

Supplementary table 1. The examples of prescription drug-laboratory test interactions (DLTIs)

ATC Code (1)	Drug	Analyte	Mechanism of interference, number of patients/participants in the study (N)	Reference
A Alimentary Tract and Metabolism				
A02 Drugs for Acid Related Disorders				
A02B Drugs for Peptic Ulcer And Gastro-Oesophageal Reflux Disease (Gord)				
A02BA H₂-receptor Antagonists				
A02BA01	Cimetidine	Bilirubin (total) (+)	Cholestatic hepatic injury (1/94)	(2,3)
		Creatinine (+)	Inhibition of tubular secretion (13)	(4,5)
A02BA02	Ranitidine	Creatinine (+)	Inhibition of tubular secretion (29)	(6)
A02BC Proton Pump Inhibitors				
A02BC01	Omeprazole	ALT (+)	Liver injury (1/899)	(7,8)
A05 Bile and Liver Therapy				
A05A Bile Therapy				
A05AA Bile Acids and Derivatives				
A05AA01	Chenodeoxycholic acid	Triglycerides (-)	Inhibition of hepatic synthesis (10)	(9)
		Total Cholesterol (-)	Increased bile acid production (17)	(10)
A05AA02	Ursodeoxycholic acid	LDL (-)	Increase in receptor-dependent LDL uptake by the liver (17)	(10)
A08 Antiobesity Preparations, Excl. Diet Products				
A08AA Centrally Acting Antiobesity Products				
A08AA62	Bupropion	ALT (+)	Liver injury (5/899)	(7,8)
A08AB01	Orlistat	Lp(a) (-)	ND (50)	(11)

		Uric Acid (-)	The interaction between uric acid and adiposity factors (50)	(11)
A10 Drugs Used in Diabetes				
A10B Blood Glucose Lowering Drugs, Excl. Insulins				
A10BA Biguanides				
		Lp(a) (-)	ND (50)	(11,12)
A10BA02	Metformin	Uric Acid (-)	Urinary uric acid clearance appears to increase with higher insulin sensitivity (50)	(11)
		CRP (-)	ND (21)	(13,14)
A10BB Sulfonylureas				
A10BB12	Glimepiride	CRP (-)	ND (20)	(15)
A10BB31	Acetohexamide	Creatinine (+)	Positive interaction with Jaffe's reaction (<i>in vitro</i>)	(5)
A10BG Thiazolidinediones				
A10BG01	Troglitazone	Lp(a) (+)	ND (16)	(16)
A10BG02	Rosiglitazone	Bilirubin (total) (+)	Liver injury (CR)	(17)
		CRP (-)	ND (50)	(18,19)
		Total Cholesterol (-)	ND (20)	(20)
		Triglycerides (-)	Increased lipoprotein lipase-mediated lipolysis (20)	(20)
A10BG03	Pioglitazone	HDL (+)	Upregulation of Apo-AI and ABCA1 (20)	(20)
		LDL (-)	ND (20)	(20)
		CRP (-)	Prevention of TNF- α action at receptor level (20)	(20)

A10BH Dipeptidyl Peptidase 4 (DPP-4) Inhibitors					
A10BH01	Sitagliptin	CRP (-)	Inhibition of Interleukin-6 (24)	(21)	
A10BJ Glucagon-Like Peptide-1 (GLP-1) Analogues					
A10BJ01	Exenatide	CRP (-)	Suppression of pro-inflammatory cytokines (63)	(22)	
A11 VITAMINS					
A11C Vitamin A and D, Incl. Combinations of the Two					
A11CC Vitamin D and Analogues					
A11CC04	Calcitriol	Creatinine (+)	Inhibition of tubular secretion of creatinine in renal osteodystrophy patients (9)	(23,24)	
A11CC05	Cholecalciferol	Uric Acid (-)	Increased renal and intestinal clearance (42)	(25)	
A11G Ascorbic Acid (Vitamin C), Incl. Combinations					
A11GA Ascorbic Acid (Vitamin C), Plain					
A11GA01	Ascorbic acid	Total cholesterol (-)	Negative interaction with Trinder's reaction (<i>in vitro</i>)	(26)	
		Triglycerides (-)	Negative interaction with Trinder's reaction (<i>in vitro</i>)	(26)	
		Bilirubin (total) (-)	<i>In vitro</i>	(26)	
		Creatinine (+)	Interaction with Jaffe (<i>in vitro</i>)	(26)	
		Uric Acid (-)	Negative interaction with Trinder's reaction (<i>in vitro</i>)	(26,27)	
B Blood and Blood Forming Organs					
B01 Antithrombotic Agents					
B01AA Vitamin K Antagonists					

B01AA01	Dicoumarol	Uric Acid (-) Bilirubin (total) (-)	Increased renal clearance (4) ND (14)	(28) (29)	
B01AA03	Warfarin	Uric Acid (+) CRP (-)	Enhanced uric acid production (99) ND (50)	(30) (31)	
B01AC Platelet Aggregation Inhibitors Excl. Heparin					
B01AC04	Clopidogrel	CRP (-)	ND (94)	(32)	
B01AC24	Ticagrelor	Uric Acid (+)	Increased uric acid synthesis by xanthine oxidase, reduced renal clearance (233)	(33,34)	
B01AE Direct Thrombin Inhibitors					
B01AE07	Dabigatran	CRP (-)	ND (50)	(31)	
B02 Antihemorrhagics					
B02B Vitamin K and Other Hemostatics					
B02BX Other Systemic Hemostatics					
B02BX01	Ethamsylate	Total Cholesterol (-)	Negative interaction with Trinder's reaction (10)	(35)	
		Triglycerides (-)	Negative interaction with Trinder's reaction (10)	(35)	
		Creatinine (-)	Negative interaction with Trinder's reaction (10)	(35)	
		Uric Acid (-)	Negative interaction with Trinder's reaction (10)	(35)	
B03 Antianemic Preparations					
B03B Vitamin B12 and Folic Acid					
B03BB Folic Acid and Derivatives					

B03BB01	Folic acid	Uric Acid (-)	Reduced uric acid production in hypertensive patients (7685)	(36)
B05 Blood Substitutes and Perfusion Solutions				
B05B I.V. Solutions				
B05BA Solutions for Parenteral Nutrition				
B05BA14	Xylitol	Bilirubin (total) (+) Uric Acid (+)	ND (30) Increase in purine degradation (30)	(37,38)
B05C Irrigating Solutions				
B05CX Other Irrigating Solutions				
B05CX02	Sorbitol	Bilirubin (total) (+) Uric Acid (+)	ND (8) Increase in uric acid production (8)	(38)
C Cardiovascular System				
C01 Cardiac Therapy				
C01B Antiarrhythmics, Class I and III				
C01BA Antiarrhythmics, Class Ia				
C01BA01	Quinidine	Glucose (fasting) (-)	Stimulation of insulin secretion through its ability to mimic the action of glucose on potassium permeability of the beta cell membrane, with subsequent calcium influx (10)	(39)
C01BA02	Procainamide	Bilirubin (total) (+)	Haemolysis (CR)	(2,40)
C01BA03	Disopyramide	Bilirubin (total) (+)	Haemolysis (CR)	(2)
C01BA Antiarrhythmics, Class Ib				
C01BB01	Lidocaine	Glucose (fasting) (-) Creatinine (+)	Positive interaction with enzymatic and Jaffe's reaction <i>in vitro</i>	(41)

C01BD Antiarrhythmics, Class III					
C01BD01	Amiodarone	HbA1c (+)	ND (10)	(43)	
		ALT (+)	Liver injury (5/899)	(7,8)	
C01C Cardiac Stimulants Excl. Cardiac Glycosides					
C01CA Adrenergic and Dopaminergic Agents					
C01CA04	Dopamine	Creatinine (-)	Negative interaction with enzymatic and Jaffe's reaction (<i>in vitro</i>)	(44)	
		Uric Acid (+)	Interaction with phosphomolybden method (<i>in vitro</i>)	(45,46)	
C01CA07	Dobutamine	Creatinine (-)	Negative interaction with enzymatic and Jaffe's reaction (<i>in vitro</i>)	(44)	
C02 Antihypertensives					
C02A Antidiuretic Agents, Centrally Acting					
C02AB	Methyldopa	Triglycerides (+)	Decreased lipoprotein lipase activity (14)	(47)	
		HDL (-)	Decreased HDL production (14)	(47)	
		Bilirubin (total) (+)	Haemolysis, liver injury (11/899)	(7,48)	
C02AC Imidazoline Receptor Agonists					
C02AC06	Rilmenidine	HDL (+)	ND (24)	(49)	
		Glucose (fasting) (-)	Improvement in insulin resistance (24)	(49)	
C02C Antidiuretic Agents, Peripherally Acting					
C02CA Alpha-Adrenoreceptor Antagonists					
C02CA01	Prazosin	Total Cholesterol (-)	ND (12)	(50)	
		Triglycerides (-)	Activation of lipoprotein lipase (12)	(50)	
		LDL (-)	Reduced Apo-B (12)	(50)	
		HDL (+)	ND (12)	(50)	

		Insulin (fasting) (-)	Improved insulin action (12)	(50)	
		Total cholesterol (-)	Reduced cholesterol synthesis (77)	(51)	
		Triglycerides (-)	Activation of lipoprotein lipase (83)	(52)	
		LDL (-)	Improved LDL receptor activity (77)	(51)	
C02CA04	Doxazosin	HDL (+)	Increased synthesis of Apo-AI (83)	(52)	
		Glucose (fasting) (-)	Improved insulin action (77)	(51)	
		Insulin (fasting) (-)	Improved insulin action (77)	(51)	
		Uric Acid (-)	ND (14)	(53)	
C02D Arteriolar Smooth Muscle, Agents Acting On					
C02DB Hydrazinophthalazine Derivatives					
C02DB02	Hydralazine	Total Cholesterol (-)	ND (9)	(54)	
C03 Diuretics					
C03A Low-Ceiling Diuretics, Thiazides					
C03AA Thiazides, Plain					
C03AA03	Hydrochlorothiazide	Total Cholesterol (+)	ND (50)	(55-57)	
		Triglycerides (+)	ND (50)	(56-58)	
		LDL (+)	ND (50)	(55,56,58)	
		HDL (-)	ND (28)	(55)	
		Glucose (fasting) (+)	Hypokalemia, insulin resistance (28)	(55,59)	
		Insulin (fasting) (+)	Hypokalemia, increased peripheral insulin resistance (50)	(56)	
		Uric Acid (+)	Increased uric acid reabsorption (151)	(55,60)	
C03AX Thiazides, Combinations with Other Drugs					
C03AX01	Hydrochlorothiazide and Captopril	Glucose (fasting) (+)	Insulin resistance (100)	(61)	
		Uric Acid (+)	Increased uric acid reabsorption (100)	(61)	
C03B Low-Ceiling Diuretics, Excl. Thiazides					

C03BA Sulfonamides, Plain					
C03BA11	Indapamide	Glucose (fasting) (+)	Reduced insulin secretion (50)	(62)	
		Uric Acid (+)	Decrease in the fractional urate excretion (342)	(62,63)	
C03C High-Ceiling Diuretics					
C03CA Sulfonamides, Plain					
C03CA01	Furosemide	Creatinine (-)	Negative interaction with Jaffe's reaction (3)	(64)	
		Uric Acid (+)	Decreased renal excretion (6)	(65)	
C03D Aldosterone Antagonists and Other Potassium-Sparing Agents					
C03DA Aldosterone antagonists					
C03DA01	Spironolactone	Triglycerides (-)	ND (15)	(66)	
		HDL (-)	ND (15)	(66)	
		Insulin (fasting) (+)	Impaired glucose tolerance (15)	(66)	
		Uric Acid (+/-)	Decreased renal excretion of uric acid (15)	(66,67)	
C04 Peripheral Vasodilators					
C04AC Nicotinic Acid and Derivatives					
C04AC01	Nicotinic acid	Total Cholesterol (-)	Decrease in non-HDL lipoprotein fractions (14)	(68)	
		Triglycerides (-)	The inhibition of lipolysis in adipose tissue, reduced triglyceride synthesis (14)	(68)	

LDL (-)	Increased hepatocellular Apo-B degradation, reduced secretion of VLDL (14)	(68)
HDL (+)	Selective increase in Apo-AI, decreased HDL catabolism (8)	(69)
Lp(a) (-)	Reduced synthesis of Lp(a) (14)	(68)
Uric Acid (+)	Increased renal reabsorption Decreased renal secretion Increased uric acid synthesis (5)	(70,71)

C07 Beta Blocking Agents

C07AA Beta Blocking Agents, Non-Selective

C07AA01	Alprenolol	Uric Acid (+)	Interference with uric acid excretion, effect on the renal circulation (40)	(72)
C07AA03	Pindolol	Total Cholesterol (+)	ND (23)	(73)
		Triglycerides (+)	Delayed clearance of VLDL (23)	(73)
		HDL (+)	Intrinsic sympathomimetic activity (16)	(74)
		Glucose (fasting) (+)	ND (11)	(75)
C07AA05	Propranolol	Triglycerides (+)	Inhibition of lipoprotein lipase (18)	(47)
		HDL (-)	Decreased HDL production (18)	(47,76-78)
		Glucose (fasting) (+)	Stimulated glycogenolysis (11)	(79)
		Insulin (fasting) (+/-)	Reduced clearance of insulin, insulin resistance, suppressed insulin secretion (39)	(79,80)
		HbA1c (+)	ND (38)	(80)
		Uric Acid (+)	Reduced the mean renal clearance of uric acid (23)	(81)

C07AB Beta Blocking Agents, Selective

C07AB02	Metoprolol	Total Cholesterol (+)	ND(44)	(82)
		Triglycerides (+)	Reduced clearance of VLDL (23)	(73,83)
		HDL (-)	ND (44)	(82,83)
		Glucose (fasting) (+)	Stimulated glycogenolysis (30)	(84,85)
		Insulin (fasting) (+)	Reduced insulin sensitivity (30)	(85)
		HbA1c (+)	ND (30)	(85)
		Uric Acid (+)	ND (30)	(86)
		CRP (-)	Reduction in proinflammatory cytokines (75)	(87)
C07AB03	Atenolol	Total Cholesterol (-)	ND (46)	(88,89)
		Triglycerides (+)	Reduced activity of lipoprotein lipase (29)	(76,90)
		LDL (-)	ND (46)	(88)
		HDL (-)	Decrease in Apo-AI (30)	(52,76,85,90)
		Lp(a) (+)	ND (15)	(91)
		Glucose (fasting) (+)	Decreased blood flow to muscles and reduced insulin-stimulated glucose uptake (29)	(60,90,92)
		Insulin fasting (+)	ND (23)	(92)
		HbA1c (+)	ND (23)	(92)
		ALP (+)	ND (162)	(93)
		Uric Acid (+)	Reduced proximal tubular clearance of uric acid (69)	(94)
		CRP (-)	Reduction in proinflammatory cytokines (15)	(91)

C07AB12	Nebivolol	HDL (+)	ND (15)	(91)	
		Insulin (fasting) (-)	ND (15)	(91)	
		CRP (-)	Reduction in proinflammatory cytokines (15)	(91)	
C07AG Alpha and Beta Blocking Agents					
C07AG02	Carvedilol	Total Cholesterol (-)	Decrease in the activity of HMG Co-A reductase (43)	(88)	
		Triglycerides (-)	Reduced VLDL assembly (23)	(92)	
		LDL (-)	Upregulation of LDL receptors (43)	(88)	
		HDL (+)	ND (23)	(92)	
		Glucose (fasting) (-)	Increased blood flow to skeletal muscles, and increased glucose uptake (23)	(92)	
		Insulin (fasting) (-)	Improved insulin sensitivity (23)	(92)	
		HbA1c (-)	ND (23)	(92)	
C08 Calcium Channel Blockers					
C08C Selective Calcium Channel Blockers with Mainly Vascular Effects					
C08CA Dihydropyridine Derivatives					
C08CA01	Amlodipine	Triglycerides (-)	ND (30)	(96)	
		HDL (+)	ND (30)	(96)	
		HbA1c (-)	ND (30)	(97)	
		Uric Acid (-)	Increase in renal excretion (30)	(97)	
C08CA02	Felodipine	Uric Acid (-)	Increased renal excretion (10)	(98)	
C08CA05	Nifedipine	Triglycerides (+)	Stimulated lipoprotein lipase activity (39)	(99)	

		HDL (+)	ND (39)	(99)
		Glucose (fasting) (+)	Drop in insulin-secreting capacity (5)	(100)
C08CA08	Nitrendipine	Uric Acid (-)	Increased renal excretion (15)	(101)
C08D Selective Calcium Channel Blockers with Direct Cardiac Effects				
C08DA Phenylalkylamine Derivatives				
		HDL (+)	The induction of ABCA1 synthesis (45)	(102)
C08DA01	Verapamil	Glucose (fasting) (-)	Improved beta-cell function and survival in diabetic patients (174)	(103)
		Insulin (fasting) (+)	cAMP-dependent increase in insulin exocytosis (11)	(104)
		ALP (+)	Increased bone turnover (20)	(105)
C08DB Benzothiazepine Derivatives				
C08DB01	Diltiazem	LDL (-)	ND (20)	(106)
		HDL (+)	ND (127)	(107)
		Insulin (fasting) (-)	ND (19)	(79)
C09 Agents Acting on The Renin-Angiotensin System				
C09A ACE Inhibitors, Plain				
		HDL (-)	ND (25)	(85)
		Lp(a) (-)	Reductive cleavage of the disulphide bond and rapid clearance from plasma (10)	(108)
C09AA01	Captopril	Glucose (fasting) (-)	Increased peripheral glucose utilization (12)	(109)
		Bilirubin (total) (+)	Liver injury (CR)	(110)
		Uric Acid (-)	Increased renal excretion (13)	(111)

		ALT (+)	Liver injury (CR)	(110)
		AST (+)	Liver injury (CR)	(110)
		GGT (+)	Liver injury (CR)	(110)
		ALP (+)	Liver injury (CR)	(110)
		Total Cholesterol (-)	ND (9)	(112)
		Triglycerides (-)	ND (12)	(113)
		HDL (+)	Increase in Apo-AI (12)	(113)
		Glucose (fasting) (-)	Improved peripheral glucose utilization (153)	(60,112,114)
		Insulin (fasting) (-)	Improved insulin sensitivity (9)	(112)
C09AA02	Enalapril	HbA1c (-)	ND (1874)	(112, 115)
		Bilirubin (total) (+)	Liver injury (CR)	(116)
		Uric Acid (+/-)	ND (124)	(117,118)
		ALT (+)	Liver injury (CR)	(116)
		AST (+)	Liver injury (CR)	(116)
		GGT (+)	Liver injury (CR)	(116)
		ALP (+)	Liver injury (CR)	(116)
		CRP (-)	ND (35)	(119)
		Total Cholesterol (-)	ND (30)	(55)
		LDL (-)	ND (30)	(55)
		HDL (+)	ND (30)	(55)
C09AA03	Lisinopril	Glucose (fasting) (-)	ND (27)	(49)
		Bilirubin (total) (+)	Liver injury (CR)	(120)
		Uric Acid (-)	Reduced tubular reabsorption (62)	(121,122)
		ALT (+)	Liver injury (5/899)	(7,120)

		AST (+)	Liver injury (5/899)	(7,120)	
		GGT (+)	Liver injury (5/899)	(7,120)	
		ALP (+)	Liver injury (5/899)	(7,120)	
C09AA05	Ramipril	HDL (+)	Improved cholesterol efflux from lipid-loaded macrophages (30)	(96)	
		Bilirubin (+)	Liver injury (3)	(123)	
		Uric Acid (-)	Increased fractional excretion (13)	(124)	
		ALT (+)	Liver injury (3)	(123)	
		AST (+)	Liver injury (3)	(123)	
		ALP (+)	Liver injury (3)	(123)	
		CRP (-)	Reduction of pro-inflammatory cytokines (68)	(125)	
		Total Cholesterol (-)	ND (17)	(126)	
		LDL (-)	ND (17)	(126)	
		Lp(a) (-)	ND (17)	(126)	
C09AA09	Fosinopril	Bilirubin (total) (+)	Liver injury (CR)	(127)	
		ALT (+)	Liver injury (CR)	(127)	
		AST (+)	Liver injury (CR)	(127)	
		GGT (+)	Liver injury (CR)	(127)	
		ALP (+)	Liver injury (CR)	(127)	
C09B ACE Inhibitors, Combinations					
C09BB ACE Inhibitors and Calcium Channel Blockers					
C09BB10	Trandolapril and Verapamil	Triglycerides (-)	ND (41)	(128)	
		LDL (-)	ND (41)	(128)	
		HDL (+)	ND (100)	(61)	
C09C Angiotensin II Receptor Blockers (ARBs), Plain					

		Uric Acid (-)	Reduced tubular reabsorption (124)	(118,129)
C09CA01	Losartan	ALT (+)	Liver injury (2)	(130)
		CRP (-)	Decrease in pro-inflammatory cytokines (126)	(131)
		Insulin (fasting) (-)	Improved insulin sensitivity (20)	(132)
C09CA03	Valsartan	CRP (-)	Decrease in pro-inflammatory cytokines (4202)	(133)
		Uric Acid (-)	Reduced tubular reabsorption (107)	(134)
C04CA04	Irbesartan	Bilirubin (total) (+)	Liver injury (1/899)	(7)
		ALP (+)	Liver injury (1/899)	(7)
		CRP (-)	Decrease in pro-inflammatory cytokines (21)	(135)
		HDL (+/-)	ND (31)	(96,136)
C09CA06	Candesartan	CRP (-)	Decrease in pro-inflammatory cytokines (143)	(135)
		Total Cholesterol (-)	Partial PPAR γ agonist action (35)	(137)
		Triglycerides (-)	Partial PPAR γ agonist action (35)	(137)
		LDL (-)	Partial PPAR γ agonist action (35)	(137)
C09CA07	Telmisartan	HDL (+)	Improved cholesterol removal by ABCB1 (35)	(137)
		HbA1c (-)	Improved insulin sensitivity (35)	(137)
		CRP (-)	ND (35)	(119,137,138)
		HDL (+)	Partial PPAR γ agonist action (36)	(139)
C09CA08	Olmesartan	HbA1c (-)	Improved insulin sensitivity (36)	(139)
		CRP (-)	Reduction in pro-inflammatory cytokines (96)	(140)

C09D Angiotensin II Receptor Blockers (ARBs), Combinations

C09DA Angiotensin II Receptor Blockers (ARBs) and Diuretics

C09DA01	Losartan and Hydrochlorothiazide	Uric Acid (+/-)	ND (164)	(141,142)
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C09DA04	Irbesartan and Hydrochlorothiazide	Uric Acid (+)	ND (449)	(143)
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C09DB Angiotensin II Receptor Blockers (ARBs) and Calcium Channel Blockers

		LDL (-)	ND (68)	(144)
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C09DB05	Irbesartan and Amlodipine	HDL (+)	ND (68)	(144)
		Uric Acid (-)	Reduced tubular reabsorption (68)	(144)

C09DB06	Losartan and Amlodipine	Uric Acid (-)	Reduced uric acid production and tubular reabsorption (30)	(141)
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C10 Lipid Modifying Agents

C10A Lipid Modifying Agents, Plain

C10AA HMG CoA Reductase Inhibitors

		Triglycerides (-)	Increased lipoprotein lipase activity (151)	(145,146)
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		HDL (+)	Inhibition of cholesteryl ester transfer protein (151)	(146)
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C10AA01	Simvastatin	Glucose (fasting) (+)	Impaired insulin secretion, impaired glucose uptake in the cells (46,773)	(147)
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		Insulin (fasting) (+)	Insulin resistance (153)	(148)
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		Creatinine (-)	Increased renal excretion (103)	(149,150)
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		Uric Acid (-)	Increased renal excretion (153)	(148,151)
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		CRP (-)	Reduction of interleukin-6 (90)	(13,145)
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		LP(a)	Decreased synthesis of Apo-B-enriched particles (18)	(152)
C10AA02	Lovastatin	CRP (-)	Reduction in pro-inflammatory cytokines (34)	(153)
		HDL (+)	Inhibition of cholesteryl ester transfer protein (93)	(154)
C10AA03	Pravastatin	Lp(a) (+)	ND (90)	(155)
		HbA1C (+)	ND (93)	(154)
		CRP (-)	Reduction in pro-inflammatory cytokines (865)	(156)
		Lp(a) (-)	ND (15)	(157)
C10AA04	Fluvastatin	Triglycerides (-)	Increased lipoprotein lipase activity (90)	(145,158,159)
		HDL (+)	Inhibition of cholesteryl ester transfer protein (94)	(154)
		Lp(a) (+/-)	ND (1151)	(160,161)
		Glucose (fasting) (+)	Impaired insulin secretion, impaired glucose uptake in the cells (61,157)	(147,162)
		Insulin (fasting) (+)	Increased insulin resistance (76)	(163)
		HbA1c (+/-)	ND (80)	(154,164)
		Bilirubin (total) (+)	ND (44)	(165)
		Uric Acid (-)	Increased renal excretion (90)	(145,151,166)
		CRP (-)	Reduction in pro-inflammatory cytokines (90)	(145,158,163)
C10AA06	Cerivastatin	CRP (-)	Anti-inflammatory effects (785)	(167)

		Triglycerides (-)	Increased lipoprotein lipase activity (60)	(158,159)
		HDL (+)	Inhibition of cholesterol ester transfer protein (60)	(158)
		Lp(a) (+)	ND (51)	(168)
C10AA07	Rosuvastatin	Glucose (fasting) (+)	Impaired insulin secretion, impaired glucose uptake by the cells (11,720)	(147)
		Insulin (fasting) (+/-)	ND (153)	(148,159,163)
		HbA1c (-)	ND (80)	(164)
		Uric Acid (-)	Increased renal excretion (153)	(148,166)
		CRP (-)	Reduction in pro-inflammatory cytokines (76)	(163,164)
		Triglycerides (-)	Increased lipoprotein lipase activity (18,031)	(169)
C10AA08	Pitavastatin	HDL (+)	Increase in Apo-AI and ABCB1 expression (18,031)	(169)
		Uric Acid (+)	ND (43)	(166)
		Glucose (fasting) (+)	Impaired insulin secretion, impaired glucose uptake by the cells (8010)	(147)
		CRP (-)	Reduction in pro-inflammatory cytokines (178)	(170)
		Lp(a) (-)	ND (50)	(171)
C10AB Fibrates				
C10AB02	Bezafibrate	Lp(a) (-)	Decreased synthesis of Apo-B-enriched particles (18)	(152)

		HDL (+)	Increase in Apo-AI synthesis, reduced expression of cholesterol ester transfer protein (14)	(172)
C10AB04	Gemfibrozil	Total Cholesterol (-)	Enhanced biliary elimination of cholesterol, increased LDL clearance (14)	(172)
		Lp(a) (-)	Reduced Apo-B100 synthesis (14)	(172)
		HDL (+)	Increase in Apo-AI synthesis, reduced expression of cholesterol ester transfer protein (26)	(173)
C10AB05	Fenofibrate	Lp(a) (+)	Increased production (56)	(174)
		Glucose (fasting) (-)	Increased insulin sensitivity, partial PPAR α agonist activity (31)	(175,176)
		Insulin (fasting) (-)	Increased insulin sensitivity, partial PPAR α agonist activity (31)	(175)
		HbA1c (-)	ND (31)	(175,176)
		Creatinine (+)	Tubular toxicity and increased production of creatinine (3)	(177,178)
		Uric Acid (-)	Reduced tubular reabsorption (4895)	(178,179)
		CRP (-)	Reduction in inflammatory markers (140)	(180)
C10AB09	Etofibrate	Total Cholesterol (-)	Increased LDL removal from plasma (14)	(181)
		HDL (+)	Reduced expression of cholesterol ester transfer protein (14)	(181)
		Lp(a) (-)	Reduced synthesis (14)	(181)

C10AC Bile Acid Sequestrants					
C10AC01	Cholestyramine	Triglycerides (+)	Reduced activation of farnesoid x receptor by bile acids (10)	(182)	
C10AC02	Colestipol	Triglycerides (+)	Reduced activation of farnesoid x receptor by bile acids (105)	(183)	
C10AX Other Lipid Modifying Agents					
C10AX09	Ezetimibe	Triglycerides (-)	ND (50)	(184)	
		Lp(a) (-)	ND (50)	(184)	
		HbA1c (-)	ND (50)	(184)	
		CRP (-)	ND (50)	(184)	
C10AX13	Evolocumab	Lp(a) (-)	Inhibition of the proprotein convertase subtilisin/kexin type 9 (PCSK9) (1359)	(185)	
C10AX14	Alirocumab	Lp(a) (-)	Inhibition of the proprotein convertase subtilisin/kexin type 9 (PCSK9) (18,924)	(186)	
C10B Lipid Modifying Agents, Combinations					
C10BA Combinations of Various Lipid Modifying Agents					
C10BA02	Simvastatin and Ezetimibe	Insulin (fasting) (+)	Insulin resistance (53)	(148)	
		Uric Acid (-)	Increased renal excretion (53)	(148)	
C10BX Lipid Modifying Agents in Combination with Other Drugs					
C10BX03	Atorvastatin and Amlodipine	Uric Acid (-)	ND (61)	(187)	
		CRP (-)	Reduction in inflammation markers (61)	(187)	
D Dermatologicals					
D01 Antifungals for Dermatological Use					
D01B Antifungals for Systemic Use					

D01BA02	Terbinafine	ALP (+)	Liver injury (7/899)	(7)	
		ALT (+)	Liver injury (7/899)	(7)	
D10 Anti-Acne Preparations					
D10B Anti-Acne Preparations for Systemic Use					
D10BA Retinoids for Treatment of Acne					
D10BA01	Isotretinoin	Total Cholesterol (+)	ND (20)	(188,189)	
		Triglycerides (+)	ND (20)	(188,189)	
		LDL (+)	ND (20)	(188,189)	
		HDL (-)	ND (20)	(188)	
		ALT (+)	Liver injury (20)	(189)	
		AST(+)	Liver injury (20)	(189)	
		GGT (+)	Liver injury (246)	(190)	
		CRP (+)	ND (246)	(190)	
G Genito Urinary System and Sex Hormones					
G03 Sex Hormones and Modulators of The Genital System					
G03A Hormonal Contraceptives for Systemic Use					
G03AA Progestogens and Estrogens, Fixed Combinations					
G03AA12	Drospirenone and Ethynodiolide	Triglycerides (+)	Increased hepatic production (30)	(191)	
		Total Cholesterol (+)	ND (30)	(192)	
		Triglycerides (+)	Increased secretion of triglyceride-rich lipoproteins (30)	(192)	
G03AA15	Chlormadinone and Ethynodiolide	LDL (+)	Induced Apo-B synthesis (30)	(192)	
		HDL (+)	Increase in Apo-AI (30)	(192)	
		Lp(a) (-)	ND (30)	(192)	

G03AB Progestogens and Estrogens, Sequential Preparations

G03AB03	Levonorgestrel and Ethinylestradiol	Total Cholesterol (+)	ND (31)	(192)
		Triglycerides (+)	Increased secretion of triglyceride-rich lipoproteins (31)	(192)
		LDL (+)	Induced Apo-B synthesis (31)	(192)
		HDL (-)	ND (31)	(192)
		Lp(a) (-)	ND (31)	(192)
G03AB05	Desogestrel and Ethinylestradiol	Total Cholesterol (+)	ND (31)	(192,193)
		Triglycerides (+)	Increased secretion of triglyceride-rich lipoproteins (31)	(192,193)
		LDL (+)	Induced Apo-B synthesis (31)	(192)
		HDL (+)	Increase in Apo-AI (31)	(192,193)

G03AC Progestogens

G03AC06	Medroxyprogesterone	LDL (+)	Inhibition of the delivery of LDL-derived cholesterol to processing enzymes (240)	(193)
		HDL (-)	Increased hepatic lipase activity (240)	(193)
		Glucose (fasting) (+)	Glucocorticoid-like activity of the drug (240)	(194)
		Insulin (fasting) (+)	Increased insulin resistance/ direct stimulation of pancreatic beta-cells (240)	(194)
		Total Cholesterol (-)	ND (41)	(195)
G03AC09	Desogestrel	Triglycerides (-)	ND (41)	(195)
		HDL (-)	Increased hepatic lipase activity (41)	(195)
		Lp(a) (-)	ND (41)	(195)

G03B Androgens

G03BA 3-Oxoandrosten (4) Derivatives					
G03BA02	Methyltestosterone	ALP (+)	Liver injury (CR)	(196)	
		Uric Acid (+)	Reduced renal excretion of uric acid (160)	(197)	
G03BA03	Testosterone	GGT (+)	Liver injury (CR)		
		HDL (-)	ND (14)	(198)	
		Lp(a) (-)	Decreased Apo(a) synthesis (14)	(198)	
G03C Estrogens					
G03CA Natural and Semisynthetic Estrogens, Plain					
G03CA03	Estradiol	HDL (+)	Increased production of Apo-AI (11)	(199)	
		LDL (-)	Stimulation of LDL receptors synthesis, accelerated conversion of cholesterol to bile acids (27)	(200)	
		Lp(a) (-)	Reduced Apo(a) production (11)	(201)	
		Total cholesterol (-)	ND (14)	(202)	
		Triglycerides (+)	Reduced clearance (14)	(202)	
G03CA57	Conjugated Estrogens	LDL (-)	Increased expression of the LDL receptor (14)	(202)	
		HDL (+)	Increase in the production rate of Apo-AI (14)	(202)	
		Lp(a) (-)	Reduced production (14)	(202)	
		ALP (-)	Decrease in bone turnover and the loss of remodelling sites (15)	(203)	
G03CX Other Estrogens					
G03CX01	Tibolone	Total cholesterol (-)	ND (27)	(204,205)	

	Triglycerides (-)	Decreased VLDL synthesis (27)	(204,205)
	HDL (-)	Increased hepatic lipase activity (27)	(204,205)
	HbA1c (-)	The result of the estrogenic effect of tibolone on liver metabolism (5)	(205)
	Lp(a) (-)	Reduced hepatic output of Apo(a) (27)	(204)
	CRP (+)	ND (51)	(206)

G03F Progestogens and Estrogens in Combination

G03FA Progestogens and Estrogens, Fixed Combinations

		Total Cholesterol (-)	ND (13)	(207)
		Triglycerides (+)	ND (96)	(208)
		LDL (-)	ND (13)	(207)
G03FA12	Medroxyprogesterone and Estrogen	HDL (+)	ND (96)	(207,208)
		Lp(a) (-)	Reduced hepatic output of Apo(a) (1380)	(209)
		CRP (+)	Elevation of inflammatory markers (28)	(210)

G03FB Progestogens and Estrogens, Sequential Preparations

		Total Cholesterol (-)	ND (41)	(195)
G03FB09	Levonorgestrel	Triglycerides (-)	ND (41)	(195)
		HDL (-)	Increased hepatic lipase activity (41)	(195)
		Lp(a) (-)	ND (41)	(195)

G03X Other Sex Hormones and Modulators of the Genital System

G03XA Antigonadotropins and Similar Agents

G03XA01	Danazol	LDL (+)	Increased synthesis of Apo-B100, inhibition of LDL receptors (37)	(211)
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		HDL (-)	Decreased synthesis of Apo-AI, decrease of the activity of the lecithin cholesterol acyltransferase (37)	(211)	
G03XC Selective Estrogen Receptor Modulators					
G03XC01	Raloxifene	Total Cholesterol (-)	ND (35)	(212)	
		LDL (-)	Stimulation of LDL receptors (35)	(212-214)	
		HDL (+)	ND (35)	(212)	
		Lp(a) (-)	Reduced Apo(a) synthesis (196)	(208)	
		CRP (-)	ND (51)	(206)	
G04 Urologicals					
G04C Drugs Used in Benign Prostatic Hypertrophy					
G04CA Alpha-Adrenoreceptor Antagonists					
G04CA03	Terazosin	Total Cholesterol (-)	Suppression HMG Co-A reductase (26)	(89)	
		Triglycerides (-)	Reduced VLDL assembly (26)	(89)	
		LDL (-)	Reduced Apo-B synthesis (26)	(89)	
		HDL (+)	ND (26)	(89)	
G04CB Testosterone-5-Alpha Reductase Inhibitors					
G04CB01	Finasteride	HDL (+)	Inhibition of hepatic lipase (13)	(215)	
		Lp(a) (+)	ND (13)	(215)	
H Systemic Hormonal Preparations, Excl. Sex Hormones and Insulins					
H01 Pituitary and Hypothalamic Hormones and Analogues					
H01A Anterior Pituitary Lobe Hormones and Analogues					
H01AC Somatropin and Somatropin Agonists					
H01AC01	Somatropin	Total cholesterol (-)	ND (9)	(216,217)	
		Triglycerides (+)	Increased VLDL assembly (9)	(217)	

	LDL (-)	Increased turnover, upregulation of LDL receptors (9)	(216,217)
	HDL (+)	ND (9)	(216,217)
	Lp(a) (+)	Stimulation of the synthesis (9)	(216,217)

H02 Corticosteroids for Systemic Use

H02A Corticosteroids for Systemic Use, Plain

H02AB Glucocorticoids

		HDL (+)	Decreased cholesterol ester transfer protein expression and increased secretion of Apo-AI (9)	(218)
H02AB02	Dexamethasone	Glucose (fasting) (+)	Promoted glucose production in the liver and reduced insulin sensitivity (61)	(219,220)
		Insulin (fasting) (+)	Insulin resistance (10)	(220)
		Glucose (fasting) (+)	Diabetogenic effect (62)	(221)
H02AB04	Methylprednisolone	Uric Acid (+)	Elevation of uric acid as a natural scavenger of peroxy nitrite (25)	(222)
		Glucose (fasting) (+)	Impaired insulin-mediated glucose uptake (7)	(223)
H02AB06	Prednisolone	Insulin (fasting) (+)	Decreased insulin sensitivity (7)	(223)
		Uric Acid (-)	Increased renal excretion (28)	(224)

H03 Thyroid Therapy

H03A Thyroid Preparations

H03AA Thyroid Hormones

		Total Cholesterol (-)	ND (100)	(225)
H03AA01	Levothyroxine	Triglycerides (-)	Improved VLDL turnover and catabolism of triglycerides (100)	(225)

LDL (-)	Upregulation of LDL receptors (100)	(225)
HDL (+)	Reduced hepatic lipase activity (100)	(225)
Glucose (fasting) (-)	Enhanced glucose clearance (100)	(225)
Insulin (fasting) (-)	Improved insulin sensitivity (100)	(225)
HbA1c (-)	ND (100)	(225)

H05 Calcium Homeostasis

H05A Parathyroid Hormones and Analogues

H05AA02	Teriparatide	Uric Acid (+)	ND (541)	(226)
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H05B Anti-Parathyroid Agents

H05BA Calcitonin Preparations

H05BA01	Calcitonin	Uric Acid (-)	Increased renal excretion (9)	(227)
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J Antiinfectives for Systemic Use

J01 Antibacterials for Systemic Use

J01C Beta-Lactam Antibacterials, Penicillins

J01CA Penicillins with Extended Spectrum

J01CA09	Azlocillin	Uric Acid (-)	Inhibition of tubular reabsorption (23)	(228)
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J01CE Beta-Lactamase Sensitive Penicillins

J01CE01	Benzylpenicillin	Bilirubin (total) (+)	Haemolysis (CR)	(229)
		Uric Acid (high dose) (-)	ND (15)	(228)

J01CG Beta-Lactamase Inhibitors

J01CG01	Sulbactam	Bilirubin (total) (+)	Haemolysis (CR)	(2,230)
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J01CR Combinations of Penicillins, Incl. Beta-Lactamase Inhibitors

J01CR02	Amoxicillin Clavulanate	Bilirubin (total) (+)	Liver injury (208)	(2,231)
		ALT (+)	Liver injury (91/899)	(7,232)
		ALP (+)	Liver injury (91/899)	(7,232)

J01D Other Beta-Lactam Antibacterials

J01DB First-Generation Cephalosporins

J01DB03	Cefalotin	Creatinine (+)	Positive interaction with Jaffe's reaction (<i>in vitro</i>)	(233)
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J01DB04	Cefazolin	Creatinine (+)	Positive interaction with Jaffe's reaction (<i>in vitro</i>)	(233)
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J01DC Second-Generation Cephalosporins

J01DC01	Cefoxitin	Creatinine (+)	Positive interaction with Jaffe's reaction (<i>in vitro</i>)	(5)
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J01DD Third-Generation Cephalosporins

J01DD04	Ceftriaxone	Bilirubin (total) (+)	Competitive binding to albumin (17)	(234)
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J01DE Fourth-Generation Cephalosporins

J01DE02	Cefpirome	Creatinine (+)	Positive interaction with Jaffe's reaction (<i>in vitro</i>)	(233)
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J01E Sulfonamides and Trimethoprim

J01EE Combinations of Sulfonamides and Trimethoprim, Incl. Derivatives

J01EE01	Sulfamethoxazole and Trimethoprim	Glucose (fasting) (-)	Increased insulin secretion (CR)	(235-237)
		HbA1c (-)	Haemolysis (CR)	(238)
		Bilirubin (total) (+)	Liver injury (31/899)	(7)
		Creatinine (+)	Inhibited tubular secretion (2)	(5)
		Uric Acid (-)	Increased renal excretion (45)	(239)
		ALP (+)	Liver injury (31/899)	(7)

J01F Macrolides, Lincosamides and Streptogramins

J01FA Macrolides

J01FA01	Erythromycin	Bilirubin (total) (+)	Liver injury (2/899)	(7)
		ALP (+)	Liver injury (2/899)	(7)

		Bilirubin (total) (+)	Liver injury (18)	(240)
J01FA10	Azithromycin	ALT (+)	Liver injury (18)	(240)
		AST (+)	Liver injury (18)	(240)
		ALP (+)	Liver injury (18)	(240)
J01FF Lincosamides				
J01FF01	Clindamycin	Bilirubin (total) (+)	Liver injury (2/899)	(7)
		ALP (+)	Liver injury (2/899)	(7)
J01FG Streptogramins				
J01GA01	Streptomycin	Creatinine (+)	Positive interaction with Jaffe's reaction (<i>in vitro</i>)	(241)
J01M Quinolone Antibacterials				
J01MA Fluoroquinolones				
J01MA02	Ciprofloxacin	Glucose (fasting) (+/-)	Increased insulin secretion and unknown mechanisms (688/10,871)	(242)
		ALT (+)	Liver injury (16/899)	(7)
		ALP (+)	Liver injury (16/899)	(7)
J01MA12	Levofloxacin	Glucose (fasting) (+)	ND (820/10,871)	(242)
		ALT (+)	Liver injury (13/899)	(7)
		ALP (+)	Liver injury (13/899)	(7)
J01MA14	Moxifloxacin	Glucose (fasting) (+/-)	Increased insulin secretion and unknown mechanisms (134/10,871)	(242)
J01MA16	Gatifloxacin	Glucose (fasting) (+/-)	Increased insulin secretion and unknown mechanisms (n=868/10,871)	(242)
J01X Other Antibacterials				
J01XE Nitrofuran Derivatives				
J01XE01	Nitrofurantoin	ALT (+)	Liver injury (42/899)	(7)

		ALP (+)	Liver injury (42/899)	(7)
J02 Antimycotics for Systemic Use				
J02AB Imidazole Derivatives				
J02AB02	Ketoconazole	ALT (+)	Liver injury (1/899)	(7)
J02AX Other Antimycotics for Systemic Use				
J02AX01	Flucytosine	Creatinine (+)	Positive interaction with enzymatic reaction (CR)	(243)
J04 Antimycobacterials				
J04A Drugs for Treatment of Tuberculosis				
J04AB Antibiotics				
J04AB02	Rifampicin	Glucose (fasting) (+)	Rifampicin augments intestinal absorption of glucose (69)	(244)
		Bilirubin (total) (+)	Liver injury (15)	(245)
		Uric Acid (+)	Decreased renal excretion (16)	(246)
		ALT (+)	Liver injury (2/899)	(7)
		AST (+)	Liver injury (2/899)	(7)
J04AC Hydrazides				
J04AC01	Isoniazid	Bilirubin (total) (+)	Liver injury (48/899)	(7,247)
		Uric Acid (+)	Decreased renal excretion (16)	
		ALT (+)	Liver injury (48/899)	(7,247)
		AST (+)	Liver injury (48/899)	(7,247)
J04AK Other Drugs for Treatment of Tuberculosis				
J04AK01	Pyrazinamide	ALT (+)	Liver injury (2/899)	(7)
		Uric Acid (+)	Increased renal reabsorption (216)	(248,249)
J04AK02	Ethambutol	Uric Acid (+)	Decreased renal excretion (14)	(250)
J04AM Combinations of Drugs for Treatment of Tuberculosis				

J04AM05	Rifampicin, Pyrazinamide and Isoniazid	Uric Acid (+)	Decreased renal excretion (16)	(246)
J04B Drugs for Treatment of Lepra				
J04BA02	Dapsone	HbA1c (-)	Increase in methaemoglobin levels and decreased erythrocyte survival (CR)	(251)
J05 Antivirals for Systemic Use				
J05A Direct Acting Antivirals				
J05AE Protease Inhibitors				
J05AE02	Indinavir	Triglycerides (+)	ND (19)	(252)
		Total Cholesterol (+)	ND (20)	(253)
		Triglycerides (+)	Increase in VLDL production (19)	(252)
J05AE03	Ritonavir	LDL (+)	ND (20)	(253)
		HDL (-)	Reduced cholesterol efflux (20)	(253)
		Insulin (fasting) (+)	Induced insulin resistance (8)	(254)
J05AE04	Nelfinavir	Triglycerides (+)	ND (19)	(252)
J05AP Antivirals for Treatment of HCV Infections				
J05AP01	Ribavirin	Bilirubin (total) (+)	Haemolysis (245)	(255)
		HbA1c (-)	Reduced erythrocyte lifespan (CR)	(256)
		Total Cholesterol (+)	ND (24)	(257)
J05AP..	Dasabuvir, Ombitasvir, Paritaprevir, Ritonavir and Ribavirin	Triglycerides (+)	Increase in VLDL production (24)	(257)
		LDL (+)	ND (24)	(257)
		HbA1c (-)	Reduced erythrocyte lifespan (24)	(257)
J05AR Antivirals for Treatment of HIV Infections, Combinations				
J05AR10	Lopinavir and Ritonavir	Total Cholesterol (+)	ND (58)	(258)
		Triglycerides (+)	Increase in VLDL production (58)	(258,259)
J05AR23	Atazanavir and Ritonavir	Total Cholesterol (+)	ND (24)	(260)

		Triglycerides (+)	ND (24)	(260)	
		LDL (+)	ND (24)	(260)	
		HDL (-)	ND (24)	(260)	
		Bilirubin (total) (+)	ND (24)	(260)	
J05AR26	Darunavir and Ritonavir	Total Cholesterol (+)	ND (24)	(260)	
		Triglycerides (+)	ND (24)	(260)	
		LDL (+)	ND (24)	(260)	
		HDL (-)	ND (24)	(260)	
		Bilirubin (total) (+)	ND (24)	(260)	
L Antineoplastic and Immunomodulating Agents					
L01 Antineoplastic Agents					
L01B Antimetabolites					
L01BC Pyrimidine Analogues					
L01BC05	Gemcitabine	Bilirubin (total) (+)	Haemolysis (CR)	(261)	
L01C Plant Alkaloids and Other Natural Products					
L01CB Podophyllotoxin Derivatives					
L01CB01	Etoposide	Uric Acid (+)	Interaction with phosphotungstate method (CR)	(262)	
L01CE Topoisomerase 1 (TOP1) Inhibitors					
L01CE02	Irinotecan	Bilirubin (total) (+)	Metabolically conjugated by UGT1A1 (CR)	(263)	
L01D Cytotoxic Antibiotics and Related Substances					
L01DC Other Cytotoxic Antibiotics					
L01DC01	Bleomycin	Bilirubin (total) (+)	Haemolysis (CR)	(261)	
L01DC03	Mitomycin	Bilirubin (total) (+)	Haemolysis (CR)	(261)	
L01X Other Antineoplastic Agents					

L01XA Platinum Compounds					
L01XA01	Cisplatin	Bilirubin (total) (+)	Haemolysis (CR)	(261,264)	
L01XA02	Carboplatin	Bilirubin (total) (+)	Haemolysis (CR)	(265)	
L01XA03	Oxaliplatin	Bilirubin (total) (+)	Haemolysis (CR)	(266)	
L01XX Other Antineoplastic Agents					
L01XX02	Asparaginase	Glucose (fasting) (+)	Depletion of asparagine resulting in a decline of insulin production (CR)	(267)	
L01XX23	Mitotane	Uric Acid (-)	Increased renal excretion (8)	(268)	
L02 Endocrine Therapy					
L02A Hormones and Related Agents					
L02AE Gonadotropin Releasing Hormone Analogues					
L02AE02	Leuprorelin	LDL (+)	ND (21)	(269)	
		Bilirubin (+)	ND (21)	(264)	
L02AE04	Triptorelin	Total Cholesterol (+)	ND (59)	(270)	
		HDL (+)	ND (59)	(270)	
		ALP (+)	Increased bone turnover (59)	(270)	
L02B Hormone Antagonists and Related Agents					
L02BA Anti-Estrogens					
L02BA01	Tamoxifen	Total Cholesterol (-)	ND (70)	(271,272)	
		Triglycerides (+)	Reduced activity of lipoprotein lipase (34)	(272,273)	
		LDL (-)	Up-regulation of LDL receptors (70)	(271,272)	
		Lp(a) (-)	Altered biosynthesis (8)	(274)	
		CRP (-)	Decrease in pro-inflammatory cytokines (67)	(275)	
L02BA02	Toremifene	Total Cholesterol (-)	ND (123)	(272,276)	

		Triglycerides (-)	ND (34)	(272)	
		LDL (-)	Up-regulation of LDL receptors (123)	(272,276)	
		HDL (+)	ND (123)	(272,276)	
		Lp(a) (-)	Altered biosynthesis (34)	(272)	
L02BB Anti-Androgens					
		Total Cholesterol (-)	ND (17)	(277)	
		Triglycerides (-)	ND (17)	(277)	
		LDL (-)	ND (17)	(277)	
L02BB01	Flutamide	Bilirubin (total) (+)	Liver injury (2/1091)	(278)	
		ALT (+)	Liver injury (4/1091)	(278)	
		AST (+)	Liver injury (4/1091)	(278)	
		GGT	Liver injury (4/1091)	(278)	
		ALP (+)	Liver injury (1/1091)	(278)	
L03 Immunostimulants					
L03AB Interferons					
		Total Cholesterol (+)	ND (152)	(279)	
L03AB01	Alpha Interferon	Triglycerides (+)	Stimulation of hepatic lipogenesis, inhibition of lipoprotein lipase by interferon (152)	(279)	
L03AX Other Immunostimulants					
L03AX13	Glatiramer Acetate	Uric Acid (+)	Decrease in the amount of uric acid directly degraded by leukocyte (10)	(280)	
L04 Immunosuppressants					
L04AA Selective Immunosuppressants					

L04AA10	Sirolimus	Glucose (fasting) (+)	Impaired insulin-mediated suppression of hepatic glucose production, insulin resistance from ectopic triglyceride deposition or direct beta-cell toxicity (5)	(281)
L04AA13	Leflunomide	Uric Acid (-)	Regulation of urate handling in proximal tubules (38)	(282)
L04AD Calcineurin Inhibitors				
		Total Cholesterol (+)	Inhibition of bile acid synthesis (72)	(283)
L04AD01	Cyclosporine	LDL (+)	Increased production (72)	(283)
		Uric Acid (+)	Increased renal reabsorption (104)	(284)
		Total Cholesterol (-)	ND (27)	(285)
L04AD02	Tacrolimus	LDL (-)	ND (27)	(285)
		Uric Acid (+)	ND (47)	(286)
L04AX Other Immunosuppressants				
		Bilirubin (total) (+)	Liver injury (10/899)	(7)
L04AX01	Azathioprine	Uric Acid (-)	Suppressed <i>de novo</i> purine synthesis (2)	(287)
		ALP (+)	Liver injury (10/899)	(7)
L04AX03	Methotrexate	Uric Acid (-)	Changes in adenosine levels (49)	(288)
		ALT (+)	Liver injury (3/899)	(7)
M Musculo-Skeletal System				
M01 Antiinflammatory and Antirheumatic Products				
M01A Antiinflammatory and Antirheumatic Products, Non-Steroids				
M01AB Acetic Acid Derivatives and Related Substances				
M01AB01	Indomethacin	Glucose (fasting) (-)	ND (6)	(289,290)
M01AB05	Diclofenac	Bilirubin (total) (+)	Haemolysis (CR)	(291)

M01AH Coxibs					
M01AH01	Celecoxib	CRP (-)	Reduction in pro-inflammatory cytokines (23)	(292)	
M01AH02	Rofecoxib	CRP (-)	Reduction in pro-inflammatory cytokines (18)	(293)	
M04 Antigout Preparations					
M04AA Preparations Inhibiting Uric Acid Production					
M04AA01	Allopurinol	ALP (+)	Liver injury (CR)	(294,295)	
		ALT (+)	Liver injury (CR)	(295)	
		Bilirubin (total) (+)	Liver injury (CR)	(295)	
N Nervous System					
N01 Anesthetics					
N01A Anesthetics, General					
N01AB Halogenated Hydrocarbons					
N01AB06	Isoflurane	Bilirubin (total) (+)	ND (90)	(296)	
		ALT (+)	Liver injury (90)	(296)	
		AST (+)	ND (90)	(296)	
		LDH (+)	ND (90)	(296)	
		GGT (+)	ND (90)	(296)	
N01AB08	Sevoflurane	Bilirubin (total) (+)	ND (90)	(296)	
		ALT (+)	Liver injury (160)	(297)	
		AST (+)	ND (160)	(297)	
		LDH (+)	ND (30)	(297,298)	
		ALP (+)	ND (30)	(297,298)	
N01AX Other General Anesthetics					
N01AX10	Propofol	Triglycerides (+)	ND (18)	(299)	

	ALT (+)	Liver injury (160)	(297)
	AST (+)	ND (160)	(297)
	LDH (+)	ND (160)	(297)
N02 Analgesics			
N02B Other Analgesics and Antipyretics			
N02BA Salicylic Acid and Derivatives			
N02BA01	Total Cholesterol (-)	ND (20)	(300)
	Lp(a) (-)	Reduced hepatic production of Lp(a) (25)	(301)
	HbA1c (high dose) (+)	Large doses can lead to acetylation of haemoglobin, leading to falsely elevated HbA1c levels due to interference (7)	(302)
	Bilirubin (total) (+/-)	Increase: Haemolysis in glucose-6-phosphatase-deficient subjects (279) Decrease: ND (20)	(300,303)
	Creatinine (+/-)	Negative interaction with enzymatic reaction, positive interaction with Jaffe's reaction (<i>in vitro</i>), reduced creatinine clearance (49)	(304,305)
N02BB Pyrazolones	Uric Acid (-)	Decreased net uric acid reabsorption in proximal tubule (49)	(304)
	Metamizole	Creatinine (+/-)	Negative interaction with enzymatic reaction, positive interaction with Jaffe's reaction (<i>in vitro</i>)
N02BE Anilides			

		Glucose (fasting) (+)	Falsely elevated continuous glucose monitor (CGM) sensing (10)	(162,306)	
		Creatinine (+/-)	Negative interaction with enzymatic reaction, positive interaction with Jaffe's reaction (<i>in vitro</i>)	(305)	
N02BE01	Acetaminophen	Uric Acid (+)	Interference with phosphotungstate method (3)	(307)	
		ALT (+)	Liver injury (202)	(308,309)	
		AST (+)	Liver injury (20)	(307,310)	
		LDH (+)	Liver injury (20)	(307)	
		GGT (+)	Acetaminophen-induced liver injury in subjects consuming alcohol (188)	(310)	
N03 Antiepileptics					
N03AA Barbiturates and Derivatives					
N03AA02	Phenobarbital	Total Cholesterol (+)	ND (23)	(311)	
		LDL (+)	ND (23)	(311)	
		HDL (+)	ND (23)	(311)	
		Lp(a) (+)	ND (23)	(311)	
		Bilirubin (total) (-)	Microsomal induction (18)	(312,313)	
		Uric Acid (+)	ND (60)	(314,315)	
		ALT (+)	Microsomal induction (23)	(311,316)	
		AST (+)	ND (23)	(311)	
		GGT (+)	Microsomal induction (23)	(311,316)	
		ALP (+)	<i>In vivo</i> increase (microsomal induction) <i>In vitro</i> inhibition of the reaction with p-nitrophenyl phosphate (23)	(311,317,318)	

N03AB Hydantoin Derivatives

N03AB02	Phenytoin	Glucose (fasting) (+)	Impaired insulin sensitivity (CR)	(319)
		Bilirubin (total) (+/-)	Liver injury (12/899), enzyme induction (41)	(7,313)
		Uric Acid (-)	ND (8)	(315, 320)
		ALT (+)	ND (54)	(321)
		AST (+)	ND (54)	(321)
		ALP (+)	Liver injury (54)	(321)
		GGT (+)	Manifestation of an adaptational proliferation of the smooth endoplasmic reticulum with an induction of the cytochrome P-450 system (54)	(321,322)

N03AF Carboxamide Derivatives

N03AF01	Carbamazepine	Total Cholesterol (+)	ND (28)	(323)
		Triglycerides (+)	ND (19)	(324)
		LDL (+)	ND (28)	(323,324)
		HDL (+)	Increased hepatic synthesis of Apo-AI (28)	
		Lp(a) (+)	ND (25)	(311)
		Bilirubin (total) (-)	Enzyme induction (38)	(313)
		Uric Acid (-)	ND (8)	(315,320)
		ALT (+)	ND (56)	(321)
		AST (+)	ND (56)	(321)
		ALP (+)	ND (56)	(321,323)

		GGT (+)	Manifestation of an adaptational proliferation of the smooth endoplasmic reticulum with an induction of the cytochrome P-450 system (56)	(311,321)
N03AF02	Oxcarbazepine	ALP (+)	Increase in bone-turnover (44)	(325)
N03AG Fatty Acid Derivatives				
		Total Cholesterol (-)	ND (52)	(315)
		Triglycerides (+)	ND (52)	(315)
		HDL (-)	ND (52)	(315)
		LDL (-)	ND (52)	(315)
		Lp(a) (+)	ND (24)	(311)
		Glucose (fasting) (-)	ND (52)	(315)
N03AG01	Valproic acid	Insulin (fasting) (+)	Insulin resistance (52)	(315)
		Uric Acid (+)	ND (60)	(314, 315)
		ALT (+)	Mild hepatic dysfunction (28)	(326)
		AST (+)	Mild hepatic dysfunction (28)	(326)
		LDH (+)	Mild hepatic dysfunction (28)	(326)
		GGT (+)	ND (47)	(327)
		ALP (+)	ND (50)	(328)
N03AX Other Antiepileptics				
N03AX11	Topiramate	Uric Acid (+)	Inhibitory effect on specific carbonic anhydrase isoenzymes (53)	(329)
N04 Anti-Parkinson Drugs				
N04B Dopaminergic Agents				
N04BA Dopa and Dopa Derivatives				

N04BA01	Levodopa	Uric Acid (+)	Interference with phosphomolybden method (<i>in vitro</i>)	(46)
N05 Psycholeptics				
N05A Antipsychotics				
N05AA Phenothiazines with Aliphatic Side-Chain				
		Total Cholesterol (+)	ND (39)	(330)
N05AA01	Chlorpromazine	ALT (+)	Liver injury (14/1502)	(8,247)
		ALP (+)	Liver injury (14/1502)	(8,247)
N05AB Phenothiazines with Piperazine Structure				
		ALT (+)	Liver injury (19)	(331)
N05AB03	Perphenazine	AST (+)	Liver injury (19)	(331)
		GGT (+)	Liver injury (19)	(331)
		CRP (+)	ND (143)	(332)
		ALT (+)	Liver injury (73)	(331)
N05AB10	Perazine	AST (+)	Liver injury (73)	(331)
		ALP (+)	Liver injury (73)	(331)
		GGT (+)	Liver injury (73)	(331)
N05AD Butyrophenone Derivatives				
		Total Cholesterol (+)	ND (52)	(333)
		Triglycerides (+)	ND (52)	(333)
		LDL (+)	ND (52)	(333)
N05AD01	Haloperidol	Glucose (fasting) (+)	Increased insulin resistance (25)	(334)
		ALT (+)	Liver injury (35)	(331)
		AST (+)	Liver injury (35)	(331)
		GGT (+)	Liver injury (35)	(331)
		ALP (+)	Liver injury (35)	(331)

		CRP (+)	ND (36)	(335)
N05AE Indole Derivatives				
N05AE04	Ziprasidone	Total Cholesterol (-)	ND (40)	(336)
		Triglycerides (-)	ND (40)	(336)
		ALT (+)	Liver injury (118)	(337)
		AST (+)	Liver injury (118)	(337)
		CRP (+)	ND (86)	(332)
N05AE05	Lurasidone	Total Cholesterol (+)	ND (50)	(338)
		Triglycerides (-)	ND (50)	(338)
		LDL (-)	ND (50)	(338)
		HDL (-)	ND (50)	(338)
		Glucose (fasting) (+)	ND (50)	(338)
		Insulin (fasting) (+)	ND (50)	(338)
		HbA1c (+)	ND (50)	(338)
N05AF Thioxanthene Derivatives				
N05AF03	Chlorprothixene	Uric Acid (-)	Increased renal excretion (30)	(339,340)
N05AH Diazepines, Oxazepines, Thiazepines and Oxepines				
N05AH02	Clozapine	Total Cholesterol (+)	ND (38)	(334,339,341-343)
		Triglycerides (+)	ND (38)	(341-343)
		Glucose (fasting) (+)	Insulin resistance (38)	(334,341,343)
		ALT (+)	Liver injury (96)	(331)
		AST (+)	Liver injury (96)	(331)
		GGT (+)	Liver injury (96)	(331)
		ALP (+)	Liver injury (96)	(331)
		CRP (+)	ND (33)	(343)

		Total Cholesterol (+)	ND (54)	(333,334,342)
		Triglycerides (+)	ND (54)	(333,338,342)
		LDL (+)	ND (54)	(333,338)
		HDL (-)	ND (51)	(338)
		Glucose (fasting) (+)	ND (51)	(334,338,344)
		Insulin (fasting) (+)	ND (51)	(338)
N05AH03	Olanzapine	HbA1c (+)	ND (51)	(338)
		Bilirubin (total) (+)	Liver injury (33)	(345)
		ALT (+)	Liver injury (33)	(345)
		AST (+)	Liver injury (33)	(345)
		GGT (+)	Liver injury (33)	(345)
		ALP (+)	Liver injury (33)	(345)
		CRP (+)	ND (202)	(332,346)
N05AH04	Quetiapine	Bilirubin (total) (+)	Liver injury (48)	(345)
		ALT (+)	Liver injury (48)	(345)
		AST (+)	Liver injury (48)	(345)
		GGT (+)	Liver injury (48)	(345)
		ALP (+)	Liver injury (48)	(345)
		CRP (+)	ND (180)	(332,347)
N05AL Benzamides				
N05AL05	Amisulpride	CRP (+)	ND (43)	(346)
N05AN Lithium				
N05AN01	Lithium	Uric Acid (-)	Increased renal excretion (98)	(348)
N05AX Other Antipsychotics				
N05AX08	Risperidone	Total Cholesterol (+)	ND (58)	(333)

		Triglycerides (+)	ND (58)	(333,342)
		LDL (+)	ND (58)	(333)
		Glucose (fasting) (+)	ND (50)	(342)
		Bilirubin (total) (+)	Liver injury (29)	(345,349)
		ALT (+)	Liver injury (121)	(337)
		AST (+)	Liver injury (121)	(337)
		GGT (+)	Liver injury (29)	(345,349)
		ALP (+)	Liver injury (29)	(345,349)
		CRP (+)	ND (178)	(332,347)
N05AX11	Zotepine	Uric Acid (-)	Inhibition of reabsorption of uric acid (16)	(350)
		Triglycerides (-)	ND (24)	(351)
		ALT (-)	ND (24)	(351)
N05AX12	Aripiprazole	AST (-)	ND (24)	(351)
		GGT (-)	ND (24)	(351)
		ALP (-)	ND (24)	(351)
		CRP (-/+)	ND (46)	
N06 Psychoanaleptics				
N06A Antidepressants				
N06AA Non-Selective Monoamine Reuptake Inhibitors				
N06AA10	Nortriptyline	CRP (-)	ND (126)	(352)
N06AB Selective Serotonin Reuptake Inhibitors				
		Total Cholesterol (+)	ND (28)	(353)
N06AB03	Fluoxetine	Triglycerides (+)	ND (28)	(353)
		LDL (+)	ND (28)	(353)

		ALT (+)	Liver injury (1/899)	(7)
		CRP (-)	ND (48)	(354)
N06AB05	Paroxetine	Lp(a) (-)	ND (21)	(355)
N06AB06	Sertraline	CRP (-)	ND (47)	(356)
N06AB10	Escitalopram	CRP (-)	ND (115)	(352)
P Antiparasitic Products, Insecticides and Repellents				
P01 Antiprotozoals				
P01B Antimalarials				
P01BD Diaminopyrimidines				
P01BD01	Pyrimethamine	Creatinine (+)	Inhibition of tubular secretion (6)	(305)
R Respiratory System				
R03 Drugs for Obstructive Airway Diseases				
R03A Adrenergics, Inhalants				
R03AC Selective Beta-2-Adrenoreceptor Agonists				
R03AC12	Salmeterol	Glucose (fasting) (+)	ND (16)	(357)
R03AC13	Formoterol	Glucose (fasting) (+)	ND (16)	(357,358)
R03C Adrenergics for Systemic Use				
R03CC Selective Beta-2-Adrenoreceptor Agonists				
R03CC02	Salbutamol	Glucose (fasting) (+)	ND (12)	(358)
R03CC04	Fenoterol	Glucose (fasting) (+)	ND (12)	(358)
R03D Other Systemic Drugs for Obstructive Airway Diseases				
R03DA Xanthines				
R03DA04	Theophylline	Insulin (fasting) (+)	Increase in cAMP level in pancreatic beta-cells (5)	(359)
		Uric Acid (+)	Inhibitory effect on HGPRT-ase (12)	(360)

R06 Antihistamines for Systemic Use**R06AX Other Antihistamines for Systemic Use**

R06AX02	Cyproheptadine	ALT (+)	Liver injury (CR)	(361)
		ALP (+)	Liver injury (CR)	(361)

V various**V03 All Other Therapeutic Products****V03AF Detoxifying Agents for Antineoplastic Treatment**

V03AF07	Rasburicase	Uric Acid (-)	Metabolism of uric acid to allantoin (20)	(362)
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V03AX Other therapeutic products

J03AX03	Cobicistat	Creatinine (+)	Inhibition of tubular secretion (30)	(363)
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V06 General Nutrients**V06DC Carbohydrates**

V06DC02	Fructose	Uric Acid (+)	Increased uric acid production, decreased renal excretion (16)	(364)
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ATC Non-Classified

		Glucose (fasting) (-)	Inhibition of the sympathetic nervous system (17)	(365)
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none	Azelnidipine	CRP (-)	Decrease in pro-inflammatory cytokines (17)	(365)
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none	Droloxfene	LDL (-)	ND (24)	(366)
		Lp(a) (-)	ND (24)	(366)

none	Lactate	Uric Acid (+)	Decreased the fractional clearance of uric acid (5)	(367)
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The drugs are listed according to the Anatomical Therapeutic Chemical Classification (ATC) System. (+) – increased values. (-) – decreased values. ND - not described; CR – case report. ABC - ATP Binding Cassette. ALT - Alanine Aminotransferase. Apo – apolipoprotein. AST - Aspartate Aminotransferase. cAMP - Cyclic adenosine monophosphate. CRP - C-Reactive Protein. HGPRT-ase - Hypoxanthine-guanine phosphoribosyltransferase. HMG Co-A - 3-Hydroxy-3-methylglutaryl-coenzyme A. GGT -

Gamma-Glutamyl Transferase. HbA1c - Hemoglobin A1c. HDL - High Density Lipoprotein. LDH - Lactate Dehydrogenase. LDL - Low Density lipoprotein. Lp(a) - Lipoprotein (a). PPAR - Peroxisome proliferator-activated receptor. TNF- α – Tumor necrosis factor alpha. UGT1A1 - UDP-glucuronosyltransferase 1A1.

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