

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Acecinide.HCl	C15H24ClN3O2	34118-92-8	Antiarrhythmic
Alexidine.2HCl	C26H58Cl2N10	1715-30-6	Antibacterial
Ambroxol.HCl * (no HCl in db)	C13H19Br2ClN2O	23828-92-4	Expectorant
Amifostine	C5H15N2O3PS	20537-88-6	Radioprotective
Amiloride.HCl **	C6H9Cl2N7O		Diuretic
Aminacrine	C13H10N2	90-45-9	Anti-infective
Aminophylline.H2O	C16H26N10O4	317-34-0	Bronchodilator
Amiphenazole.HBr	C9H10BrN3S		Narcotic antagonist
Amoxicillin (trihydrate in db)	C16H19N3O5S	26787-78-0	Antibacterial
Amygdalin	C20H27NO11	29883-15-6	
Aniline hemisulfate (only sulfate in db)	C5H8NO2S0.5		Dye manufacture
1-Anilino-8-naphthalenesulfonate	C16H13NO3S	82-76-8	Fluorescent probe
ditto ñ Magnesium salt	C32H24MgN2O6S2		Protein visualization
ditto ñ Ammonium salt.xH2O	C16H16N2O3S		Fluorescent probe
Anisomycin	C14H19NO4	22862-76-6	Antifungal
Anisotropine methylbromide	C17H32BrNO2	80-50-2	Anticholinergic
Anserine nitrate	C10H17N5O6		
Apigenin	C15H10O5	520-36-5	Dyeing agent
Apocodeine.HCl	C18H20ClNO2		Emetic
Apomorphine.HCl hemihydrate	C17H19ClNO2.5	41372-20-7	Emetic
Arachidic acid	C20H40O2	506-30-9	
ditto ñ Methyl ester ditto ñ Ethyl ester	C21H42O2 C22H44O2		
Arecaidine.HCl	C7H12ClNO2	6018-28-6	
Aristolochic acid (Forms I&II 1:1)	C17H11NO7		Antiviral and carcinogenic
Alpha-Asarone	C12H16O3	2883-98-9	
Astaxanthin (no freebase in db)	C40H52O4	472-61-7	Antioxidant
DL-Atrolactic acid hemihydrate	C9H11O3.5	515-30-0	
Azlocillin sodium salt	C20H22N5NaO6S	37091-65-9	Antibacterial
Azoxybenzene (Indexed, but Blank)	C12H10N2O	495-48-7	Inorganic syntheses
Azure A	C14H14ClN3S	531-53-3	Biological stain
Azure B	C15H16ClN3S	531-55-5	Biological stain

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
(-) Bebeerine	C36H38N2O6	477-60-1	Antimalarial
Beclomethasone (dipropionate in db)	C22H29ClO5	4419-39-0	Antiallergic, histamine
Benfluorex.HCl	C19H21ClF3NO2	23642-66-2	Antihyperlipoproteinemic
Benzethonium chloride (has hydrate in db)	C27H42ClNO2	121-54-0	Anti-infective
Benzetimide.HCl	C23H27ClN2O2	5633-14-7	Anticholinergic
Benzydamine.HCl	C19H24ClN3O	132-69-4	Analgesic
Bephenium hydroxynaphthoate	C28H29NO4	3818-50-6	Anthelmintic
Betulin	C30H50O2	473-98-3	
Bifonazole	C22H18N2	60628-96-8	Antifungal
Borneol (85% pure)	C12H20O2		Manuf. of esters
(-)Bornyl acetate	C12H20O4		
Bretylium tosylate	C18H24BrNO3S	61-75-6	Antiadrenergic
Bromcresol Green	C21H14Br4O5S	76-60-8	pH indicator
Bromcresol Purple	C21H16Br2O5S	115-40-2	pH indicator
Bucetin	C12H17NO3	1083-57-4	Analgesic
Budesonide	C25H34O6	51333-22-3	Anti-inflammatory
Butyl stearate	C22H44O2	123-95-5	Softener (plastics)
Cafestol acetate	C22H30O4		
Calcium L-lactate.5H2O	C6H20CaO17		Preservative
Calmagite	C17H14N2O5S	3147-14-6	Titration indicator
Campesterol	C28H48O	474-62-4	
Camptothecin	C20H16N2O4	3/4/7689	
Camylofine.2HCl	C19H34Cl2N2O2	5892-41-1	Anticholinergic
L-Canavanine sulfate	C5H14N4O7S	2219-31-0	
CAPS	C9H19NO3S	1135-40-6	Biological buffer
Carbenicillin disodium salt	C17H16N2Na2O6S	4800-94-6	Antibacterial
Carbenoxolone disodium salt	C34H48Na2O7	7421-40-1	Antiulcerative
Carbetapentane citrate	C26H39NO10	23142-01-0	Antitussive
S-(-)-Carbidopa (hydrate in db)	C10H16N2O5	28860-95-9	Anti-Parkinson
N,Ni-Carbonyldiimidazole	C7H6N4O	530-62-1	Peptide synthesis
Gamma-Carboxy-DL-glutamic acid	C6H9NO6	56271-99-9	

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Carminic acid	C22H20O13	1260-17-9	Dye
Carmustine	C5H9Cl2N3O2	154-93-8	Antineoplastic
D-Carnitine hydrochloride (only DL in db)	C7H16ClNO3	10017-44-4	
L-Carnitine (DL only)	C7H15NO3	541-15-1	Antihyperlipoproteinemic
dl-Catechin hydrate	C15H16O7	7295-85-4	
d-Catechin hydrate (has alpha in db)		88191-48-4	
S-(-)-Cathinone hydrochloride	C9H12ClNO	76333-53-4	Stimulant
Cefaclor	C15H16ClN3O5S	70356-03-5	Antibacterial
Cefazolin sodium salt	C14H13N8NaO4S3	27164-46-1	Antibacterial
Cefmetazole sodium salt	C15H16N7NaO5S3	56796-39-5	Antibacterial
Cefoperazone sodium salt	C25H26N9NaO8S2	62893-20-3	Antibacterial
Cefoxitin sodium salt	C16H16N3NaO7S2	33564-30-6	Antibacterial
Celestin Blue	C17H18ClN3O4	1562-90-9	Dye
Cetalkonium chloride	C25H46ClN	122-18-9	Anti-infective
Cetyldimethylethyl- ammonium bromide	C20H44BrN	124-03-8	Antiseptic
Cetyl palmitate	C32H64O2	540-10-3	
CHAPS hydroxy analog	C32H58N2O8S	82473-24-3	Detergent
beta-Chloralose (not in DB with beta)	C8H11Cl3O6 (no beta only alpha)		Veterinary anesthetic
Chlorendic anhydride	C9H2Cl6O3	115-27-5	Prep. of polyester resins
Chlorfenethol	C14H12Cl2O		Acaricide
Chlorhexidine	C22H30Cl2N10		Antiseptic
Chlormequat chloride	C5H13Cl2N		Plant growth regulator
Chlorogenic acid	C16H18O9	327-97-9	Isol. from green coffee beans
Chromocarb	C10H6O4		Capillary protectant
6-Chrysenamine	C18H13N	2642-98-0	Used in biochem research
Chrysin	C15H10O4		Diuretic
Chrysoidine	C12H13ClN4		Dye
Cinnamoyl chloride	C9H7ClO	102-92-1	Titrimetric detn. of water
Cocaethylene	C18H23NO4	529-38-4	Local anaesthetic

**GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017**

Merck Name	Formula	CAS #	Uses
Colistin sulfate		1264-72-8	Antibacterial
Colistin sodium methanesulfonate	C58H105N16Na5O28S2	8068-28-8	Antibacterial
Convallatoxin	C29H42O10	508-75-8	Cardiotonic
Coumarilic acid	C9H6O3	496-41-3	
Cupric gluconate	C12H22CuO14	527-09-3	In dietary supplements as a readily assimilable form
Cuprous acetate (copper in db)	C2H3CuO2	598-54-9	fungicide and dye
Curine	C36H38N2O6	436-05-5	
Cyclic AMP	C10H12N5O6P	60-92-4	
Cyclobenzaprine.HCl	C20H22ClN	6202-23-9	Muscle relaxant
Alpha-Cyclodextrin	C36H60O30	10016-20-3	Complexing agent
Beta-Cyclodextrin	C42H70O35	7585-39-9	Complexing agent
Gamma-Cyclodextrin	C48H80O40	17465-86-0	Complexing agent
Cycloleucine	C6H11NO2	52-52-8	For amino acid transport studies
Cyheptamide	C16H15NO	7199-29-3	Anticonvulsant
Cymarine	C30H44O9	508-77-0	Therap. cat.: cardiotonic
Cyromazine	C6H10N6	66215-27-8	Insecticide
DL-Cystathionine	C7H14N2O4S	535-34-2	
L-Cystathionine	C7H14N2O4S	56-88-2	
2'-Cytidylic acid only 3'	C9H14N3O8P	85-94-9	Ribonuclease inhibitor
Cytochrome C		9007-43-6	
Dacarbazine	C6H10N6O	3/4/4342	Antineoplastic
Dactinomycin	C62H86N12O16	50-76-0	Therap cat.: antineoplastic
Daidzein	C15H10O4	486-66-8	
Daminozide	C6H12N2O3	1596-84-5	Plant growth regulator
Dansyl chloride	C12H12ClNO2S	605-65-2	Fluorescent labeling HPLC
Daphnetin (in DB with hemihydrate)	C9H6O4	486-35-1	
Daunorubicin hydrochloride	C27H30ClNO10	23541-50-6	Antineoplastic
DDD (analytical)	C20H14O2S2	6088-51-3	For determination of protein-bound sulfhydryl group
Deferoxamine mesylate	C26H52N6O11S	138-14-7	Antidote to iron poisoning

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Dehydroascorbic acid	C ₆ H ₆ O ₆	490-83-5	
Dehydroergosterol (in DB with monohydrate)	C ₂₈ H ₄₂ O	516-85-8	
Demeclocycline.HCl (in DB with trihydrate)	C ₂₁ H ₂₂ Cl ₂ N ₂ O ₈	64-73-3	Antibacterial
Denatonium benzoate	C ₂₈ H ₃₄ N ₂ O ₃	3734-33-6	Pharmaceutic aid
Deoxyepinephrine.HCl	C ₉ H ₁₄ ClNO ₂	62-32-8	Adrenergic, vasoconstrictor
2-Deoxy-D-glucose	C ₆ H ₁₂ O ₅	154-17-6	Exptlly as an antiviral agent
Dequalinium chloride	C ₃₀ H ₄₀ Cl ₂ N ₄	522-51-0	Therap cat.: antiseptic
Deslorelin	C ₆₄ H ₈₃ N ₁₇ O ₁₂	57773-65-6	
Desmosterol	C ₂₇ H ₄₄ O	313-04-2	DESMOSTEROL is an intermediate in the synthesis of cholesterol.
Dextrin	(C ₆ H ₁₀ O ₅) _n ·xH ₂ O	9004-53-9	Used as excipients for dry extracts, pills, explosives
Diacerein	C ₁₉ H ₁₂ O ₈	13739-02-1	Antiarthritic
Diacetone acrylamide	C ₉ H ₁₅ NO ₂	2873-97-4	Manuf. of coatings
2,6-Diamino-2'-butyloxy-3,5'-azopyridine	C ₁₄ H ₁₈ N ₆ O	617-19-6	Urinary antiseptic
2,6 Diaminopurine (in DB with hemihydrate)	C ₅ H ₆ N ₆	1904-98-9	
Diaziquone	C ₁₆ H ₂₀ N ₄ O ₆	57998-68-2	Antineoplastic
4i-5i-Dibromofluorescein	C ₂₀ H ₁₀ Br ₂ O ₅	596-03-2	Lipstick dye
3,5-Dibromo-L-tyrosine	C ₉ H ₉ Br ₂ NO ₃	300-38-9	Thyroid inhibitor
Dibromsalicil	C ₁₄ H ₈ Br ₂ O ₄	523-88-6	Germicide
Dibutyltin dilaurate	C ₃₂ H ₆₄ O ₄ Sn	77-58-7	Anthelmintic
2,6-Dichloroindophenol sodium	C ₁₂ H ₆ Cl ₂ NNaO ₂	620-45-1	Detn. of ascorbic acid
Dicloxacillin sodium salt hydrate (free base in db)	C ₁₉ H ₁₈ Cl ₂ N ₃ NaO ₆ S	13412-64-1	Antibacterial
Dicyclohexylcarbodiimide	C ₁₃ H ₂₂ N ₂	538-75-0	Synthesis of peptides
Diethylcarbamazine citrate	C ₁₆ H ₂₉ N ₃ O ₈	1642-54-2	Anthelmintic
Diflucortolone pivalate		15845-96-2	Anti-inflammatory

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Difluprednate	C27H34F2O7	23674-86-4	Anti-inflammatory
Digitonin	C56H92O29	11024-24-1	Cholesterol detn
Digoxigenin	C23H34O5	1672-46-4	
Dihydroergotamine tartrate	C70H80N10O16	5989-77-5	Anti-migraine
Dihydroergotamine methanesulfonate (in DB with hydrate)	C34H41N5O8S	6190-39-2	Anti-migraine
Dihydrostreptomycin sesquisulfate (in DB with only sulfate)	C42H88N14O36S3	5490-27-7	Antibacterial
Dihydrotachysterol	C28H46O	67-96-9	Calcium regulator
3,5-Diiodosalicylic acid	C7H4I2O3	133-91-5	Iodine source in foods
3,5-Diiodothyronine L form	C15H13I2NO4	1041-01-6	
Diloxanide furoate	C14H11Cl2NO4	3736-81-0	
2,3-Dimercaptopropane sulfonate	C3H7NaO3S3	2/2/4076	Antidote for heavy metal poisoning
Dimethadione	C5H7NO3	695-53-4	Anticonvulsant
Dimethylamine hydrochloride	C2H8ClN	506-59-2	Used in tanning
Isoamyl 4-(dimethylamino)benzoate	C14H21NO2	21245-01-2	Ester in UV screen
p-Dimethylaminobenzophenone	C15H15NO	530-44-9	
Dimethyl(methylene)ammonium iodide	C3H8IN	33797-51-2	In organic synth
Diminazene aceturate	C22H29N9O6	908-54-3	Antiprotozoal
4,4'-Dinitrocarbanilide	C13H10N4O5	587-90-6	
Diperodon hydrochloride	C22H28ClN3O4	537-12-2	Local anaesthetic
Diphenamid	C16H17NO	957-51-7	Herbicide
Diphenolic acid	C17H18O4	126-00-1	Cosmetics
Diprenorphine	C26H35NO4	14357-78-9	Narcotic antagonist
Disopyramide phosphate (in DB as Free base)	C21H32N3O5P	22059-60-5	Antiarrhythmic
1,2-Di-p-tolyethane	C16H18	538-39-6	
Domiphen bromide (in DB with hydrate)	C22H40BrNO	538-71-6	Anti-infective (topical)
Doxifluridine	C9H11FN2O5	9/5/3094	Antineoplastic
Doxorubicin hydrochloride	C27H30ClNO11	25316-40-9	

**GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017**

Merck Name	Formula	CAS #	Uses
Drometrizole	C13H11N3O	2440-22-4	UV screen
DTPB dihydrochloride	C8H20Cl2O2	38285-78-8	Polymerization catalyst
Dyphylline	C10H14N4O4	479-18-5	Bronchodilator
Eburnamonine (-)- Form not (-)-	C19H22N2O	4880-88-0	Vasodilator
Ecgonine hydrochloride (in DB with L)	C9H16ClNO3	5796-31-6	Topical anesthetic
Echinomycin	C51H64N12O12S2	512-64-1	Antibiotic
Eledoisin	C54H85N13O15S	69-25-0	Hypotensive
Ellagic acid	C14H6O8	476-66-4	Hemostatic
Emetine dihydrochloride (only hydrochloride in db)	C29H42Cl2N2O4	316-42-7	Antiamebic
Emodin (monohydrate in db)	C15H10O5	518-82-1	
Endothall	C8H10O5	145-73-3	Herbicide
Enoxacin	C15H17FN4O3	74011-58-8	Antibacterial
Eosine I Bluish	C20H6Br2N2Na2O9	548-24-3	Dye
Ephedrine I-Form (no fb in db)	C10H15NO	299-42-3	Bronchodilator
Epinephrine dl-Form	C9H13NO3	329-65-7	Cardiostimulant
dl-Epinephrine hydrochloride (in DB as free base only)	C9H14ClNO3	329-63-5	Bronchodilator
Equilin benzoate	C25H24O3	6030-80-4	
Ergonovine	C19H23N3O2	60-79-7	Oxytocic
L-(+)-Ergothioneine (has monohydrate in db)	C9H15N3O2S	58511-63-0 Sigma 497-30-3 Merck	
Erythromycin stearate	C55H103NO15	643-22-1	Antibacterial
Erythrosine	C20H6I4Na2O5	16423-68-0	Biological stain: color additive
β-Escin		11072-93-8	Horse chestnut
Esculin	C15H6O9	531-75-9	Skin protectant
1,2-Ethanedisulfonic acid	C2H6O6S2	110-04-3	Base in sedatives
1,2-Ethanedisulfonic acid disodium salt dihydrate	C2H8Na2O8S2	5325-43-9	Base in sedatives
Ethanolamine hydrochloride	C2H8ClNO	2002-24-6	
Ethephon	C2H6ClO3P	16672-87-0	Plant growth regulator

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
L-Ethionine	C6H13NO2S	13073-35-3	
DL-Ethionine		67-21-0	
Ethoxzolamide	C9H10N2O3S2	452-35-7	Diuretic
Ethyl β-carboline-3-carboxylate	C14H12N2O2	74214-62-3	
Ethylhydrocupreine	C21H28N2O2	522-60-1	Antiseptic
Ethylhydrocupreine hydrochloride	C21H29ClN2O2	3413-58-9	Antiseptic
Ethyl loflazepate	C18H14ClFN2O3	29177-84-2	Anxiolytic
Ethylmorphine (in DB with HCl)	C19H23NO3	76-58-4	Analgesic
Ethinodiol diacetate	C24H32O4	297-76-7	Oral contraceptive
Etidronic acid	C2H8O7P2	2809-21-4	
Etiocobalamin	C50H72CoN13O8	27792-36-5	Vitamin B12p; Factor B
Etonitazene hydrochloride (in DB with tetrahydrate)	C22H29ClN4O3	2053-25-0	Analgesic (narcotic)
Etoposide	C29H32O13	33419-42-0	Antineoplastic
Eucatropine hydrochloride	C17H26ClNO3	536-93-6	Anticholinergic
Evanís Blue	C34H24N6Na4O14S4	314-13-6	Dye
Fast Green FCF	C37H34N2Na2O10S3	2353-45-9	Biological stain
Fenbendazole	C15H13N3O2S	43210-67-9	Antheimintic
Fenfluramine hydrochloride	C12H17ClF3N	3239-45-0 [Merck] 404-82-0	Anorectic
Fenoterol hydrobromide	C17H22BrNO4	12/3/1944	Bronchodilator
Ferrous citrate monohydrate	C12H24FeO15		
Ferrous fumarate	C4H2FeO4	141-01-5	
Ferrous gluconate dihydrate	C12H26FeO16	22830-45-1	Food coloring and flavoring in foods
Fisetin	C15H10O6	528-48-3	Pigment Natural Brown 1
Flecainide monoacetate	C19H24F6N2O5	54143-56-5	Antiarrhythmic
Florfenicol	C12H14Cl2FN4O4S	73231-34-2	Antibacterial
Flumequine	C14H12FNO3	42835-25-6	Antibacterial
Flumethasone	C22H28F2O5	2135-17-3	Glucocorticoid
Flumethasone-21-pivalate	C27H36F2O6	2002-29-1	Glucocorticoid

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Flunarizine dihydrochloride	C26H28Cl2F2N2	30484-77-6	Vasodilator
Flunisolide	C24H31FO6	77326-96-6 Sigma 3385-03-3 Merck	Antiasthmatic
Fluocinolone acetonide	C24H30F2O6	67-73-2	Anti-inflammatory
9H-Fluorene-2,7-diamine	C13H12N2	525-64-4	
Fluorescamine	C17H10O4	38183-12-9	Analytical reagent
Fluorescein disodium salt	C20H10Na2O5	518-47-8	Analytical reagent
5-Fluoroorotic acid	C5H3FN2O4	703-95-7	Used in molecular genetics
4-Fluorophenylacetic acid	C8H7FO2	405-50-5	
Cis(Z)-Flupenthixol dihydrochloride	C23H27Cl2F3N2OS	2709-56-0 Sigma 2413-38-9 Merck	Antipsychotic
Trans(E)-Flupenthixol	C23H25F3NOS	53772-85-3	Antipsychotic (less active)
Fluphenazine dihydrochloride (hydrochloride in db but same formula)	C22H28Cl2F3N3OS	146-56-5	Antipsychotic
Fluprostenol	C23H29F3O6	40666-16-8	Infertility treatment (vet.)
Flurazepam dihydrochloride (hydrochloride in db but same formula)	C21H25Cl3FN3O	1172-18-5	Anxiolytic
Fluvoxamine maleate	C19H25F3N2O6	61718-82-9	Anti-depressant
Formanilide	C7H7NO	103-70-8	
Fraxetin	C10H8O5	574-84-5	
D-Fucose	C6H12O5	3615-37-0	
Fucosterol	C29H48O	17605-67-3	
Fumonisin B1	C34H59NO15	116355-83-0	
Alpha-Furildioxime monohydrate	C10H10N2O5	6035-71-8	As a reagent for nickel
Fusidic acid sodium salt (no sodium in db)	C31H47NaO6	751-94-0	
Galangin	C15H10O5	548-83-4	
Gallamine triethiodide	C30H60I3N3O3	65-29-2	
Gallein	C20H12O7	2103-64-2	Mordant Violet 25
Gallic acid propyl ester	C12H10O5	121-79-9	Astringent
Gallocyanine (N.I)	C15H13ClN2O5	1562-85-2	As a dye

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Gardol	C15H28NNaO3	137-16-6	Detergent, foaming agent, antienzyme for dentifrices
Gentian Violet	C25H30CIN3	548-62-9	As dye for wood, silk, paper; also antimicrobial
Gentisic acid sodium salt	C7H5NaO4	4955-90-2	Analgesic
Ginkgolide A	C20H24O9	15291-75-5	
Ginkgolide B	C20H24O10	15291-77-7	
Girard reagent T	C5H14CIN3O	123-46-6	
Girard reagent P	C7H10CIN3O	1126-58-5	In the isoln of 17- Ketosteroids and other carbonyl compounds
Gitoxigenin	C23H34O5	545-26-6	
D-Glucaric acid 1,4-lactone		389-36-6	
Glucoheptonic acid sodium salt	C7H13NaO8	10094-62-9 Sigma 13007-85-7 Merck	
Gluconic acid magnesium salt dihydrate	C12H26MgO16	59625-89-7	
Alpha-Glucose-1-phosphate dipotassium salt dihydrate		5996-14-5	
D-Glucuronic acid	C6H10O7	12/3/6556	
Glutamic acid - D-Form (no D form in DB)	C5H9NO4	6893-26-1	
Glyceraldehyde dimer- DL-Form	C6H12O6	51795-26-7	
Glycocholic acid hydrate		475-31-0	
Glycocholic acid sodium salt	C26H42NNaO6	863-57-0	
Glycol salicylate	C9H10O4	87-28-5	
N-Glycylglycine ethyl ester hydrochloride		2087-41-4	
Ammonium glycyrrhizinate	C42H75NO21	53956-04-4	
Glyoxal-sodium bisulfite	C2H4Na2O8S2	517-21-5	
Glyoxylic acid	C2H2O3	298-12-4	
Gold sodium thiomalate	C4H3AuNa2O4S	12244-57-4	Antirheumatic
Guaiol	C15H26O	489-86-1	
Guanabenz (in DB as acetate)	C8H8Cl2N4	5051-62-7	Antihypertensive

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Guanabenz monoacetate (Acetate in db)	C10H12Cl2N4O2	23256-50-0 (different CAS than in DB)	Antihypertensive
Guanethidine monosulfate	C10H24N4O4S	645-43-2	Antihypertensive
Guanosine	C10H13N5O5	118-00-3	
Guinea Green B	C37H35N2NaO6S2	4680-78-8	Limited use as a dye for silk and wool fabrics
Guvacine hydrochloride	C6H10ClNO2	498-96-4 Sigma (Merck Index gives same CAS# for Guvacine)	Growth factor
Haloproglin	C9H4Cl3IO	777-11-7	Antibacterial
Harmaline hydrochloride	C13H19ClN2O3	6027-98-1	CNS stimulant
Harmine hydrochloride		343-27-1	CNS stimulant
Hecogenin	C27H42O4	467-55-0	In prep of steroid hormones
Helicin	C13H16O7	618-65-5	
Helveticoside	C29H42O9	630-64-8	
Helvolic acid	C33H44O8	29400-42-8	Antibiotic
Hematein	C16H12O6	475-25-2	Indicator, cell nuclei stain
Hematoporphyrin (HCl in db)	C34H38N4O6	14459-29-1	
Hematoporphyrin dihydrochloride (in db as HCl)		17696-69-4 Sigma	Antidepressant
Hematoporphyrin HCl.H2O	C34H41ClN4O7	6033-08-5 Merck	
Hematoxylin (in db with trihydrate)	C16H14O6	517-28-2	Stain for microscopy
Heptaminol hydrochloride	C8H20ClNO	543-15-7	
Hexachlorophene	C13H6Cl6O2	70-30-4	Antiseptic, disinfectant
Hexadimethrine bromide	(C13H30Br2N2)x	28728-55-4	
Hexamethonium bromide	C12H30Br2N2	55-97-0	Antihypertensive
Hexamethonium chloride	C12H30Cl2N2	60-25-3	Antihypertensive
Hexestrol dipropionate		4825-530-0	Estrogen
Homidium bromide	C21H20BrN3	1239-45-8	Antiprotozoal
Homochlorcyclizine dihydrochloride	C19H25Cl3N2	1982-36-1	Serotonin antagonist
L-Homocystine (in DB as DL)		626-72-2	

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Hycanthone (methanesulfonate in db)	C20H24N2O2S	3105-97-3	Anthelmintic
Hydrastine hydrochloride (no HCl in db)	C21H22ClNO6	5936-28-7	Antiseptic
Hydrastinine hydrochloride (in db with h2o)	C11H14ClNO3	5936-29-8	Cardiotonic
Hydrindantin	C18H10O6	5103-42-4	
Hydrindantin dihydrate		5950-69-6	Reagent for the photometric determination of amino acids and similar compds.
Hydrobenzoin (meso in db)	C14H14O2	492-70-6	
Hydrocarbostyryl	C9H9NO	553-03-7	
Hydrocinchonine (9R not 9S)	C19H24N2O	485-65-4	
Hydrocortisone 17-butyrate	C25H36O6	13609-67-1	Glucocorticoid
Hydrocortisone 21-sodium succinate	C25H33NaO8	125-04-2	Glucocorticoid
Hydrocortisone 17-valerate	C26H38O6	57524-89-7	Glucocorticoid
Hydrocotarnine hydrobromide (have different formulas)	C20H26N2O2!HCl	5985-00-2	
Hydroquinine (might be hydroquinidine)	C20H26N2O2	522-66-7	
Hydroxocobalamin acetate salt	C64H91CoN13O16P	13422-51-0 Sigma Vitamin B12a 22465-48-1 Merck	
4'-Hydroxybutyranilide	C10H13NO2	101-91-7	Antioxidant
γ-Hydroxybutyrate sodium salt	C4H8NaO3	502-85-2	Anaesthetic
β-Hydroxybutyric acid (only alpha in DB)	C4H8O3	300-85-6	
25-Hydroxycholesterol	C27H46O2	2140-46-7	
4-Hydroxyisophthalic acid	C8H6O5	636-46-4	
5-(Hydroxymethyl)-2-furaldehyde	C6H6O3	67-47-0	In the synthesis of dialdehydes
8-Hydroxyquinoline sulfate (no sulfate in db)	C16H16N2O6S	134-31-6	Antiseptic
5-Hydroxy-L-tryptophan	C11H12N2O3	145224-90-4 Sigma 4350-09-8 Merck	Antimigraine
Hydroxyzine dihydrochloride	C21 H29 Cl3 N2 O2	2192-20-3	Anxiolytic

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Hymexazol	C4H5NO2	10004-44-1	Fungicide
Hypericin	C30H16O8	548-04-9	Antidepressant
Ibogaine hydrochloride	C20H27ClN2O	5934-55-4	Hallucinogen
Ibotenic acid	C5H6N2O4	2552-55-8	Neurobiological tool
Idarubicin	C26H27NO9	58957-92-9	Antineoplastic
Ifenprodil tartrate salt	C46H60N2O10	23210-58-4	Vasodilator
2-Imidazolidinone (hemihydrate in db)	C3H6N2O	120-93-4	Insecticide
Indocyanine Green	C43H47N2NaO6S2	3599-32-4	In infrared photography; in prepn of Wratten filter
Iodophthalein free acid	C20H10I4O4	386-17-4	Diagnostic aid
Iodoquinol	C9H5I2NO	83-73-8	
3-Iodotyrosine (in db with DL)	C9H10INO3	70-78-0	
Iophenoxic acid	C11H11I3O3	96-84-4	Diagnostic aid
Ipratropium bromide (anhydrous)	C20H30BrNO3	22254-24-6	Bronchodilator
Ipriflavone	C18H16O3	35212-22-7	
Iprodione	C13H13Cl2N3O3	36734-19-7	Fungicide
Isonitrosoacetophenone	C8H7NO2	532-54-7	Reagent for detn. of ferrous ions
(-)-Isoproterenol (+)bitartrate dehydrate		54750-10-6	Bronchodilator
Janus Green B	C30H31ClN6	2869-83-2	As dye for cotton
Kaempferol	C15H10O6	520-18-3	
Ketanserin tartrate	C26H28FN3O9	83846-83-7	Antihypertensive
Kynurenic acid (H2O in DB)	C10H7NO3	492-27-3	Nutrition studies
L-Kynurenine	C10H12N2O3	2922-83-0	In biochemical studies
L-Kynurenine sulfate	C10H14N2O8S	16055-80-4	Ditto
DL-Kynurenine	C10H12N2O3	10/9/3039	Ditto
DL-Kynurenine sulfate	C10H14N2O7S	26-91-2	Ditto
D-(-)-Lactic acid	C3H6O3	10326-41-7	
Lactobionic acid	C12H22O12	96-82-2	
Lead subacetate	C4H10O8Pb3	1335-32-6	In sugar analysis
Leucopterin	C6H5N5O3	492-11-5	
Leuprolide monoacetate	C61H88N16O14	74381-53-6	Antineoplastic

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Levorphanol tartrate dihydrate (no dihydrate in db)	C21H33NO9	5985-38-6	Analgesic (narcotic)
Light Green SF Yellowish	C37H34N2Na2O9S3	5141-20-8	As dye, biological stain
Lignoceric acid	C24H48O2	557-59-5	
Lignoceric acid methyl ester	C25H50O2	2442-49-1	
Limaprost	C22H36O5	74397-12-9	Antianginal
Limettin	C11H10O4	487-06-9	
S(-)-Lisuride	C20H26N4O	140387-89-9	Antimigraine
Lobeline hydrochloride	C22H28ClNO2	134-63-4	
Lucifer Yellow CH dilithium salt	C13H9Li2N5O9S2	67769-47-5	As intracellular marker in
Lumazine	C6H4N4O2	487-21-8	
Lumichrome	C12H10N4O2	1086-80-2	
Lupeol	C30H50O	545-47-1	Plant triterpene
Luteolin	C15H10O6	491-70-3	
Lycopene	C40H56	502-65-8	From tomato
Lycorine hydrochloride	C16H18ClNO4		
Lysidine	C4H8N2	534-26-9	
Mafenide acetate	C9H14N2O4S	7761-27-5 Sigma 13009-99-9 Merck	Antibacterial
Magenta I	C20H20ClN3	632-99-5	As a dye or in manuf of other dyes
Mandelonitrile	C8H7NO	532-28-5	
Mazindol	C16H13ClN2O	22232-71-9	Anorexic
Mebeverine hydrochloride	C25H36ClNO5	2753-45-9	Antispasmodic
Mebhydroline 1,5-naphthalene- disulfonate	C46H48N4O6S	6153-33-9	Antihistaminic
Mechlorethamine hydrochloride	C5H12Cl3N	55-86-7	
Meclizine dihydrochloride monohydrate	C25H31Cl2N2O	1104-22-9 Sigma 31884-77-2 Merck	Antiemetic
Meclocycline 5-sulfosalicylate	C29H27ClN2O14S	73816-42-9	Antibacterial
Meclofenoxate hydrochloride	C12H17Cl2NO3	3685-84-5	Cerebral stimulant
Mefexamide hydrochloride	C15H25ClN2O3	1227-61-8	CNS stimulant

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Meglumine diatrizoate	C18H26I3N3O9	131-49-7	Diagnostic aid
Meglutol	C6H10O5	503-49-1	Antihyperlipo-proteinemic
Melibiose	C12H22O11	585-99-9	
Melphalan	C13H18Cl2N2O2	148-82-3	Antineoplastic
Menadione sodium bisulfite (trihydrate in DB)	C11H9NaO5S	57414-02-5 Sigma	Vitamin
Menaquinone 4	C31H40O2	11032-49-8 Sigma	Vitamin K2
Mepartricin		11121-32-7	Antifungal
Mephenesin	C10H14O3	59-47-2	
Merbromin	C20H8Br2HgNa2O6	129-16-8	Antibacterial
Mesna	C2H5NaO3S2	19767-45-4	Mucolytic
Mestanolone	C20H32O2	1424-00-6	Androgen
Metachrome Yellow (no name in db)	C13H8N3NaO5	584-42-9	Biological stain and acid-base indicator
Metamitron	C10H10N4O	41394-05-2	Herbicide
Metampicillin sodium salt	C17H18N3NaO3S	6489-97-0 Sigma 6489-61-8 Merck	Antibacteria
Metanil Yellow	C18H14N3NaO3S	587-98-4	As indicator
Metaproterenol sulfate	C22H36N2O10S	5874-97-5	Bronchodilator
Metaraminol bitartrate	C13H19NO8	33402-03-8	Adrenergic
Methacholine chloride	C8H18ClNO2	62-51-1	Urinary acid
Methohexital sodium	C14H17N2NaO3	22151-68-4	
Methotrexate monohydrate	C20H24N8O6	6745-93-3	Antineoplastic
10-Methoxyharmalan (6-Methoxyharmalan in Sigma)	C13H14N2O	3589-73-9	Weak serotonin inhibitor
N-(p-Methoxyphenyl)-p- phenylenediamine hydrochloride	C13H15ClN2O	3566-44-7	Variamine Blue B
5-Methoxytryptamine hydrochloride	C11H15ClN2O	66-83-1	
Methyl anthranilate	C8H9NO2	134-20-3	As perfume for ointments; manuf synthetic perfumes
Methylbenzenethonium chloride	C28H44ClNO2	25155-18-4	Anti-infective (topical)

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Methylcobalamin	C63H91CoN13O14P	13422-55-4	Vitamin
3-O-Methyldopa (L-form)	C10H13NO4	300-48-1	
4,4'-Methylenebis[2-chloroaniline]	C13H12Cl2N2	101-14-4	Curing agent for polyurethane polyurethane and epoxy resins
(1R,2S)-(-)-N-Methylephedrine	C11H17NO	552-79-4	Analeptic
Methylergonovine maleate	C24H29N3O6	57432-61-8	Oxytocic
Methyl isothiocyanate	C2H3NS	556-61-6	Pesticide
Methyl nicotinate	C7H7NO2	93-60-7	Rubefacient
N-Methylphenazonium methosulfate	C14H14N2O4S	299-11-6	
Methysergide hydrogen maleate	C25H31N3O6	129-49-7	Antimigraine
Metitepine (in DB with maleate)	C20H24N2S2	20229-30-5	In biochemical studies
Metrizamide	C18H22I3N3O8	31112-62-6	
(±)-Mevalonic acid lactone	C6H10O3	674-26-0	
Midazolam maleate	C22H17ClFN3O4	59467-94-6	Anaesthetic
Midecamycin A1	C41H67NO15	35457-80-8	Antibacterial
Midodrine hydrochloride	C12H19ClN2O4	3092-17-9	Adrenergic
Miltefosine	C21H46NO4P	58066-85-6	Antineoplastic
Minaprine dihydrochloride	C17H24Cl2N4O	25905-77-5 Sigma 25953-17-7 Merck	Antidepressant
Mitoxantrone dihydrochloride	C22H30Cl2N4O6	65271-80-9 Sigma 70476-82-3 Merck	Antineoplastic
Mizoribine	C9H13N3O6	50924-49-7	Immunosuppressant
Mocimycin	C43H60N2O12	50935-71-2	Antibiotic
Molsidomine (in db with dihydrate)	C9H14N4O4	25717-80-0	Antianginal
MOPS	C7H15NO4S	1132-61-2	Biological buffer
Morantel citrate	C18H26N2OS	69525-81-1	Anthelmintic
Moroxydine	C6H13N5O	3731-59-7	Antiviral
Moxalactam disodium salt	C20H18N6Na2O9S	64953-12-4	Antibacterial
Moxisylyte hydrochloride	C16H26ClNO3	964-52-3	Vasodilator
Moxonidine hydrochloride	C9H13Cl2N5O	75438-58-3	Antihypertensive
MPTP	C12H15N	28289-54-5	

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
N-Acetylmuramic acid	C ₁₁ H ₁₉ N ₂ O ₈	10597-89-4	As chemical marker for the detection of
Murexide	C ₈ H ₈ N ₆ O ₆	3051-09-0	Indicator for omplexometric titrations.
Muscimol (hemihydrate in DB)	C ₄ H ₆ N ₂ O ₂	2763-96-4	In study of GABA receptors
Myricetin	C ₁₅ H ₁₀ O ₈	529-44-2	
Nafcillin sodium salt monohydrate	C ₂₁ H ₂₃ N ₂ NaO ₆	7177-50-6	Antibacterial
Nafronyl oxalate (no oxalate in db)	C ₂₆ H ₃₅ N ₂ O ₇	6/4/3200	Vasodilator
Nalbuphine hydrochloride dehydrate (dihydrate in db)	C ₂₁ H ₂₈ ClNO ₄	59052-16-3	Analgesic (narcotic)
Nalmefene (not free base in db)	C ₂₁ H ₂₅ N ₂ O ₃	55096-26-9	Narcotic antagonist
Nalorphine hydrochloride	C ₁₉ H ₂₂ ClNO ₃	57-29-4	Narcotic antagonist
Naltrexone hydrochloride	C ₂₀ H ₂₄ ClNO ₄	16676-29-2 (different CAS in DB)	Narcotic antagonist
Nandrolone decanoate	C ₂₈ H ₄₄ O ₃	360-70-3	Anabolic
α-Naphtholphthalein	C ₂₈ H ₁₈ O ₄	596-01-0	As indicator
Naphthol Yellow S	C ₁₀ H ₄ N ₂ Na ₂ O ₈ S	846-70-8	Dye for wool, silk
1-Naphthylamine-8-sulfonic acid	C ₁₀ H ₉ N ₂ O ₃ S	82-75-7	
N-(1-Naphthyl)ethylene- diamine dihydrochloride	C ₁₂ H ₁₆ Cl ₂ N ₂	1465-25-4	Determination of sulfanilamide
Napropamide	C ₁₇ H ₂₁ N ₂ O ₂	15299-99-7	Herbicide.
Naringin (hydrate in db)	C ₂₇ H ₃₂ O ₁₄	10236-47-2	In grapefruit rind and juice
Neocuproine hydrochloride hydrate	C ₁₄ H ₁₅ ClN ₂ O	7296-20-0	In blood glucose assay
Neohesperidin dihydrochalcone	C ₂₈ H ₃₆ O ₁₅	20702-77-6	Sweetening agent in chewing gum
Neopterin (D-erythro)	C ₉ H ₁₁ N ₅ O ₆	2009-64-5	
Neostigmine methyl sulfate	C ₁₃ H ₂₂ N ₂ O ₆ S	51-60-5	Cholinergic
Neriifolin	C ₃₀ H ₄₆ O ₈	466-07-9	Cardiotonic
Neotetrazolium chloride	C ₃₈ H ₂₈ Cl ₂ N ₈	298-95-3	Staining of microorganisms
Netilmicin sulfate	C ₄₂ H ₉₂ N ₁₀ O ₃₄ S ₅	56391-57-2	Antibacterial
Netropsin dihydrochloride	C ₁₈ H ₂₈ Cl ₂ N ₁₀ O ₃	1438-30-8	
Nialamide (HCl in db)	C ₁₆ H ₁₈ N ₄ O ₂	51-12-7	

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Nicarbazin	C19H18N6O6	330-95-0	Cocciostat
Nilutamide	C12H10F3N3O4	63612-50-0	Antiandrogen
Nimustine (no freebase in db)	C9H13ClN6O2	42471-28-3	Antineoplastic
Nitrapyrin	C6H3Cl4N	1929-82-4	Fertilizer additive
Nitrilotriacetic acid trisodium salt	C6H6NNa3O6	5064-31-3	Chelating agent
4-Nitrobenzoyl chloride	C7H4ClNO3	122-04-3	
5-Nitro-2-propoxyaniline	C9H12N2O3	553-79-7	
3-Nitrosalicylic acid	C7H5NO5	85-38-1	In dye chemistry
3-Nitrosobenzamide	C7H6N2O2	144189-66-2	
4-Nitrosophenol	C6H5NO2	104-91-6	
Nivalenol (monohydrate in db)	C15H20O7	23282-20-4	Chemical warfare agent?
NMN	C11H15N2O8P	1094-61-7	
Nordihydroguaiaretic acid	C18H22O4 (has Br2 in formula in db)	500-38-9 27686-84-6 Merck	Antineoplastic
(+)-Norepinephrine bitartrate	C12H17NO9	69815-49-2	Adrenergic (vasopressor)
DL-Norepinephrine hydrochloride	C8H12ClNO3	55-27-6 Sigma 329-56-6 Merck	Antihypotensive
(+)-Norgestrel	C21H28O2	797-64-8	Progestrogen
L-Norleucine	C6H13NO2	327-57-1	
Normorphine	C16H17NO3	466-97-7	Analgesic narcotic
L-Norvaline (DL in db)	C5H11NO2	6600-40-4	
Novobiocin sodium salt	C31H35N2NaO11	1476-53-5	Antibacterial
Octacosanol	C28H58O	557-61-9	From caruba wax
Oleandomycin phosphate	C35H64NO16P	7060-74-4	Antibacterial
Oleanolic acid	C30H48O3	508-02-1	
Oligomycin A	C45H74O11	579-13-5	Antifungal
Oligomycin B	C45H72O12	11050-94-5	Antifungal
Oligomycin C	C45H74O10	11052-72-5	Antifungal
Orcein	C28H24N2O7	1400-62-0	Biological stain

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Orcinol monohydrate	C7H10O3	6153-39-5	As a reagent for pentoses, lignin, beet sugar, saccharoses, arabinose, diastase
Orotic acid methyl ester	C6H6N2O4	6153-44-2	Uricosuric
Orotidine	C10H12N2O8	314-50-1	
Ouabagenin	C23H34O8	508-52-1	
Oxaceprol. (hydrate in db)	C7H11NO4	33996-33-7	
Oxalacetic acid.	C4H4O5	328-42-7	
Oxamic acid	C2H3NO3	471-47-6	
Oxantel pamoate	C36H32N2O7	68813-55-8	Anthelmintic
Oxaprozin	C18H15NO3	21256-18-8	Anti-inflammatory
Oxatomide (monohydrate in db)	C27H30N4O	60607-34-3	Antiasthmatic
Oxibendazole	C12H15N3O3	20559-55-1	Anthelmintic
Oxophenylarsine	C6H5AsO	637-03-6	Pesticide
Oxyphenonium bromide	C21H34BrNO3	50-10-2	Anticholinergic
Oxythiamine hydrochloride	C12H17Cl2N3O2S	614-05-1	
Ozagrel hydrochloride	C13H13ClN2O2	78712-43-3	Antianginal
Paclitaxel	C47H51NO14	33069-62-4	Antineoplastic
Palmidrol	C18H37NO2	544-31-0	Natural Anti-inflammatory
Pancuronium bromide	C35H60Br2N2O4	15500-66-0	Muscle relaxant
Pantethine	C22H42N4O8S2	16816-67-4	Antihyper-lipoproteinemic
Pantolactone-D(-)-Form	C6H10O3	599-04-2	
(+)-Pantothenic acid, sodium salt	C9H16NNaO5	867-81-2	
Pargyline (hydrochloride in db)	C11H13N	555-57-7	
Paromomycin sulfate	C23H47N5O18S	1263-89-4	Antibacterial
Parthenolide	C15H20O3	20554-84-1	
Pelargonidin	C15H11ClO5	134-04-3	
Penicillamine-L-Form (DL form in db)		1113-41-3	L-Form as exptl inducer of convulsions
steaillamine disulfide-D-Form	C10H20N2O4S2	20902-45-8	
Pentagastrin	C37H49N7O9S	5534-95-2	Diagnostic aid

**GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017**

Merck Name	Formula	CAS #	Uses
Pentifylline	C13H20N4O2	1028-33-7	Vasodilator
Pentolinium tartrate	C23H42N2O12	52-62-0	Antihypertensive
Pepstatin	C34H63N5O9	26305-03-3	
Peruvoside	C30H44O9	1182-87-2	In cardiac insufficiency
Phenethicillin potassium salt	C17H19KN2O5S	132-93-4	Antibacterial
Phenosafranin	C18H15ClN4	81-93-6	Biological stain
Phenoxyacetyl cellulose		68332-77-4	In enzyme immobilization
Phenoxybenzamine hydrochloride	C18H23Cl2NO	63-92-3	Antihypertensive
Phentermine hydrochloride	C10H16ClN	1197-21-3	Anorexic
Phentolamine methanesulfonate	C18H23N3O4S	65-28-1	
Phenyl aminosalicylate	C13H11NO3	133-11-9	Antibacterial
2-Phenyl-1H-benzimidazole	C13H10N2	716-79-0	Anthelmintic
α -Phenylcinnamic acid trans-form	C15H12O2	91-48-5	
Phenylethanolamine	C8H11NO	7568-93-6	
Phenylglyceryl ether	C9H12O3	538-43-2	
4-Phenylsemicarbazide hydrochloride	C7H10ClN3O	5441-14-5	
Phenyltrimethylammonium iodide	C9H14IN	98-04-4	For the detn of Cd
Phloretin	C15H14O5	60-82-2	
Phorbol (not freebase in db)	C20H28O6	17673-25-5	
Phorbol 12-myristate 13 acetate	C36H56O8	6357-44-4	
Phosphocreatine sodium salt	C4H8N3Na2O5P	19333-65-4	Cardioprotective
Phosphocysteamine sodium salt	C2H7NNaO3PS	3724-89-8	Research radioprotective agent
Phosphorylcholine calcium salt	C5H13CaClNO4P	4826-71-5	In hepatobiliary dysfunction
Physalaemin	C58H84N14O16S	2507-24-6	Vasodilator
Physostigmine sulfate	C30H44N6O8S	64-47-1	Cholinergic
Picloram	C6H3Cl3N2O2	2/1/1918	Herbicide
Picotamide (monohydrate in db)	C21H20N4O3	32828-81-2	Antithrombotic
Pipemidic acid (trihydrate in db)	C14H17N5O3	51940-44-4	Antibacterial
Pipenzolate bromide	C22H28BrNO3	125-51-9	Anticholinergic
Piperonylic acid	C8H6O4	94-53-1	
PIPES disodium salt	C8H16N2Na2O6S2	76836-02-7	Biological buffer

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
PIPES monosodium salt	C8H17N2NaO6S2	10010-67-0	Biological buffer
Pipsyl chloride	C6H4ClIO2S	98-61-3	
Pirenzepine dihydrochloride	C19H23Cl2N5O2	29868-97-1	Antilucerative
Pivalic acid	C5H10O2	75-98-9	
Podocarpic acid	C17H22O3	5947-49-9	
Polyvinyl alcohol		9002-89-5	In the plastics industry
Porphobilinogen	C10H14N2O4	487-90-1	
Potassium oleate	C18H33KO2	143-18-0	Detergent
Potassium sorbate	C6H7KO2	24634-61-5	As mold and yeast inhibitor
Praziquantel	C19H24N2O2	55268-74-1	Anthelmintic
Prednisolone 21-succinate sodium salt	C25H31NaO8	1715-33-9	Glucocorticoid
Prephenic acid barium salt monohydrate	C10H10BaO7	2931-08-0	
Pridinol methanesulfonate (only freebase in db)	C21H29NO4S	6856-31-1	Antiparkinsonian
Prilocaine hydrochloride	C13H21ClN2O	1786-81-8	Local anaesthetic
Proflavine sulfate	C13H13N3O4S	1811-28-5 553-30-0 Merck	Topical antiseptic
Proglumide sodium salt (free base in db)		99247-33-3 Anticholinergic	
Propafenone hydrochloride	C21H28ClNO3	54063-53-5 (Sigma) Antiarrhythmic 34183-22-7 Merck	
Propagermanium	C6H10Ge2O7	12758-40-6	
Proparacaine hydrochloride	C16H27ClN2O3	6/9/5875	Topical anesthetic
Propyl gallate	C10H12O5	121-79-9	Antioxidant
Proscillaridin	C30H42O8	466-06-8	Cardiotonic
Prostacyclin sodium salt	C20H31NaO5	61849-14-7	Platelet aggregation inhibitor
Prostaglandin F2 α tromethamine salt	C24H45NO8	38562-01-5	Oxytocic
Protoporphyrin IX	C34H34N4O4	553-12-8	In liver disease
Protoporphyrin IX disodium salt	C34H32N4Na2O4	50865-01-5	In liver disease
Protoveratrine A	C41H63NO14	143-57-7	Antihypertensive

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Proxiphylline (R,S in db)	C10H14N4O3	603-00-9	Bronchodilator
Pterioic acid	C14H12N6O3	119-24-4	In synth+C578+D578
Puromycin dihydrochloride		58-58-2	Antiprotozoal
Purpurogallin	C11H8O5	569-77-7	Oxidation retardant
Pyrantel tartrate	C15H20N2O6S	33401-94-4	Anthelmintic
Pyridostigmine bromide	C9H13BrN2O2	101-26-8	
Pyridoxamine dihydrochloride (in db as hydrochloride)	C8H14Cl2N2O2	524-36-7	
4-Pyridoxic acid		82-82-6	0
Pyriithiamine hydrobromide	C14H20Br2N4O	534-64-5	
Pyronine B.	C21H27ClN2O	2150-48-3	
Pyronine Y.	C17H19ClN2O.	92-32-0	Bacterial and biological stain
Quercitrin	C21H20O11	522-12-3	Textile dye
Quinacrine dihydrochloride dihydrate	C23H36Cl3N3O3	6151-30-0	Anthelmintic
Quinaldine Blue (pinacyanol chloride) (chromosomes)	C25H25ClN2	2768-90-3	Histological stain
Quinaldine Red	C21H23IN2	117-92-0	As an indicator
Quinidine gluconate	C26H36N2O9	7054-25-3	Antiarrhythmic
Quinidine sulfate dihydrate	C40H54N4O10S	6591-63-5	Antiarrhythmic
Quinoline Yellow	C18H11NO2	8004-92-0	Textile dye
Quinoline Yellow spirit soluble		8003-22-3	
Quinovose	C6H12O5	8/4/7658	
Quinuclidine	C7H13N	100-76-5	
3-Quinuclidinol (has rac in db)	C7H13NO	1619-34-7	
Radicinin	C12H12O5	10088-95-6	
Reinecke salt	C4H10CrN7S4	13573-16-5	Precipitant for primary & secondary amines
Resazurin	C12H7NO4	550-82-3 [62758-13-8] is for the Na salt	As indicator
Resveratrol (in db as trans)	C14H12O3	501-36-0	

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Retene	C ₁₈ H ₁₈	483-65-8	
Rhapontin	C ₂₁ H ₂₄ O ₉	155-58-8	
Rhein	C ₁₅ H ₈ O ₆	478-43-3	
Ribostamycin sulfate		53797-35-6	Antibacterial
Rifampin (rifampicin)	C ₄₃ H ₅₈ N ₄ O ₁₂	13292-46-1	Antibacterial
Rifamycin SV sodium salt	C ₃₇ H ₄₇ NNaO ₁₂	14897-39-3	Antibacterial
Rilmnidine fumarate	C ₁₄ H ₂₀ N ₂ O ₅	54187-04-1	Antihypertensive
Riluzole	C ₈ H ₅ F ₃ N ₂ O ₅	1744-22-5	Neuroprotective
Rimantadine hydrochloride	C ₁₇ H ₂₂ ClNO ₃	1501-84-4	Antiviral
Ritanserlin	C ₂₇ H ₂₅ F ₂ N ₃ O ₅	87051-43-2	Anxiolytic
Ritodrine hydrochloride	C ₁₂ H ₂₂ ClNO ₃	23239-51-2	Tocolytic
Rolipram	C ₁₆ H ₂₁ NO ₃	61413-54-5	Antidepressant
Rolitetracycline	C ₂₇ H ₃₃ N ₃ O ₈	751-97-3	Antibacterial
Rosaramicin (Rosamicin)	C ₃₁ H ₅₁ NO ₉	35834-26-5	Antibacterial
Rose bengal disodium salt	C ₂₀ H ₂ Cl ₄ Na ₂ O ₅	632-69-9	Dye
Rottlerin	C ₃₀ H ₂₈ O ₈	82-08-6	
Roxithromycin (monohydrate in db)	C ₄₁ H ₇₆ N ₂ O ₁₅	80214-83-1	Antibacterial
Ryanodine	C ₂₅ H ₃₅ N ₉	15662-33-6	Insecticide
Salicylamide O-acetic acid sodium salt	C ₉ H ₈ NNaO ₄	3785-32-8	Analgesic
Salinomycin	C ₄₂ H ₇₀ O ₁₁	53003-10-4	Anticoccidial agent
Sanguinarine chloride	C ₂₀ H ₁₄ ClNO ₄	5578-73-4	In mouthwash
Saralasin	C ₄₂ H ₆₅ N ₁₃ O ₁₀	34273-10-4	Antihypertensive
Scarlet Red (Sudan IV)	C ₂₄ H ₂₀ N ₄ O	85-83-6	Fat Stain
Scoparone (dimethoxycoumarin)	C ₁₁ H ₁₀ O ₄	120-08-1	
Scopolamine methyl nitrate	C ₁₈ H ₂₄ N ₂ O ₇	6106-46-3	Sedative
Scopolamine N-oxide hydrobromide	C ₁₇ H ₂₂ BrNO ₅	6106-81-6	Anticholinergic
Selenomethionine L-form	C ₅ H ₁₁ NO ₂ Se	3211-76-5	
Semioxamideq (oxamic hydrazide)	C ₂ H ₅ N ₃ O ₂	515-96-8	Reagent for aldehydes and ketones
Serotonin hydrochloride	C ₁₀ H ₁₃ ClN ₂ O	153-98-0	
Serotonin hydrogen maleate		18525-25-2	

**GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017**

Merck Name	Formula	CAS #	Uses
Shikimic acid	C7H10O5	138-59-0	
Silver lactate	C4H5AgO3	128-00-7	
Silybin	C25H22O10	22888-70-6	
Sinefungin	C15H23N7O5	58944-73-3	Antibiotic activity
Sinomenine	C19H23NO4	115-53-7	
Sisomicin sulfate	C38H84N10O34S5	53179-09-2	Antibacterial
Sodium cacodylate (trihydrate)	C2H12AsNaO4	124-65-2	Herbicide
Solanidine	C27H43NO	80-78-4	
α-Solanine	C45H73NO15	20562-02-1	
Sophorose (Hydrate in db)	C12H22O11	534-46-3 Merck 20429-79-2 Sigma	
Spectinomycin dihydrochloride hydrate		21736-83-4	Antibacterial
Spermine	C10H26N4	71-44-3	
D-Sphingosine	C18H37NO2	123-78-4	
Statine	C8H17NO3	49642-07-1	
Stigmastanol	C29H52O	19466-47-8 Sigma 83-45-4 Merck	
Streptomycin sesquisulfate	C42H84N14O36S3	3810-74-0	Antibacterial
Streptonigrin	C25H22N4O8	3930-19-6	Antineoplastic
Streptozocin	C8H15N3O7	18883-66-4	Antineoplastic
Strophanthidin	C23H32O6	66-28-4	
Styrene glycol	C8H10O2	93-56-1	Esters as plasticizers
Succinonitrile	C4H4N2	110-61-2	
Succinylcholine chloride	C14H30Cl2N2O4	71-27-2 Merck 6101-15-1	Muscle relaxant
Sucralfate	C12H54Al16O75S8	54182-58-0	Antiulcerative
Sulfacetamide sodium salt	C8H9N2NaO3S	6209-17-2 127-56-0 Merck	Antibacterial
Sulfadiazine sodium salt	C10H9N4NaO2S	547-32-0	Antibacterial
Sulfadimethoxine sodium salt (free base in db)	C12H13N4NaO4S	1037-50-9	Antibacterial

GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017

Merck Name	Formula	CAS #	Uses
Sulfamerazine sodium salt(free base in db)	C11H11N4NaO2S	127-58-2	Antibacterial
Sulfamethazine sodium salt(free base in db)	C12H13N4NaO2S	1981-58-4	Antibacterial
Sulfaquinoxaline sodium salt	C14H11N4NaO2S	967-80-6	Coccidiostat
Sulfoacetic acid	C2H4O5S	123-43-3	
Sulfobromophthalein sodium salt	C20H8Br4Na2O10S2	71-67-0	Diagnostic aid(vet.)
Sulisobenzone	C14H12O6S	4065-45-6	Ultraviolet screen
Sulphan Blue	C27H31N2NaO6S2	129-17-9	Dyeing
Suramin sodium salt	C51H34N6Na6O23S6	129-46-4	Antiprotozoal
Suxibuzone	C24H26N2O6	27470-51-5	Anti-inflammatory
Synephrine	C9H13NO2	94-07-5	Adrenergic
Tacrine hydrochloride	C13H15ClN2	1684-40-8	Antidote to curare
D-Tagatose	C6H12O6	87-81-0	
Tannic acid		1401-55-4	Mordant in dyeing: astringent
Telenzepine dihydrochloride	C19H26N4O4S	80880-90-6	Antiulcerative
Terazosin hydrochloride (dihydrate in db)	C19H26ClN5O4	63590-64-7	Antihypertensive
α-Terthienyl	C12H8S3	1081-34-1	antiviral
3,4,5,6-Tetrabromo-o-cresol	C7H4Br4O	576-55-6	Fungicide
3',3'',5',5''-Tetrabromophenol- phthalein	C20H10Br4O4	76-62-0 Merck 1301-20-8 Aldrich	
Tetracycline phosphate complex	C22H25N2O11P	1336-20-5	Antibacterial
Tetramethyldiaminobutane	C8H20N2	111-51-3	
Tetrandrine (in db as isotetrandrine)	C38H42N2O6	518-34-3	
Tetrazolium Blue	C40H32Cl2N6O2	1871-22-3	Stain for bacteria
TFM	C7H4F3NO3	88-30-2	Lamprey killer
Thiamylal	C12H18N2O2S	77-27-0	Intravenous anaesthetic
Thidiazuron	C9H8N4OS	51707-55-2	Cotton defoliant

**GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017**

Merck Name	Formula	CAS #	Uses
Thiobutabarbital sodium salt	C10H15N2NaO2S	2095-57-0 947-08-0 Merck	Intravenous anaesthetic
5-Thio-D-glucose	C6H12O5S	20408-97-3	Tool for examination of D-glucose biochemistry
Thioguanosine	C10H13N5O4S	85-31-4 Sigma In cancer research	
2-Thiophenecarboxylic acid sodium salt (no sodium in db)	C5H3NaO2S	25112-68-9	Lubricating-grease thickener
THIP hydrochloride (Gaboxadol hydrochloride in db)	C6H9ClN2O2	64603-91-4	Molecular probe
Thymopentin	C30H49N9O9	69558-55-0	Immunoregulator
Tianeptine (HCl in db)	C21H25ClN2O4S	66981-73-5 Merck 72797-41-2 Sigma	Antidepressant
Tobramycin sulfate (no sulfate in db)	C18H39N5O13S	79645-27-5 Merck 49842-07-1 Sigma	Antibacterial
Tolazoline (HCl in db)	C10H12N2	59-98-3	
Tolmetin sodium salt dihydrate	C15H18NNaO5	64490-92-2	Anti-inflammatory
Tolonium chloride	C15H14ClN3S	92-31-9	Dyeing
Toluene-3,4-dithiol	C7H8S2	496-74-2	Detn. of bismuth, molybdenum etc.
p-Tolunitrile	C8H7N	104-85-8	
p-Tolylsulfonylmethylnitrosamide	C8H10N2O3S	80-11-5	prepn of diazomethane
Tomatidine hydrochloride (HBr in db)	C27H46ClNO2	6192-62-7	
Tomatine	C50H83NO21	17406-45-0	
Traumatic acid	C12H20O4	6402-36-4	
1-Triacontanol	C30H62O	593-50-0	Plant growth regulator
2,4,6-Tribromo-m-cresol	C7H5Br3O	4619-74-3	Antifungal(topical)
2,4,6-Trichloroanisole (1,3,5 Trichloro-2-methoxybenzene)	C7H5Cl3O	87-40-1	Formerly as a dye assistant for polyester fibers
Trichothecin	C19H24O5	6379-69-7	
Triclocarban	C13H9Cl3N2O	101-20-2	Antiseptic

**GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017**

Merck Name	Formula	CAS #	Uses
Trigonelline hydrochloride (Trigonaline in db)	C7H8ClNO2	6138-41-6	
DL-Trihexyphenidyl hydrochloride (no DL in db)	C20H32ClNO	52-49-3 Merck Anticholinergic 58947-95-8 Sigma	
Trimebutine maleate	C26H33NO9	34140-59-5 Antispasmodic	
Troleandomycin	C41H67NO15	9-9-2751 Antibacterial 2751-09-9 Merck	
Trypan Blue	C34H24N6Na4O14S4	72-57-1	Biological stain
Tubocurarine chloride (pentahydrate in db)	C37H42Cl2N2O6	6989-98-6 57-94-3 Merck	Muscle relaxant
Tyramine	C8H11NO	51-67-2	Adrenergic
Ubenimex	C16H24N2O4	58970-76-6	Antineoplastic
Ubiquinone 50 (in db as 10)	C59H90O4	303-98-0	Cardiotonic
Urapidil hydrochloride	C20H30N5O3	64887-14-5	Antihypertensive
Uridine 5'-triphosphate trisodium salt dihydrate	C9H16N2Na3O17P3	116295-90-0	
Ursolic acid (ethanol in db)	C30H48O3	77-52-1	Emulsifying agent
Valproic acid sodium salt (1:1)	C8H15NaO2	1069-66-5	Anticonvulsant
Veratridine (perchlorate in db)	C36H51NO11	71-62-5	
Vigabatrin	C6H11NO2	60643-86-9	Anticonvulsant
Vindesine sulfate	C43H57N5O11S	59917-39-4	Antineoplastic
Violuric acid monohydrate	C4H5N3O5	26351-19-9	Chelating agent
Virginiamycin M1 (Ostreogrycin A in db)	C28H35N3O7	21411-53-0	Antibacterial
Vitamin A (antixerophthalmic)	C20H30O	68-26-8	Vitamin
Vomitoxin	C15H20O6	51481-10-8	
Xanthine sodium salt (hydrate in db)		1196-43-6	
Xanthopterin monohydrate	C6H7H5O3	1/1/5979	
Xanthurenic acid (monohydrate in db)	C10H7NO4	59-00-7	

**GRANT-IN-AID STUDY
LIST OF APPROVED PHARMACEUTICALS
JULY 2017**

Merck Name	Formula	CAS #	Uses
P-Xenylcarbimide	C ₁₃ H ₉ NO	92-95-5	As a reagent for the identification of OH compounds
Xylenol 2,4-dimethylphenol	C ₈ H ₁₀ O	526-75-0	
Xylenol Blue	C ₂₃ H ₂₂ O ₅ S	125-31-5	Indicator
Xylyl bromide o-Xylyl bromide	C ₈ H ₉ Br	89-92-9	
Xylyl bromide p-Xylyl bromide	C ₈ H ₉ Br	104-81-4	In organic syntheses; in war-gas formulations
Trans-Zeatin (in db as cis)	C ₁₀ H ₁₃ N ₅ O	1637-39-4	Plant growth hormone
Zolpidem	C ₁₉ H ₂₁ N ₃ O	82626-48-0	Hypnotic