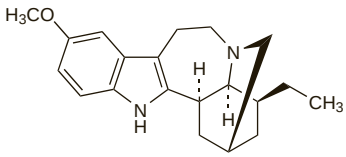
Preparations

Proprietary Preparations (details are given in Part 3)
Cz.: Yzop Lekarsky†.

Multi-ingredient: ***Arg.:*** Arceligasol; ***Austria:*** The Chambard-Tee; ***Fr.:*** Item Lentes; Mediflor Tisane Circulation du Sang No 12; Mediflor Tisane Digestive No 3; ***Ital.:*** Tisana Kelemata; ***Pol.:*** Pectosol; ***Port.:*** Solubeol†; ***Rus.:*** Linkus (Линкас); Linkus Lor (Линкас Лор); ***Spain:*** Agua del Carmen; Natusor Asmaten†; ***Switz.:*** Saintbois; ***UK:*** Catarrh Mixture; Tickly Cough & Sore Throat Relief; Vegetable Cough Remover.

Ibogaine

Ibogaina; NIH-10567. 12-Methoxyibogamine.
$C_{20}H_{26}N_2O$ = 310.4.
CAS — 83-74-9.



NOTE. The following terms have been used as 'street names' (see p.vi) or slang names for various forms of ibogaine or preparations containing ibogaine:
Iboga.

Profile
Ibogaine is a hallucinogenic indole alkaloid extracted from the West African shrub *Tabernanthe iboga* (Apocynaceae). It has been investigated as an aid to withdrawal from drug addiction.

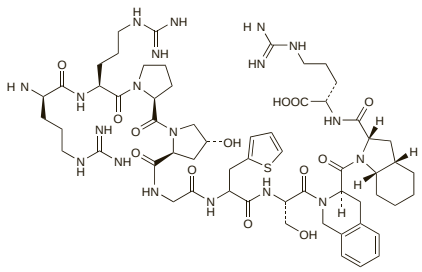
◊ References.

1. Popik P, *et al*. 100 years of ibogaine: neurochemical and pharmacological actions of a putative anti-addictive drug. *Pharmacol Rev* 1995; **47:** 235–53.
2. Alper KR, *et al*. Treatment of acute opioid withdrawal with ibogaine. *Am J Addict* 1999; **8:** 234–42.
3. Pace CJ, *et al*. Novel iboga alkaloid congeners block nicotinic receptors and reduce drug self-administration. *Eur J Pharmacol* 2004; **492:** 159–67.
4. Hittner JB, *et al*. Combating substance abuse with ibogaine: pre- and posttreatment recommendations and an example of successive model fitting analyses. *J Psychoactive Drugs* 2004; **36:** 191–9.

Icatibant Acetate *(USAN, rINNM)*

Hoe-140 (icatibant, icatibant acetate); Icatibant, Acétate d'; Icatibanti Acetas; Icatibanto; JE-049 (icatibant). (*R*)-Arginyl-(*S*)-arginyl-(*S*)-prolyl-(2*S*,4*R*)-(4-hydroxyprolyl)glycyl-(*S*)-[3-(2-thienyl)-alanyl]-(*S*)-seryl-(*R*)-[(1,2,3,4-tetrahydro-3-isoquinolyl)-carbonyl]-(2*S*,3a*S*,7a*S*)-[(hexahydro-2-indolinyl)-carbonyl]-(*S*)-arginine acetate.

Икатибанта Ацетат
$C_{59}H_{89}N_{19}O_{13}S,xC_2H_4O_2$.
CAS — 130308-48-4 (icatibant); 138614-30-9 (icatibant acetate).



Profile
Icatibant acetate is a selective bradykinin B_2 antagonist under investigation for hereditary angioedema.

Iceland Moss

Islandinių kerpenų gniužulas; Isländisches Moos; Islandslav; Islanninjäkälä; Izlandi zuzmó; Lichen d'Islande; Lichen islandicus; Lišejník islandský; Porost islandzki.

Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Iceland Moss; Lichen Islandicus). The whole or cut dried thallus of *Cetraria islandica*. Protect from light.

Profile
Iceland moss, *Cetraria islandica* (Parmeliaceae), is a lichen with demulcent and mild antimicrobial activity. It is included in herbal medicines for dry cough, and irritation or inflammation of the oral and pharyngeal mucosa. It is also used as a bitter to stimulate the appetite.

Iceland moss has been used as a foodstuff and a flavouring agent.

Preparations

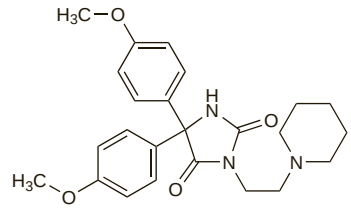
Proprietary Preparations (details are given in Part 3)
Ger.: Isla-Mint†; Isla-Moos†; ***Hong Kong:*** Isla-Mint†; Isla-Moos†; ***Singapore:*** Isla-Mint Herbal†.

Multi-ingredient: ***Austral.:*** Cough Relief†; ***Braz.:*** Peitoral Angico Pelotense†; ***Ital.:*** Altea (Specie Composta)†; Balta Intimo†; Kevis; Sclerovis H; ***Pol.:*** Pectosol; ***Port.:*** Bioclin Sebo Care†; ***Switz.:*** Kernosan Elixir; Tisane pectorale et antitussive; ***UK:*** Herb and Honey Cough Elixir.

Idanpramine

Idampramina. 5,5-Bis(4-methoxyphenyl)-3-[2-(1-piperidinyl)-ethyl]-2,4-imidazolidinedione.

Иданпрамин
$C_{24}H_{29}N_3O_4$ = 423.5 112 25466-44-8.
ATC — A03AX06.
ATC Vet — QA03AX06.



Idanpramine Hydrochloride

Иданпрамина Гидрохлорид
$C_{24}H_{29}N_3O_4$,HCl = 460.0.
CAS — 25466-21-1.
ATC — A03AX06.
ATC Vet — QA03AX06.

Idanpramine Sulfate

Idampramina Sulfato.

Иданпрамина Сульфат
ATC — A03AX06.
ATC Vet — QA03AX06.

Profile
Idanpramine is an antimuscarinic that has been used as the hydrochloride and sulfate salts in the relief of visceral spasms.

Preparations

Proprietary Preparations (details are given in Part 3)
Port.: Gastroidam.

Idursulfase *(BAN, USAN, rINN)*

Iduronate-2-sulfatase; Idursulfasa; Idursulfasum; Idusulfase. α-L-Iduronate sulfate sulfatase.

Идурсульфаз
CAS — 50936-59-9.
ATC — A16AB09.
ATC Vet — QA16AB09.

Profile
Idursulfase is recombinant human iduronate-2-sulfatase used as enzyme replacement therapy in the treatment of mucopolysaccharidosis II (Hunter syndrome), a lysosomal storage disorder that results in the accumulation of glycosaminoglycans in cells with consequent progressive damage. Idursulfase is given by intravenous infusion in a dose of 500 micrograms/kg once a week. Infusion reactions are common and treatment with antihistamines with or without corticosteroids, or a reduction in infusion rate may be necessary. Stopping the infusion should be considered in severe reactions. Anaphylactoid reactions have been reported, in some cases up to 24 hours after the infusion.

Idursulfase should be diluted in 100 mL of sodium chloride 0.9% and infused over 1 to 3 hours. The initial infusion rate should be 8 mL/hour for the first 15 minutes, which may then be increased by 8 mL/hour every 15 minutes if well tolerated, up to a maximum rate of 100 mL/hour. If the infusion rate is decreased because of infusion reactions, the infusion time should not exceed 8 hours because of lack of preservative in the product.

Preparations

Proprietary Preparations (details are given in Part 3)
Cz.: Elaprase; ***Port.:*** Elaprase; ***UK:*** Elaprase; ***USA:*** Elaprase.

Indigo Carmine

Blue X; Ceruleinum; CI Food Blue 1; Colour Index No. 73015; Disodium Indigotin-5,5′-disulphonate; E132; FD & C Blue No. 2; Indicarminum; Indigo Karmin; Indigotina; Indigotindisulfonate Sodium; Indigotine; Indygokarmin; Sodium Indigotindisulphonate. Disodium 3,3′-dioxo-2,2′-bi-indolinylidene-5,5′-disulphonate.

$C_{16}H_8N_2Na_2O_8S_2$ = 466.4.
CAS — 483-20-5 (indigotin-5,5′-disulphonic acid); 860-22-0 (indigo carmine).
ATC — V04CH02.
ATC Vet — QV04CH02.

NOTE. The name Cerulein has been applied to Ceruletide (p.2279).

Pharmacopoeias. In *It.*, *Jpn*, and *US*.
USP 31 (Indigotindisulfonate Sodium). A dusky, purplish-blue powder, or blue granules having a coppery lustre. Soluble 1 in 100 of water; slightly soluble in alcohol; practically insoluble in most other organic solvents. Its solutions have a blue or bluish-purple colour. Store in airtight containers at a temperature of 25°, excursions permitted between 15° and 30°. Protect from light.

Adverse Effects and Precautions
Indigo carmine may cause nausea, vomiting, hypertension, and bradycardia, and occasionally, hypersensitivity reactions such as skin rash, pruritus, and bronchoconstriction. Skin discoloration may occur after large parenteral doses.

Hypersensitivity. Cardiac arrest after a dose of indigo carmine 80 mg intravenously resulted in the deaths of 2 elderly patients.[1] Both had a history of asthmatic bronchitis. A life-threatening anaphylactoid reaction associated with indigo carmine use has also been reported, although the authors commented that such events are rare.[2]

1. Voiry AM, *et al*. Deux accidents mortels lors d'une injection peropératoire de carmin d'indigo. *Ann Med Nancy* 1976; **15:** 413–19.
2. Gousse AE, *et al*. Life-threatening anaphylactoid reaction associated with indigo carmine intravenous injection. *Urology* 2000; **56:** 508.

Uses and Administration
On intravenous injection indigo carmine is rapidly excreted, principally by the kidneys. It has been used in a test of renal function, but has largely been replaced by agents that give more precise results. It is used as a marker dye, particularly in urological procedures, when it is given in a usual dose of 40 mg, preferably by intravenous injection but sometimes intramuscularly. It has also been used as a marker dye in amniocentesis.

Indigo carmine has been used as a blue dye in medicinal preparations but it is relatively unstable. It has also been investigated as a dye-spray in the detection of colorectal adenomas. It is used as a food colour.

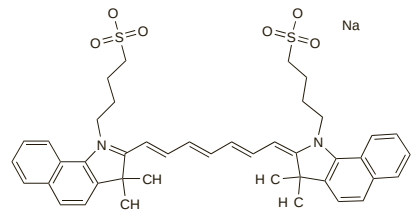
Preparations

USP 31: Indigotindisulfonate Sodium Injection.

Indocyanine Green

Verde de indocianina. Sodium 2-{7-[1,1-dimethyl-3-(4-sulphobutyl)benz[e]indolin-2-ylidene]hepta-1,3,5-trienyl}-1,1-dimethyl-1*H*-benz[e]indolio-3-(butyl-4-sulphonate).

$C_{43}H_{47}N_2NaO_6S_2$ = 775.0.
CAS — 3599-32-4.



Pharmacopoeias. In *Chin.* and *US*.
USP 31 (Indocyanine Green). An olive-brown, dark green, blue-green, dark blue, or black powder. Is odourless or has a slight odour. It contains not more than 5.0% of sodium iodide, calculated on the dried basis. Soluble in water and in methyl alcohol; practically insoluble in most other organic solvents. Its solutions are deep emerald-green in colour. pH of a 0.5% solution in water is about 6. Its aqueous solutions are stable for about 8 hours. Store at a temperature of 25°, excursions permitted between 15° and 30°.

Adverse Effects and Precautions
Indocyanine green is reported to be well tolerated. Anaphylaxis and urticaria have been reported. Solutions contain a small amount of sodium iodide and should be used with caution in pa-

tients hypersensitive to iodine. Clearance of indocyanine green may be altered by drugs that interfere with liver function.

◊ References.

1. Jackson TL. Indocyanine green accused. *Br J Ophthalmol* 2005; **89:** 395–6.
2. Cheng SN, *et al.* Ocular toxicity of intravitreal indocyanine green. *J Ocul Pharmacol Ther* 2005; **21:** 85–93.

Hypersensitivity. A report of anaphylactoid reactions to indocyanine green in 3 patients.[1] The authors commented that of 20 reactions that had been reported 9 involved anaphylactoid shock (with 2 subsequent deaths) and 11 involved hypotension or bronchospasm; they suggested that such reactions were dose-dependent and had a non-immune mechanism.

1. Speich R, *et al.* Anaphylactoid reactions after indocyanine-green administration. *Ann Intern Med* 1988; **109:** 345–6.

Pharmacokinetics

After intravenous injection indocyanine green is rapidly bound to plasma protein. It is taken up by the liver and is rapidly excreted unchanged into the bile.

Uses and Administration

Indocyanine green is an indicator dye used for assessing cardiac output and liver function, and for examining the choroidal vasculature in ophthalmic angiography. It is also used to assess blood flow and haemodynamics in various organs including the liver.

The usual dose for cardiac assessment is 5 mg injected rapidly via a cardiac catheter. A suggested dose for children is 2.5 mg, and for infants 1.25 mg. Several doses need to be given to obtain a number of dilution curves. However, the total dose should not exceed 2 mg/kg.

The usual dose of indocyanine green for testing liver function is 500 micrograms/kg given intravenously.

Diagnostic use. Indocyanine green has been used to assess blood flow to various organs and in other haemodynamic studies. However, some methods of determination of indocyanine green clearance as a measure of liver blood flow have been questioned on the grounds that extraction of the dye by the liver is not complete as is often assumed.[1] Interindividual variability in indocyanine clearance may introduce further error.[2]

There have been reports of the use of indocyanine green to assess cerebral blood flow in children during cardiopulmonary bypass[3] and to measure plasma volume in neonates.[4] In ophthalmology, indocyanine green angiography is used to visualise the choroidal circulation,[5,6] and as a stain during surgical repair of macular holes.[7,8]

1. Skak C, Keiding S. Methodological problems in the use of indocyanine green to estimate hepatic blood flow and ICG clearance in man. *Liver* 1987; **7:** 155–62.
2. Bauer LA, *et al.* Variability of indocyanine green pharmacokinetics in healthy adults. *Clin Pharm* 1989; **8:** 54–5.
3. Roberts I, *et al.* Estimation of cerebral blood flow with near infrared spectroscopy and indocyanine green. *Lancet* 1993; **342:** 1425.
4. Anthony MY, *et al.* Measurement of plasma volume in neonates. *Arch Dis Child* 1992; **67:** 36–40.
5. Owens SL. Indocyanine green angiography. *Br J Ophthalmol* 1996; **80:** 263–6.
6. Dzurinko VL, *et al.* Intravenous and indocyanine green angiography. *Optometry* 2004; **75:** 743–55.
7. Rodrigues EB, *et al.* Intravitreal staining of the internal limiting membrane using indocyanine green in the treatment of macular holes. *Ophthalmologica* 2005; **219:** 251–62.
8. Lee KL, *et al.* A comparison of outcomes after indocyanine green and trypan blue assisted internal limiting membrane peeling during macular hole surgery. *Br J Ophthalmol* 2005; **89:** 420–4.

Preparations

USP 31: Indocyanine Green for Injection.

Proprietary Preparations (details are given in Part 3)
Fr.: Infracyanine; ***Ger.:*** ICG-Pulsion; ***Gr.:*** ICG-Pulsion; ***Israel:*** IC Green; ICG-Pulsion; ***Neth.:*** ICG-Pulsion; ***USA:*** Cardio-Green†; IC Green.

Inhibin

Inhibina.

Ингибин

CAS — 57285-09-3.

NOTE. The name inhibin has also been used as a proprietary name for hydroquinine hydrobromide (p.2322).

Profile

Inhibin is a dimeric glycoprotein secreted by the testes and ovaries that suppresses secretion of follicle-stimulating hormone by the pituitary. As a member of the transforming growth factor-β family, it is also involved in mediation and regulation of many other physiological processes. Its two isoforms inhibin A and inhibin B have been widely investigated for their potential as markers of male infertility, ovarian cancer, and placental function. It has also been studied as a prognostic indicator of ovarian function in women undergoing assisted reproduction.

◊ References.

1. Kumanov P, *et al.* Significance of inhibin in reproductive pathophysiology and current clinical applications. *Reprod Biomed Online* 2005; **10:** 786–812.

Inosine *(rINN)*

Hypoxanthine Riboside; Inosina; Inosinum. 6,9-Dihydro-9-β-D-ribofuranosyl-1*H*-purin-6-one.

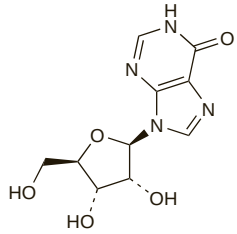
Инозин

$C_{10}H_{12}N_4O_5$ = 268.2.

CAS — 58-63-9.

ATC — D06BB05; G01AX02; S01XA10.

ATC Vet — QD06BB05; QG01AX02; QS01XA10.



Pharmacopoeias. In *Chin.*

Profile

Inosine has been used in the treatment of anaemias and cardiovascular, liver, and skin disorders and has been used as a tonic.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: *Cz.:* Laevadosin†; ***Ital.:*** Neo-Eparbiol†; ***Spain:*** Nutracel; Rubrocortin†.

Inositol

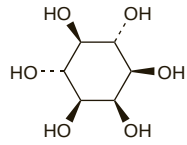
i-Inositol; *meso*-Inositol; Inositoli; Inositolum; *myo*-Inositolum; mio-Inozytol; myo-Inositol; myo-Inositoli; myo-Inositolum. *myo*-Inositol.

$C_6H_{12}O_6$ = 180.2.

CAS — 87-89-8.

ATC — A11HA07.

ATC Vet — QA11HA07.



Pharmacopoeias. In *Eur.* (see p.vii). Also in *USNF.*
Ph. Eur. 6.2 (*myo*-Inositol). A white or almost white, crystalline powder. Very soluble in water; practically insoluble in alcohol.
USNF 26 (Inositol). A white or almost white, crystalline powder. Very soluble in water; practically insoluble in dehydrated alcohol and in ether.

Profile

Inositol, an isomer of glucose, has traditionally been considered to be a vitamin B substance although it has an uncertain status as a vitamin and a deficiency syndrome has not been identified in man. Sources of inositol include whole-grain cereals, fruits, and plants, in which it occurs as the hexaphosphate, fytic acid. It also occurs in both vegetables and meats in other forms. The usual daily intake of inositol from the diet is about 1 g. It is an ingredient of numerous vitamin preparations and dietary supplements, and of preparations promoted for a wide variety of disorders.

Inositol appears to be involved physiologically in lipid metabolism and has been tried, with little evidence of efficacy, in disorders associated with fat transport and metabolism. It has been investigated in the treatment of depression and anxiety, in diabetic neuropathy, and in neonatal respiratory distress syndrome and retinopathy of prematurity.

Neonatal respiratory distress syndrome. Inositol supplementation has been tried in premature infants with respiratory distress syndrome (p.1508). A meta-analysis[1] found that infants given inositol had improved survival and lower rates of bronchopulmonary dysplasia and retinopathy of prematurity than those given placebo.

1. Howlett A, Ohlsson A. Inositol for respiratory distress syndrome in preterm infants. Available in The Cochrane Database of Systematic Reviews; Issue 4. Chichester: John Wiley; 2003 (accessed 19/04/06).

Preparations

Proprietary Preparations (details are given in Part 3)
USA: Inositech.

Multi-ingredient: *Arg.:* Bifena; ***Austral.:*** Hair and Skin Formula†; Liv-Detox†; ***Austria:*** Aslavital; Lemazol; ***Braz.:*** Hecrosine B12†; Hepatogenol†; Hormo Hepatico†; Metiocolin B12; Xantinon Complex; ***Canad.:*** Amino-Cerv; ***Chile:*** Hepabil; ***Cz.:*** Lipovitan†; ***Fr.:*** Hepagrume; ***Ger.:*** Lipovitan†; ***Hong Kong:*** Bilsan; Lipochol; ***India:*** Alcrin-M; Delphicol; ***Indon.:*** Naturica DFM; ***Ital.:*** Digelax†; Hepatos B12; Porfirin 12; Stimolfit; ***S.Afr.:*** Hepavite; Prohep; ***Spain:*** Complidermol†; Dertrase; Policolinosil; Tri Hachemina; ***Thai.:*** Lipochol; Liporon; ***UK:*** Lipotropic Factors; ***USA:*** Amino-Cerv.

Interleukins

Интерлейкины

Profile

Interleukins are cytokines (p.2292) that are thought to target leukocytes. As with other cytokines, interleukins are involved in the regulation of normal immune and inflammatory responses and have both proinflammatory and anti-inflammatory actions. Interleukins used clinically include interleukin-1 (p.2325), interleukin-2 (p.735), and aldesleukin (recombinant interleukin-2) (p.735). Interleukins under investigation include interleukin-3 (p.1073), ilodecakin (recombinant interleukin-10) (p.2326), and edodekin alfa (recombinant interleukin-12) (p.2326).

Interleukins have also been implicated in the pathogenesis of some diseases, and inhibitors of interleukins or their receptors may therefore be of therapeutic value.

Antagonists acting against interleukin receptors used clinically include anakinra (recombinant interleukin-1 receptor antagonist) (p.19), basiliximab (p.1821), and daclizumab (p.1833), which are all interleukin-2 receptor antibodies, and tocilizumab (recombinant interleukin-6 receptor antibody) (p.2326) Inolimomab (p.1835) is an interleukin-2 receptor antibody under investigation.

Antibodies targeting interleukins have been developed and those under investigation include mepolizumab (recombinant interleukin-5 antibody) (p.743) and elsilimomab (recombinant interleukin-6 antibody) (p.2326).

Interleukin fusion toxins are produced by combining interleukin protein sequences with a bacterial toxin (e.g. diphtheria or pseudomonas) with the aim of inhibiting specific interleukin activity. Those under investigation include interleukin-2 fusion toxins (p.2326), interleukin-4 fusion toxins, and cintredekin besudotox, an interleukin-13 fusion toxin.

Soluble interleukin receptors may have therapeutic value and are also being tried therapeutically: rilonacept (p.2379) is an interleukin-1 blocker used in the treatment of a group of rare inherited auto-inflammatory disorders; interleukin-4 receptor is also being investigated.

Inhibitors of cysteine protease IL-1β converting enzyme (ICE) have been investigated as a means of reducing secretion of interleukin-1β (p.2325).

Interleukin-1

Catabolin; Endogenous Pyrogen; Haematopoietin-1; IL-1; Interleucina 1; Leucocyte Endogenous Mediator; Lymphocyte Activating Factor.

Интерлейкин-1

Profile

Interleukin-1 is one of a number of polypeptides known collectively as interleukins (p.2325). It is produced in blood and a variety of tissues by mononuclear phagocytes involved in the complex regulation of immune responses. It enhances the immune response and has proinflammatory and pyrogenic properties. There are two distinct forms, interleukin-1α and interleukin-1β.

Interleukin-1 may also be produced by recombinant DNA technology, and human recombinant interleukin-1β has been used as an adjunct to cancer chemotherapy or radiotherapy for its haematopoietic activity. It has also been investigated for its immunotropic effects in purulent infections of the lung and ear, although it has no intrinsic antibacterial activity. Adverse effects of interleukin-1 include fever, chills, flu-like symptoms, hypotension, and pain, swelling, and erythema at the site of subcutaneous injection.

Interleukin-1 is also implicated in the pathogenesis of some diseases, particularly auto-immune and inflammatory diseases such as rheumatoid arthritis and inflammatory bowel disease.

Preparations

Proprietary Preparations (details are given in Part 3)
Rus.: Betaleukin.