger.:** Arthrodrnat N†; **Asendraf†:** Azuprostat Urtica†; **Bazoton:** **Flexal Brennessel:** Hox Alpha; **Natu-lind:** Natu-prosta; **Pro-Sabona Uno†:** Prosta-Truva; **Prostaferton:** Prostaferton; **Prostaherb:** N; **Prostamed Urtica:** Prostaneurin†; **Prosta:** Prostavent; **Rheuma-Hek:** Rheuma-Kapseln; **Rheuma-Stada†:** Serless†; **Uro-POS:** Urol pros; **Urticaprostat uno†:** Uriptipret†; **Urtivit:** utk; **Pol.:** Prostaherb N; **Urtix:** Valverde Prostate capsules.

**Multi-ingredient:** **Austral.:** Cough Relief†; Extralife Flow-Care; Haemo-Ref Formula; Infant Tonics; Irontonic; Uraprot†; Vitaton; **Austria:** Anaemodoron; Berggeist; Florisamini†; Florisammol†; Menodoron; Mentopin; Protagut†; Prostaton; Species Carvi comp†; **Braz.:** Prostrem Plus; **Canad.:** Allercept†; Ultra Quercitin; **Cz.:** Abfuß-Herikrautertee†; Diabeticka Cajova Smes-Megadiabetin; Nephrisol†; Perospir†; Prostakan Forte; Prostaton†; Pulmonar; Species Urologica Plantar; Stoffwechseltee N†; **Fr.:** Fitacnol†; **Ger.:** Combuduron; Presselin Nieren-Blasen K 3†; Prostagut forte; Prostatain F†; Virigan N†; Vollmers präparierte grüne N; Winar†; **Hong Kong:** Calmiderm; **Ital.:** Biophytus DS; Pluvio; Prostaplant; Sebacol†; Shamday Antiflor†; **Malaysia:** Cleanas Plus†; Prostakan; **Mex.:** Prosgutt; **Pol.:** Alifio†; Herbaton; Immunofort; Naturapa Prostata; Nefronobitol; Seboren; Urofort; **Rus.:** Herbion Urtica (Гербон Уртика); Prostagut Forte (Простагут Форте); **S.Afr.:** Combuduron; Enzian Anaemodoron Drops; Menodoron; **Spain:** Naturos Artilan‡; **Switz.:** Combuduron; Prostagut-F; Prostaton; **Port.:** The à la vineuse savage de Vollmer; Tisane Diuretique; Tisane pour les problèmes de prostate; **UK:** Sinose.

### Usnea Barbata

Barba de capuchino.

**CAS — 125-46-2** (usnic acid).



### Profile

*Usnea barbata* is a lichen. It contains usnic acid, which is reported to have antimicrobial activity. *Usnea barbata* extract, usnic acid, and copper usnate have been used in topical preparations.

**Adverse effects.** Two patients developed severe hepatotoxicity believed to be associated with usnic acid contained in a multi-

ingredient; herbal preparation promoted for weight loss; one patient required emergency liver transplantation.<sup>1</sup>

1. Sanchez W, et al. Severe hepatotoxicity associated with use of a dietary supplement containing usnic acid. *Mayo Clin Proc* 2006; **81**: 541–4.

### Preparations

**Proprietary Preparations** (details are given in Part 3)  
**Ger.**: Dr Grandel Granobil<sup>†</sup>; TeteSept Hals-aktiv; **Ital.**: Vidermina; Zeta N.  
**Multi-ingredient:** Indon.: Scabicid; **Ital.**: Foot Zeta; Micofoot; Steril Zeta.

### Valepotriates

Valepotriatos.

### Acevaltrate (rINN)

Acévaltrate; Acevaltrato; Acevaltratum. 4-Acetoxymethyl-(1 or 6)-[acetoxyl-3-methylbutyryloxy]-1,6,7,7a-tetrahydro-(6 or 1)-isovalerylcyclopenta[c]pyran-7-spiro-2'-oxiran.

Ацевалтрат

$C_{24}H_{32}O_{10}$  = 480.5.  
 CAS — 2516-14-5.

### Didrovaltrate (rINN)

Didrovaltrato; Didrovaltratum. 6-Acetoxy-1,4a,5,6,7,7a-hexahydro-1-isovaleryloxy-4-isovaleryloxymethylcyclopenta[c]pyran-7-spiro-2'-oxiran.

Дидровальтрат

$C_{22}H_{32}O_8$  = 424.5.  
 CAS — 18296-45-2.

### Valtrate (rINN)

Valtrato; Valtratum. 4-Acetoxymethyl-1,6-di-isovaleryloxy-1,6,7,7a-tetrahydrocyclopenta[c]pyran-7-spiro-2'-oxiran.

Валтрапт

$C_{22}H_{30}O_8$  = 422.5.  
 CAS — 18296-44-1.

### Profile

Valepotriates are epoxy-iridoid esters, isolated from valerian (see below). They include acevaltrate, didrovaltrate, and valtrate. On prolonged storage and drying they are hydrolysed to yield isovaleric acid.

A mixture stated to contain acevaltrate, didrovaltrate, and valtrate has been used as a sedative and as an anxiolytic. Concern has been expressed over the potential toxicity of valepotriates which have been reported to have cytotoxic properties *in vitro*.

### Preparations

**Proprietary Preparations** (details are given in Part 3)

**Austria:** Valmane; **Gr.**: Valmane.

**Multi-ingredient:** Arg.: SDN 200.

### Valerian

Baldrianwurzel; Korzeń kozłka; Kozlikový kořen; Macskagyökér; Valer; Valeriaanjuuri; Valerian Rhizome; Valerian Root; Valeriana; Valerianae radix; Valerianarot; Valérianne, racine de; Valerijon žakynys.

CAS — 8057-49-6 (valerian extract).

ATC — N05CM09.

ATC Vet — QN05CM09.

**Pharmacopoeias.** In Eur. (see p.vii) and US. Eur. also includes valerian dry hydroalcoholic extract and tincture. US. includes the powdered form.

*Jpn* has Japanese Valerian from *V. fauriei*.

**Ph. Eur. 6.2** (Valerian Root; Valerian BP 2008). The yellowish-grey to pale brownish-grey whole underground parts of *Valeriana officinalis*, including the rhizome surrounded by the roots and stolons, or by fragments of these parts. It contains not less than 0.4% v/w of essential oil for the whole drug and not less than 0.3% v/w for the cut drug, both calculated with reference to the dried drug. Protect from light.

**USP 31** (Valerian). The subterranean parts of *Valeriana officinalis* (Valerianaceae), including the rhizome, roots, and stolons. It contains not less than 0.5% of volatile oil and not less than 0.05% of valerenic acid, calculated on the dried basis. Store in airtight containers. Protect from light.

### Profile

Valerian has sedative properties and is used as an extract, infusion, or tincture, or occasionally as the dried root, in preparations for anxiety states. It has also been used as a carminative. Valerian oil is used in aromatherapy. The odour of valerian may be removed from the skin and from hard surfaces with sodium bicarbonate.

### ◊ References

1. Houghton P. Valerian. *Pharm J* 1994; **253**: 95–6.
2. Houghton PJ. The scientific basis for the reputed activity of valerian. *J Pharm Pharmacol* 1999; **51**: 505–12.
3. Plushner SL. Valerian: *valeriana officinalis*. *Am J Health-Syst Pharm* 2000; **57**: 328–35.

4. Stevenson C, Ernst E. Valerian for insomnia: a systematic review of randomized clinical trials. *Sleep Med* 2000; **1**: 91–9.
5. Bent S, et al. Valerian for sleep: a systematic review and meta-analysis. *Am J Med* 2006; **119**: 1005–12.

**Adverse effects.** Liver damage<sup>1</sup> was reported in 4 patients who took herbal stress remedies that contained valerian. Cardiac complications and delirium in a 58-year-old man may have been caused by the withdrawal of prolonged therapy with a valerian root extract preparation.<sup>2</sup>

1. MacGregor FB, et al. Hepatotoxicity of herbal remedies. *BMJ* 1989; **299**: 1156–7.
2. Garges HP, et al. Cardiac complications and delirium associated with valerian root withdrawal. *JAMA* 1998; **280**: 1566–7.

### Preparations

**Ph. Eur.**: Valerian Dry Hydroalcoholic Extract; Valerian Tincture; **USP 31**: Valeren Tablets.

**Proprietary Preparations** (details are given in Part 3)

**Arg.:** Nervitas; Sedante Nativat; **Austral.:** Herbal Sleep Formula<sup>†</sup>; **Austria:** Baldinrettent<sup>†</sup>; **Belg.:** Dormiplant; Relaxine; Valdispert<sup>†</sup>; Valerian; **Braz.:** Notaval; Recalm; Sonoripa; Traminer; Valdorme; Valeriane; Valerimed; Valerian; Valerix; Valezen; Valmane; **Canad.:** Nytol Natural Source; Sleep-Eze V Natural; Unisom Natural Source<sup>†</sup>; **Chile:** Somine; **Cz.:** Koren Kožíku Lekarského<sup>†</sup>; Kozík; Valdispert<sup>†</sup>; **Fin.:** Valerian; **Ger.:** Baldom; Baldripar Starfkt; Baldriwt; Baldurat; Cefalurin; Cefan; Dolestan; Euvegal Balance; Kyttá-Sedativum; Luvased mono; Phytoform<sup>†</sup>; Recvalysat<sup>†</sup>; Sedoniu; Sporal mono; Valdispert<sup>†</sup>; **Hong Kong:** Cinku Sed<sup>†</sup>; **Israel:** Relaxine; Valeton; **Ital.:** Ticalma; Val-Uno<sup>†</sup>; **Mex.:** Neolakta; **Neth.:** Domiplant; Sedonium; Valdispert; **Pol.:** Cirkus; Relana Forte; Valerian; **Port.:** Valdispert; Valditas; **Rus.:** Novo-Pasit (Ново-Пасит); **S.Afr.:** Calmettes; **Spain:** Ansiokey; Cirkus<sup>†</sup>; Coenrelax; Tauval<sup>†</sup>; Valdispert; Valeriana Orto; Valsendan; **Swed.:** Baldripar-Disper; Nervo; Valerzen; **Switz.:** Baldriparan pour la nuit; Baldrisond<sup>†</sup>; Natu-Seda; Plantavit Mono<sup>†</sup>; ReDormin; Sedasol eco natura; Sedonium; Sirop pour le sommeil<sup>†</sup>; Valdispert; Valerande Somme; **UK:** Nitteherb; Phyto Relax; Sedonium; **Venez.:** Floral Pas.

**Multi-ingredient:** **Arg.:** Armoni; Calmatab<sup>†</sup>; Dioxicolagol; Erbonda Nocche<sup>†</sup>; Herbacion Sedante<sup>†</sup>; Incaico Serenidad; Insomniat<sup>†</sup>; Nervocalm; SDN 200; Edmoni; Sedante Arciel<sup>†</sup>; Sedante Dia; Serenil; Sigmasedan; Top Life Relax<sup>†</sup>; Trixol<sup>†</sup>; Valeriana Doses; Valeriana Oligoplex; Valeriana Relax Doses; **Austral.:** Calmo; Coleus Complex; Dan Shen Compound; Executive B; Extrafile Sleep-Care; Goodnight Formula<sup>†</sup>; Humulus Compound; Lifesystem Herbal Plus Formula 2 Valerian<sup>†</sup>; Macro Anti-Stress<sup>†</sup>; Multi-Vitamin Day & Night<sup>†</sup>; Natural Deep Sleep; Pacifinity<sup>†</sup>; Passiflora Complex<sup>†</sup>; Passionflower Plus; Prosed-X<sup>†</sup>; ReDormin; Relaxaplex<sup>†</sup>; Valeren Plus; Herb plus Formula 12<sup>†</sup>; Valerian<sup>†</sup>; **Austria:** Baldriac; Baldriam AMA; Eryal; Euvekan; Hertz; Kreislauftee<sup>†</sup>; Hova; Klosterfrau Beruhigungsforte<sup>†</sup>; Nervosa Cajova Smes; Novo-Pasit; Persen; Sanason; Schlafl-Nerventee NH; Songha Night<sup>†</sup>; Species Nervinae Planta; Valoyt Neo; Visinat<sup>†</sup>; **Fz.:** Anxoraf; Biocarde; Euphytose; Mediflor Tisane Calmante Troubles du Sommeil No 14; Mediflor Tisane Circulation du Sang No 12; Neuroflorine; Palipax<sup>†</sup>; Passinevry; Phyto calm<sup>†</sup>; Spasmine; Sympaneurool; Tranquital; **Ger.:** Alluna Nacht; Ardeyzedon; Avedon duo; Baldri-Dispert Nacht; Baldriparan N Stark<sup>†</sup>; BioSedon<sup>†</sup>; Boxcalm; Cefasedit<sup>†</sup>; Cor>Select; Doramean; Doramean: Dormo-Sern<sup>†</sup>; Doromorevan; Dr Scheffler Bergischer Krauttee Nerven- und Beruhigungstee; Dreierlei; Euvegal; Euvegal Entspannungs- und Einschlafdragees<sup>†</sup>; Euvegal Entspannungs- und Einschlaftröpfchen; Gutschmidt; Habstal-Nerv NJ; Heumann Beruhigungste Tenerval; Hinglong-Essenz Hofmanns Hyperesia; JuDorm<sup>†</sup>; Kavosporol comp<sup>†</sup>; Kneipp Gute Nacht; Kyttá-Sedativum; Leukona-Beruhigungsbad<sup>†</sup>; Lomasleep<sup>†</sup>; Luvased; Majocarmin mitef<sup>†</sup>; Moradorm S; Mutellon; Nervendragées; Nervenknete; Nervengift forte<sup>†</sup>; Nervengift phytos; Nervosana<sup>†</sup>; Neuropas: Nitragin compositum<sup>†</sup>; Oxacant NH; Oxacant-sedativ<sup>†</sup>; Pascosedon; Phytonocto<sup>†</sup>; Plantavit no<sup>†</sup>; Presselin Nerven K I N<sup>†</sup>; Preronver Phyto; Psychotonin-ssd; Rhoval<sup>†</sup>; RubieSed<sup>†</sup>; Schlaf- und Nervente; Schweden-trunk Elixier; Seda-Plantina<sup>†</sup>; Sedacur; Sedariston Konzentrat; Sedariston plus; Sedasept<sup>†</sup>; Sedaxyd<sup>†</sup>; Sedifan<sup>†</sup>; Selon; Sensinerv forte<sup>†</sup>; Som-nuvis<sup>†</sup>; Tonim; Valdispert comp<sup>†</sup>; Valeriana comp novum; Valeriana forte NH; Valeriana mild<sup>†</sup>; Valerde Baldwin Hopfen bei Einschlafstörungen und zur Beruhigung<sup>†</sup>; Vivinox Day; **Hong Kong:** Epizon<sup>†</sup>; **Hung.:** Euvekan; Hova; ReDormin; Sedacur; **India:** Well-Being<sup>†</sup>; **Indon.:** Slip-ZZZZ; **Israel:** Calmanerv; Nerven-Dragees; Passiflora; Passiflora Compound; Songha Night; **Ital.:** Anevris Bianco Valt<sup>†</sup>; Biocalma; Calmasom; Camomilla (Specie Composta)<sup>†</sup>; Dorimplant; Fitosolno: Florelax; Glicero-Valerovit; Melisa (Specie Composta)<sup>†</sup>; Noctis; Parvisedil; Reve; Sedatol; Sedopuer F; Valplus<sup>†</sup>; Valeriana (Specie Composta)<sup>†</sup>; **Mex.:** Ivel; Nervinetas; Pasinord; Plantavit; **Pol.:** Calmina; Cardiol C; Cardiotonic; Cholitol; Dormiplant; Fortestomachicae Guttae Stomachicae; Hova; Kalms Zoladolkowe; Lekosan; Lumewal; Neocardina; Neospasmino; Neospasmo; Nervendragees; Nervomix; Nervosol; Nerbownisol; Passipasmin; Passipasmol; Persen; Postaprol; Relana; Sedoxim; Tabletki Uspekajace; Uroprost; Vallup; Valused; **Port.:** Antispasmina Colica; Gabisedil; Neurocardol; Songhat<sup>†</sup>; **Rus.:** Doppelherz Vitaloton (Доппельгерц Виталотон); Herbon Drops for the Heart (Гербон Сердечные Капли); Inst (Инсти); Passif (Пасифир); Persen (Персен); Sanason (Санасон); **S.Afr.:** Avena Sativa Comp; Birra; Entredrappels HM; Helmtonkruid; Krampdrappels; Restin; Strudrappels; Wonderkrossens; **Spain:** Dorimplant; Melival; Natutor Somnidescant<sup>†</sup>; Nervikan; Relana; Sedasot; Valdispert; Complex<sup>†</sup>; **Switz.:** Baldriparan; Baldriedon plus<sup>†</sup>; Dicalm<sup>†</sup>; Doramean; Dorimplant; Dragees pour la détente nerveuse; Dragees pour le cœur et les nerfs; Dragees pour le sommeil<sup>†</sup>; Dragees sedatives Dr Welt; Hova; Nervinetten; Perfector<sup>†</sup>; Phytomed Somn<sup>†</sup>; ReDormin; Relaxane; Relaxo; Songha Night; Soporin; Strath Gouttes pour le nerf et contre l'insomnie; Tisané calmanante pour les enfants; Tisané pour le sommeil et les nerfs; Tisané relaxante NH<sup>†</sup>; Valerde Coeur; Valerde Detente dragees; Valerde Sommeil; Valivika; Zeller Sommeil; **UK:** Avena Sativa Comp; Bio-Strath Valerian Formula; Daily Tension & Strain Relief; Digestive; Gerard House Serenity; Gerard House Somnus; Herbal Indigestion Naturtabs; Herbal Pain Relief; HRI Calm Life; HRI Golden Seal Digestive; HRI Night; Indigestion and Flatulence; Kalm; Kalm Sleep; Laxative Tablets; Menopause Relief; Modern Herbs Stress; Natrasleep Natural Herb Tablets; Newrelax; Niteherb Plus; Nodoff; Nytol Herbal; Period Pain Relief; PMT Formula; Prementaid; Quiet Days; Quiet Life; Quiet Nite; Quiet Tyme; Relax B; Sculcap & Gentian Tablets; Sominex; Herbal; Stressless; SuNerven; Sure-Lax (Herbal); Tranquil; Unwind Herbal Nytol; Valerina Day Time; Valerina Night-Time; Vegetable Cough Remover; Wellwoman; Wind & Dyspepsia Relief; **Venez.:** Cratex<sup>†</sup>; Equival; Eufytose<sup>†</sup>; Euvekan; Femendol; Insocaps; Lupassin; Nervinetas; Pasidol; Pasifluidina; Rendetil; Sedival.

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### Valspodar

(BAN, USAN, rINN)  
 PSC-833; SDZ-PSC-833; Valspodarum. Cyclo{[(2S,4R,6E)-4-methyl-2-(methylamino)-3-oxo-6-octenoyl]-L-valyl-N-methylglycyl-N-methyl-L-leucyl-L-valyl-N-methyl-L-leucyl-L-alanyl-D-alanyl-N-methyl-L-leucyl-N-methyl-L-leucyl-N-methyl-L-valyl}.

Валсподар  
 $C_{63}H_{111}N_{10}O_{12}$  = 1214.6.  
 CAS — 121584-18-7.

### Profile

Valspodar is an analogue of ciclosporin (p.1822). It inhibits P-glycoprotein, which is associated with multidrug resistance. Valspodar is being investigated in various neoplasms to restore sensitivity of resistant tumour cells to anticancer drugs, but results have been disappointing.

Valspodar inhibits the cytochrome P450 isoenzyme CYP3A4, and may reduce the metabolism and clearance of other drugs.

### ◊ References.

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### Vanilla

Baunilha; Vainilla; Vanilla Beans; Vanilla Pods.

### Pharmacopoeias. In USNF.

**USNF 26** (Vanilla). The cured, full-grown, unripe fruit of *Vanilla planifolia*, often known in commerce as Mexican, Bourbon, or Madagascar vanilla, or of *V. tahitensis*, known in commerce as Tahitian vanilla (Orchidaceae). Vanilla that has become brittle should not be used. Store in airtight containers at a temperature not exceeding 8°.

### Profile

Vanilla is used as a flavour and in perfumery. However, the odour and flavour of vanilla are not entirely due to vanillin (see below) but depend on the presence of other aromatic substances. Preparations of vanilla have been used in aromatherapy.

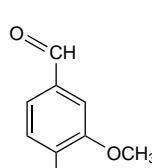
### Preparations

**USNF 26:** Vanilla Tincture.

### Vanillin

Vainillina; Vaniliini; Vanilin; Vanilinas; Vanillic Aldehyde; Vanilline; Vanillinum; Wanilina. 4-Hydroxy-3-methoxybenzaldehyde.

$C_8H_{10}O_3$  = 152.1.  
 CAS — 121-33-5.



### Pharmacopoeias. In Eur. (see p.vii) and Viet. Also in USNF.

**Ph. Eur. 6.2** (Vanillin). White or slightly yellowish crystalline needles or powder. M.p. 81° to 84°. Slightly soluble in water; freely soluble in alcohol and in methyl alcohol; it dissolves in dilute solutions of alkali hydroxides. Protect from light.

**USNF 26** (Vanillin). Fine, white to slightly yellow crystals, usually needle-like, having an odour and taste suggestive of vanilla.