

Syngene

Putting Science to Work

**Comprehensive
solutions for
clinical development
of generic drugs**



Introduction

Syngene offers comprehensive solutions for clinical development of generic drugs. Our scientists have the skills and the capability to deliver great science on time and within budget while ensuring the highest levels of data integrity, IP security, and quality.

So far, we have completed ~700 Bioavailability/ Bioequivalence (BA/BE) studies for global clients successfully.

Syngene's bioanalytical laboratory for small molecules has been inspected and approved by the US FDA, Brazil's National Health Surveillance Agency (ANVISA), Medicines and Healthcare products Regulatory Agency (MHRA), and the European Medicines Agency (EMA).

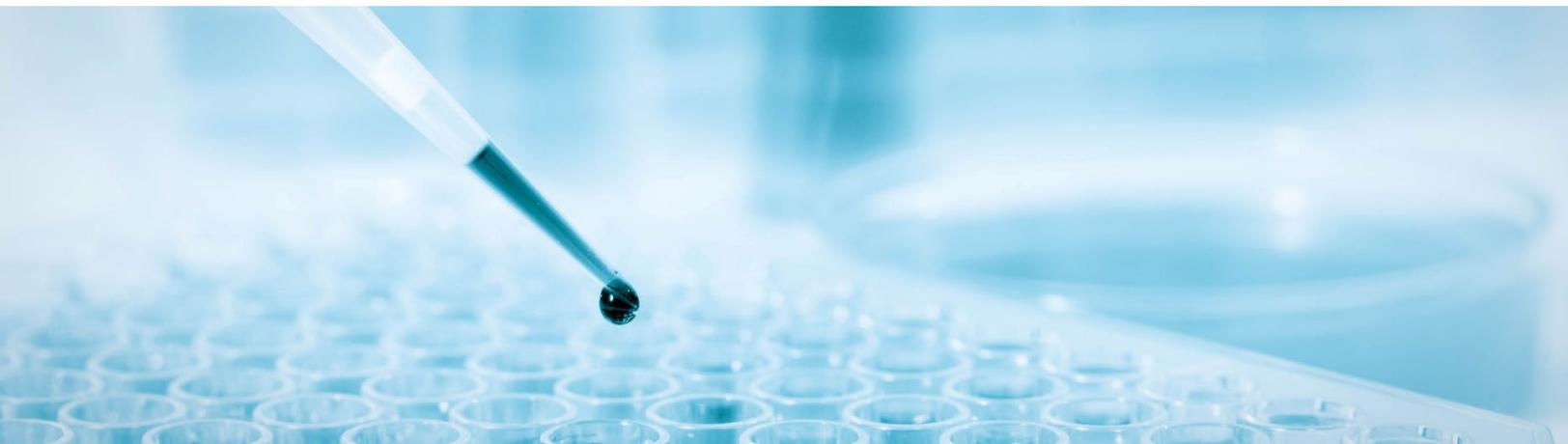
Regulated Bioanalytical Laboratory for small molecules

Syngene's GLP-compliant Bioanalytical Research Laboratory is spread across 7500 sq. ft. It is equipped with facilities for quantitative measurement of xenobiotics (drugs and their metabolites and biological molecules) in biological systems. The lab uses liquid chromatography and mass spectrometer (LC-MS/MS) to detect drugs and metabolites up to picogram levels in biological fluids. Our instrument models include API 4000, API 4000 Q-Trap, API 4500, and API 6500. The instruments are equipped with electrospray ionization (ESI) and atmospheric pressure chemical ionization (APCI) for application in bioanalysis.

We use a wide variety of bioanalytical methods for various pharmacological drug classifications. The assays ensure adequate calibration curve ranges are used to quantify them in biological fluids. All methods are designed keeping in mind the type of formulation to be administered to the subjects.

Syngene uses the Watson Lab Information Management System (LIMS) to track sample handling in the laboratory, where the sample is tracked until disposal. Our lab also has methods for the quantification of endogenous molecules and nutraceuticals. Further, we subject the concentration obtained from various matrices in specific studies to pharmacokinetic and Statistical analysis using Phoenix[®] WinNonlin[®] 8.1 and SAS[®] software.

Finally, once all the study data has been generated, we compile it into a bioanalytical report for submission to relevant regulatory authorities for approval.



Assays available for BA/BE studies

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
1	Abacavir	LC-MS/MS	Plasma	50.002 to 10010.331 ng/mL	K ₂ EDTA
2	Abiraterone	LC-MS/MS	Plasma	0.200 to 50.014 ng/mL	K ₂ EDTA
3	Abiraterone	LC-MS/MS	Plasma	0.200 to 150 ng/mL	K ₂ EDTA
4	Acebutolol	LC-MS/MS	Plasma	5.035 to 2008.576 ng/mL	K ₂ EDTA
5	Acotiamide	LC-MS/MS	Plasma	0.199 to 150.358 ng/mL	K ₂ EDTA
6	Alfuzosin	LC-MS/MS	Plasma	0.2 to 25.0 ng/mL	CPDA
7	Ambrisentan	LC-MS/MS	Plasma	1.004 to 1200.000 ng/mL	K ₂ EDTA
8	Amlodipine	LC-MS/MS	Plasma	0.10118 to 20.236 ng/mL	K ₃ EDTA
9	Amlodipine	LC-MS/MS	Plasma	0.050 to 10.007 ng/mL	K ₂ EDTAw
10	Apixaban	LC-MS/MS	Plasma	0.993 to 200.135 ng/mL	K ₂ EDTA
11	Apixaban (HR)	LC-MS/MS	Plasma	0.995 to 300.279 ng/mL	K ₂ EDTA
12	Aprepitant	LC-MS/MS	Plasma	10.053 to 4002.636 ng/mL	K ₂ EDTA
13	Artemether and dihydroartemisinin	LC-MS/MS	Plasma	2.5046 to 299.96 ng/mL and 2.5040 to 299.88 ng/mL	K ₂ EDTA
14	Aspirin and Salicylic acid	LC-MS/MS	Plasma	2.026 to 1210.800 ng/mL (Aspirin) and 150.027 to 10006.846 ng/mL (Salicylic acid)	Sodium Fluoride and Potassium Oxalate
15	Atomoxetine	LC-MS/MS	Plasma	1.5 to 500 ng/mL	K ₂ EDTA
16	Atorvastatin and metabolites	LC-MS/MS	Plasma	0.250 to 149.638 ng/mL (Atorvastatin), 0.063 to 37.536 ng/mL (p-OH Atorvastatin), 0.250 to 149.699 ng/mL (o-OH Atorvastatin)	Sodium Heparin
17	Atorvastatin and metabolites	LC-MS/MS	Plasma	0.234 to 39.882 ng/mL (Atorvastatin), 0.059 to 35.073 ng/mL (p-OH Atorvastatin), 0.234	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
				to140.066 ng/mL (o-OH Atorvastatin)	
18	Baclofen	LC-MS/MS	Plasma	2.065 to 737.548 ng/mL	K ₂ EDTA
19	Balsalazide	LC-MS/MS	Plasma	1.0209 to 1003.3 ng/mL	CPDA
20	Bedaquiline	LC-MS/MS	Plasma	5.011 to 3003.519 ng/mL	K ₂ EDTA
21	Bisoprolol	LC-MS/MS	Plasma	0.496 to 202.773 ng/mL	K ₂ EDTA
22	Brexpiprazole	LC-MS/MS	Plasma	0.200 to 100.280 ng/mL	K ₂ EDTA
23	Budesonide	LC-MS/MS	Plasma	50.124 to 4003.085 pg/mL	K ₂ EDTA
24	Buprenorphine	LC-MS/MS	Plasma	5.000 to 1008.000 pg/mL	K ₂ EDTA
25	Buprenorphine and Norbuprenorphine	LC-MS/MS	Plasma	10.055 to 8045.078 pg/mL (Buprenorphine), 10.121 to 4004.722 pg/mL (Norbuprenorphine)	K ₂ EDTA
26	Buspirone and 6-OH Buspirone	LC-MS/MS	Plasma	9.993 to 6034 pg/mL (Buspirone), 0.250 to 150.928 ng/mL (6-OH Buspirone)	K ₂ EDTA
27	Carbidopa and Levodopa	LC-MS/MS	Plasma	1.017 to 203.914 ng/mL (Carbidopa), 10.088 to 2022.613 ng/mL (Levodopa)	K ₂ EDTA
28	Celecoxib	LC-MS/MS	Plasma	10.020 to 4009.087 ng/mL	K ₂ EDTA
29	Cetirizine	LC-MS/MS	Plasma	0.73030 to 760.75 ng/mL	CPDA
30	Ciclesonide and Desisobutyryl Ciclesonide	LC-MS/MS	Serum	99.459 to 15001.425 pg/mL (Ciclesonide), 19.799 to 2986.291 pg/mL (Desisobutyryl Ciclesonide)	-
31	Ciprofloxacin	LC-MS/MS	Plasma	50 to 7500 ng/mL	K ₂ EDTA
32	Citalopram	LC-MS/MS	Plasma	0.27814 to 200.68 ng/mL	CPDA
33	Clopidogrel	LC-MS/MS	Plasma	50.080 to 4017.445 pg/mL	K ₂ EDTA
34	Clopidogrel	LC-MS/MS	Plasma	10.021 to 5000.589 pg/mL	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
35	Clozapine	LC-MS/MS	Plasma	10.054 to 1007.944 ng/mL	K ₂ EDTA
36	Codeine (In Presence of Paracetamol)	LC-MS/MS	Plasma	0.301 to 299.950 ng/mL	K ₂ EDTA
37	Coenzyme Q10	LC-MS/MS	Plasma	200.62 to 4498.4 ng/mL	K ₂ EDTA
38	Cortisol	LC-MS/MS	Plasma	1.007 to 300.236 ng/mL	K ₂ EDTA
39	Cyclobenzaprine	LC-MS/MS	Plasma	0.100 to 60.289 ng/mL	K ₂ EDTA
40	Cycloserine	LC-MS/MS	Plasma	100.050 to 20000 ng/mL	K ₂ EDTA
41	Dapagliflozin	LC-MS/MS	Plasma	1.002 to 401.756 ng/mL	K ₂ EDTA
42	Dapagliflozin (In Presence of Saxagliptin and its metabolite)	LC-MS/MS	Plasma	1.010 to 400.091 ng/mL	K ₂ EDTA
43	Dapagliflozin (In presence of Metformin)	LC-MS/MS	Plasma	1.002 to 400.839 ng/mL	K ₂ EDTA
44	Daptomycin	LC-MS/MS	Plasma	0.498 to 151.073 µg/mL	K ₂ EDTA
45	Dabigatran(Free)	LC-MS/MS	Plasma	1.000 to 500.348 ng/mL	K ₂ EDTA
46	Dabigatran(Free)	LC-MS/MS	Plasma	1.008 to 401.825 ng/mL	K ₂ EDTA
47	Dabigatran(Total)	LC-MS/MS	Plasma	1.000 to 500.000 ng/mL	K ₂ EDTA
48	Dabigatran(Total)	LC-MS/MS	Plasma	1.008 to 401.825 ng/mL	K ₂ EDTA
49	Deferasirox	LC-MS/MS	Plasma	99.837 to 30071.478 ng/mL	K ₂ EDTA
50	Dexamethasone	LC-MS/MS	Plasma	0.098 to 30.184 ng/mL	K ₂ EDTA
51	Dexamethasone and Betamethasone	LC-MS/MS	Plasma	0.100 to 100.189 ng/mL (Dexamethasone), 0.100 to 100.373 ng/mL (Betamethasone)	K ₂ EDTA
52	Dexlansoprazole	LC-MS/MS	Plasma	5.005 to 2508.703 ng/mL	K ₂ EDTA
53	Dexlansoprazole	LC-MS/MS	Plasma	5.012 to 3008.144 ng/mL	K ₂ EDTA
54	Diazepam	LC-MS/MS	Plasma	2.008 to 703.253 ng/mL	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
55	Diclofenac	LC-MS/MS	Plasma	0.103 to 103.29 ng/mL	Sodium Heparin
56	Diclofenac	LC-MS/MS	Plasma	0.050 to 100.113 ng/mL	K ₂ EDTA
57	Digoxin	LC-MS/MS	Serum	0.05 to 7.92 ng/mL	-
58	Digoxin	LC-MS/MS	Plasma	0.081 to 8.033 ng/mL	K ₂ EDTA
59	Dihydroartemisinin	LC-MS/MS	Plasma	1.019 to 800.015 ng/mL	Sodium Heparin
60	Domperidone	LC-MS/MS	Plasma	0.25 to 201.9 ng/mL	CPDA
61	Droxidopa	LC-MS/MS	Plasma	5.041 to 4000.531 ng/mL	K ₂ EDTA
62	Duloxetine	LC-MS/MS	Plasma	0.503 to 201.384 ng/mL	K ₂ EDTA
63	Eliglustat	LC-MS/MS	Plasma	0.100 to 50.231 ng/mL	K ₂ EDTA
64	Erlotinib	LC-MS/MS	Plasma	2.523 to 2504.260 ng/mL	K ₂ EDTA
65	Emtricitabine and Tenofovir Alafenamide	LC-MS/MS	Plasma	10.112 to 4996.548 ng/mL and 1.016 to 502.125 ng/mL	K ₂ EDTA
66	Eslicarbazepine	LC-MS/MS	Plasma	0.100 to 25.045 µg/mL	K ₂ EDTA
67	Esomeprazole	LC-MS/MS	Plasma	4.450 to 3533.282 ng/mL	K ₂ EDTA
68	Escitalopram	LC-MS/MS	Plasma	0.199 to 49.683 ng/mL	K ₂ EDTA
69	Ethacrynic acid	LC-MS/MS	Plasma	2.000 to 1000.000 ng/mL	K ₂ EDTA
70	Ethacrynic acid	LC-MS/MS	Plasma	0.503 to 501.978 ng/mL	K ₂ EDTA
71	Etoricoxib	LC-MS/MS	Plasma	50.005 to 9000.557 ng/mL	K ₂ EDTA
72	Everolimus	LC-MS/MS	Whole blood	0.400 to 40.000 ng/mL	K ₂ EDTA
73	Everolimus	LC-MS/MS	Whole blood	0.100 to 30.193 ng/mL	K ₂ EDTA
74	Everolimus	LC-MS/MS	Whole blood	0.100 to 50.000 ng/mL	K ₂ EDTA
75	Everolimus	LC-MS/MS	Whole blood	0.497 to 120.680 ng/mL	K ₂ EDTA
76	Everolimus	LC-MS/MS	Whole blood	0.502 to 200.998 ng/mL	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
77	Everolimus	LC-MS/MS	Whole blood	0.500 to 200.494 ng/mL	K ₂ EDTA
78	Ezetimibe(Free and Total)	LC-MS/MS	Plasma	50.000 to 20000.000 pg/mL (Free Ezetimibe), 0.500 to 150.000 ng/mL (Total Ezetimibe)	K ₂ EDTA
79	Ezetimibe (Total HR)	LC-MS/MS	Plasma	1.014 to 400.584 ng/mL	K ₂ EDTA
80	Fampridine	LC-MS/MS	Plasma	0.240 to 60.114 ng/mL	K ₂ EDTA
81	Febuxostat	LC-MS/MS	Plasma	10.020 to 7534.077 ng/mL	K ₂ EDTA
82	Febuxostat	LC-MS/MS	Plasma	25 to 10000 ng/mL	K ₂ EDTA
83	Fluvastatin	LC-MS/MS	Plasma	2.000 to 964.500 ng/mL	CPDA
84	Fluindione	LC-MS/MS	Plasma	50.000 to 7000.000 ng/mL	K ₃ EDTA
85	Fluticasone Propionate	LC-MS/MS	Plasma	1.994 pg/mL to 301.521 pg/mL	K ₂ EDTA
86	Formoterol	LC-MS/MS	Plasma	0.999 to 302.300 pg/mL	K ₂ EDTA
87	Fosinopril and Fosinoprilat	LC-MS/MS	Plasma	0.490 to 395.200 ng/mL and 0.970 to 785.300 ng/mL	CPDA
88	Gabapentin	LC-MS/MS	Plasma	10.067 to 6000 ng/mL	K ₂ EDTA
89	Gliclazide	LC-MS/MS	Plasma	25.034 to 4002.276 ng/mL	K ₂ EDTA
90	Guanfacine	LC-MS/MS	Plasma	0.099 to 20.071 ng/mL	K ₂ EDTA
91	Ibrutinib	LC-MS/MS	Plasma	0.250 to 100 ng/mL	K ₂ EDTA
92	Ibuprofen	LC-MS/MS	Plasma	0.250 to 100.0 ng/mL	K ₂ EDTA
93	Ibuprofen	LC-MS/MS	Plasma	0.100 to 50 µg/mL	K ₂ EDTA
94	R & S Ibuprofen	LC-MS/MS	Plasma	202.785 to 40156.673 ng/mL(R-Ibuprofen) and 202.875 to 40174.598 ng/mL(S-Ibuprofen)	K ₂ EDTA
95	Imatinib	LC-MS/MS	Plasma	25.201 to 6044.670 ng/mL	K ₂ EDTA
96	Imatinib & N-Desmethyl Imatinib	LC-MS/MS	Plasma	25.594 to 12025.095 ng/mL (Imatinib) and 2.622 to 1231.742 ng/mL (N-Desmethyl Imatinib)	K ₂ EDTA

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97	Ipratropium	LC-MS/MS	Plasma	2.030 to 201.693 pg/mL	K ₂ EDTA
98	Irbesartan and Hydrochlorothiazide	LC-MS/MS	Plasma	50.073 to 7494.588 ng/mL for Irbesartan and 1.003 to 150.104 ng/mL for Hydrochlorothiazide	K ₂ EDTA
99	Irbesartan and Hydrochlorothiazide	LC-MS/MS	Plasma	50.036 to 7503.027 ng/mL for Irbesartan and 2.003 to 300.358 ng/mL for Hydrochlorothiazide	
100	Isosorbide 5- Mononitrate	LC-MS/MS	Plasma	10.010 to 2005.122 ng/mL	K ₂ EDTA
101	Isotretinoin	LC-MS/MS	Plasma	0.999 to 999.580 ng/mL	K ₂ EDTA
102	Isradipine	LC-MS/MS	Plasma	75.029 to 10030.871 pg/mL	K ₂ EDTA
103	Itraconazole	LC-MS/MS	Plasma	1.0852 to 401.9 ng/mL	CPDA
104	Ivabradine	LC-MS/MS	Plasma	0.248 to 101.346 ng/mL	K ₂ EDTA
105	Labetalol	LC-MS/MS	Plasma	1.000 to 400.042 ng/mL	K ₂ EDTA
106	Lacosamide	LC-MS/MS	Plasma	0.101 to 12.019 µg/mL	K ₂ EDTA
107	Lansoprazole	LC-MS/MS	Plasma	2.506 to 2501.181 ng/mL	K ₂ EDTA
108	Lenalidomide	LC-MS/MS	Plasma	1.003 to 1003.826 ng/mL	K ₂ EDTA
109	Liraglutide	LC-MS/MS	Plasma	1.018 to 100.464 ng/mL	K ₂ EDTA
110	Lopinavir and Ritonavir	LC-MS/MS	Plasma	51.540 to 16042 ng/mL and 5.2502 to 1634.2 ng/mL	K ₂ EDTA
111	Losartan and Losartan carboxylic acid	LC-MS/MS	Plasma	1.021 to 202.901 ng/mL for Losartan and 1.520 to 302.203 ng/mL of Losartan carboxylic acid	K ₂ EDTA
112	Losartan (In Presence of Amlodipine)	LC-MS/MS	Plasma	2.069 to 750.315 ng/mL	K ₂ EDTA
113	Lumefantrine	LC-MS/MS	Plasma	100.04 to 15216 ng/mL	K ₂ EDTA
114	Lurasidone	LC-MS/MS	Plasma	0.500 to 201.864 ng/mL	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
115	Lutein and Zeaxanthin	LC-MS/MS	Plasma	Lutein-2.003 to 500.598 ng/mL, Zeaxanthin-4.049 to 1011.84ng/mL	K ₂ EDTA
116	Macitentan	LC-MS/MS	Plasma	2.001 to 401.257 ng/mL	K ₂ EDTA
117	Mecamylamine	LC-MS/MS	Plasma	10 to 5209.5 pg/mL	CPDA
118	Meloxicam	LC-MS/MS	Plasma	5.170 to 2501.873 ng/mL	K ₂ EDTA
119	Mesalamine	LC-MS/MS	Plasma	5.015 to 1001.089 ng/mL	K ₂ EDTA
120	Metformin	LC-MS/MS	Plasma	2.019 to 1600.453 ng/mL	K ₂ EDTA
121	Metformin	LC-MS/MS	Plasma	20.073 to 5005.077 ng/mL	K ₂ EDTA
122	Metformin and Vildagliptin	LC-MS/MS	Plasma	Metformin- 4.987 to 3003.922ng/mL, Vildagliptin-0.997 to 600.369ng/mL	K ₂ EDTA
123	Metformin (In presence of Dapagliflozin)	LC-MS/MS	Plasma	Metformin-20.068 to 3000.745ng/mL	K ₂ EDTA
124	Methyl Prednisolone	LC-MS/MS	Plasma	0.5 to 250 ng/mL	K ₂ EDTA
125	Monomethyl fumarate	LC-MS/MS	Plasma	50.000 to 5040.319 ng/mL	K ₂ EDTA
126	Moxonidine	LC-MS/MS	Plasma	20.029 to 7515.609 pg/mL	K ₂ EDTA
127	Mycophenolate mofetil	LC-MS/MS	Plasma	0.025 to 5.000 ng/mL	K ₂ EDTA
128	Mycophenolic acid	LC-MS/MS	Plasma	0.049 to 25.163 µg/mL	K ₂ EDTA
129	Nateglinide	LC-MS/MS	Plasma	50.000 to 8000.000 ng/mL	K ₂ EDTA
130	Nimodipine	LC-MS/MS	Plasma	0.2 to 140 ng/mL	CPDA
131	Nilutamide	LC-MS/MS	Plasma	5.004 to 2001.515 ng/mL	K ₂ EDTA
132	Olopatadine	LC-MS/MS	Plasma	1.0023 to 200.46 ng/mL	K ₃ EDTA
133	Omeprazole	LC-MS/MS	Plasma	5.0035 to 1000.8 ng/mL	K ₃ EDTA
134	Omeprazole	LC-MS/MS	Plasma	5.025 to 2000.000 ng/mL	K ₂ EDTA
135	Olmesartan	LC-MS/MS	Plasma	5.016 to 2087.933 ng/mL	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
136	Oseltamivir	LC-MS/MS	Plasma	2.0 to 203.3 ng/mL	K ₂ EDTA
137	Oseltamivir and Oseltamivir acid	LC-MS/MS	Plasma	0.503 to 200.178 ng/mL and 2.011 to 800.909 ng/mL	K ₂ EDTA
138	Oxcarbazepine	LC-MS/MS	Plasma	10.0 to 6965.2 ng/mL	CPDA
139	Oxcarbazepine and 10-OH Oxcarbazepine	LC-MS/MS	Plasma	5.085 to 7009.242 ng/mL (Oxcarbazepine) and 10.159 to 14003.115 ng/mL (10 hydroxy carbamazepine)	K ₂ EDTA
140	Oxcarbazepine and 10-OH Oxcarbazepine	LC-MS/MS	Plasma	5.004 to 2000 ng/mL (Oxcarbazepine) and 30.021 to 12000.000 ng/mL (10 hydroxy carbamazepine)	K ₂ EDTA
141	Oxcarbazepine and 10-OH Oxcarbazepine	LC-MS/MS	Plasma	5.116 to 4007.556 ng/mL (Oxcarbazepine) and 30.113 to 15049.474 ng/mL (10 hydroxy carbamazepine)	K ₂ EDTA
142	Oxybutynin and desethyl oxybutynin	LC-MS/MS	Plasma	50 to 8944.8 pg/mL and 0.100 to 18.000 ng/mL	CPDA
143	Oxybutynin and desethyl oxybutynin (Lower Range)	LC-MS/MS	Plasma	0.020 to 8.066 ng/mL and 0.100 to 40.162 ng/mL	K ₂ EDTA
144	Oxybutynin and desethyl oxybutynin (Higher Range)	LC-MS/MS	Plasma	0.100 to 30.063 ng/mL and 0.400 to 120.600 ng/mL	K ₂ EDTA
145	Paliperidone	LC-MS/MS	Plasma	0.25458 to 25.248 ng/mL	K ₂ EDTA
146	Paracetamol	LC-MS/MS	Plasma	50.085 to 9998.0 ng/mL	K ₂ EDTA
147	Paracetamol (in presence of Codeine)	LC-MS/MS	Plasma	150.171 to 15045.048 ng/mL	K ₂ EDTA
148	Pazopanib	LC-MS/MS	Plasma	0.100 to 30.191 µg/mL	K ₂ EDTA
149	Pazopanib (Higher Range)	LC-MS/MS	Plasma	1.001 to 80.073 µg/mL	
150	Paroxetine	LC-MS/MS	Plasma	0.100 to 20.5 ng/mL	K ₂ EDTA
151	Penciclovir	LC-MS/MS	Plasma	25 to 8000 ng/mL	K ₂ EDTA
152	Penicillamine	LC-MS/MS	Plasma	10.041 to 3500.000 ng/mL	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
153	Pioglitazone and Pioglitazone MIV metabolite	LC-MS/MS	Plasma	10.306 to 3097.915 ng/mL(Pioglitazone) and 5.087 to 1529.320 ng/mL(Pioglitazone MIV metabolite)	K ₂ EDTA
154	Piperaquine (in presence of Dihydroartemesinin)	LC-MS/MS	Plasma	0.500 to 300.508 ng/mL	Sodium Heparin
155	Pirfenidone	LC-MS/MS	Plasma	0.100 to 25.021 µg/mL	K ₂ EDTA
156	Posaconazole	LC-MS/MS	Plasma	1.997 to 603.893 ng/mL	K ₂ EDTA
157	Posaconazole (Higher Range)	LC-MS/MS	Plasma	2.003 to 800.066 ng/mL	K ₂ EDTA
158	Pomalidomide	LC-MS/MS	Plasma	0.500 to 150 ng/mL	K ₂ EDTA
159	Prednisone and Prednisolone	LC-MS/MS	Plasma	0.126 to 37.522 ng/mL(Prednisone) and 0.502 to 150.019 ng/mL (Prednisolone)	K ₂ EDTA
160	Pregabalin	LC-MS/MS	Plasma	0.050 to 10.022 µg/mL	K ₂ EDTA
161	Phytonadione	LC-MS/MS	Plasma	0.497 to 50.064 ng/mL(Cis-Phytonadione) and 0.200 to 100.090 ng/mL (Trans-Phytonadione)	K ₂ EDTA
162	Phytonadione	LC-MS/MS	Plasma	0.148 to 100.426 ng/mL(Cis-Phytonadione) and 0.150 to 150.108 ng/mL (Trans-Phytonadione)	K ₂ EDTA
163	Phytonadione - Higher Range	LC-MS/MS	Plasma	0.150 to 150.487 ng/mL(Cis-Phytonadione) and 0.203 to 600.408 ng/mL (Trans-Phytonadione)	K ₂ EDTA
164	Pyridostigmine	LC-MS/MS	Plasma	0.500 to 120.599 ng/mL	K ₂ EDTA
165	Quetiapine	LC-MS/MS	Plasma	2.003 to 1001.549 ng/mL	K ₂ EDTA
166	Quetiapine	LC-MS/MS	Plasma	1.003 to 248.630 ng/mL	K ₂ EDTA
167	Rabeprazole	LC-MS/MS	Plasma	2.0 to 1498.6 ng/mL	CPDA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
168	Repaglinide	LC-MS/MS	Plasma	0.250 to 60.673 ng/mL	K ₂ EDTA
169	Rifampicin	LC-MS/MS	Plasma	99.229 to 14907.064 ng/mL	K ₂ EDTA
170	Rifampicin	LC-MS/MS	Urine	1028.914 to 200644.500 ng/mL	-
171	Rifaximin	LC-MS/MS	Plasma	0.050 to 30.110 ng/mL	K ₂ EDTA
172	Rifaximin	LC-MS/MS	Urine	0.503 to 502.962 ng/mL	-
173	Rivaroxaban	LC-MS/MS	Plasma	0.200 to 250.000 ng/mL	K ₂ EDTA
174	Rivaroxaban	LC-MS/MS	Plasma	0.300 to 400.000 ng/mL	K ₂ EDTA
175	Rivaroxaban	LC-MS/MS	Plasma	0.501 to 800.000 ng/mL	K ₂ EDTA
176	Rivastigmine	LC-MS/MS	Plasma	0.100 to 15.000 ng/mL	K ₂ EDTA
177	Rizatriptan	LC-MS/MS	Plasma	0.508 to 102.818 ng/mL	Sodium Heparin
178	Rosuvastatin	LC-MS/MS	Plasma	0.51536 to 50.230 ng/mL	K ₂ EDTA
179	Rosuvastatin	LC-MS/MS	Plasma	0.303 to 55.384 ng/mL	K ₂ EDTA
180	Rosuvastatin	LC-MS/MS	Plasma	0.100 to 100.260 ng/mL	K ₂ EDTA
181	Sacubitril and Valsartan	LC-MS/MS	Plasma	12.489 to 5003.649 ng/mL (Sacubitril), 24.970 to 10003.878 ng/mL (Valsartan)	K ₂ EDTA
182	Sacubitril, Valsartan and Sacubitrilat	LC-MS/MS	Plasma	3.145 to 1280.036 ng/mL (Sacubitril), 6.157 to 2505.804 ng/mL (Valsartan) and 12.347 to 5025.338 ng/mL (Sacubitril)	K ₂ EDTA
183	Sacubitrilat	LC-MS/MS	Plasma	100.076 to 20015.293 ng/mL	K ₂ EDTA
184	Salbutamol	LC-MS/MS	Plasma	3.016 to 502.351 pg/mL	K ₂ EDTA
185	Salmeterol	LC-MS/MS	Plasma	2.003 to 803.717 pg/mL	K ₂ EDTA
186	Selexipag and Selexipag metaolite ACT-333679	LC-MS/MS	Plasma	0.200 to 60.128 ng/mL (Selexipag) 0.201-60.484 ng/mL	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
				(Selexipag metaolite ACT-333679)	
187	Sildenafil and N-Desmethyl Sildenafil	LC-MS/MS	Plasma	0.200 to 150.455 ng/mL (Sildenafil), 0.209 to 77.136 ng/mL (N-Desmethyl Sildenafil)	K ₂ EDTA
188	Sildenafil and Sildenafil glucuronide(K-3123G)	LC-MS/MS	Plasma	0.200 to 150.455 ng/mL (Sildenafil), 0.200 to 150.475 ng/mL (Sildenafil glucuronide(K-3123G))	K ₂ EDTA
189	Simvastatin and b-OH-simvastatin	LC-MS/MS	Plasma	0.25 to 50 ng/mL (Simvastatin), 0.149 to 29.88 ng/mL (b-OH-simvastatin)	CPDA
190	Simvastatin and b-OH-simvastatin	LC-MS/MS	Plasma	0.253 to 208 ng/mL (Simvastatin), 0.127 to 104 ng/mL (Simvastatin hydroxy acid)	K ₂ EDTA
191	Simvastatin and b-OH-simvastatin	LC-MS/MS	Plasma	0.253 to 205.394 ng/mL (Simvastatin), 0.125 to 101.349 ng/mL (Simvastatin hydroxy acid)	K ₂ EDTA
192	Sirolimus	LC-MS/MS	Whole blood	0.25592 to 25.254 ng/mL	K ₂ EDTA
193	Sitagliptin	LC-MS/MS	Plasma	4.998 to 800 ng/mL	K ₂ EDTA
194	Saxagliptin and 5-Hydroxy Saxagliptin	LC-MS/MS	Plasma	0.202 to 50.625 ng/mL(Saxagliptin) and 0.400 to 100.499 ng/mL of 5-OH-Saxagliptin	K ₂ EDTA
195	Saxagliptin and 5-Hydroxy Saxagliptin (In Presence of Dapagliflozin)	LC-MS/MS	Plasma	0.205 to 50.031 ng/mL(Saxagliptin) and 0.422 to 102.973 ng/mL of 5-OH-Saxagliptin	K ₂ EDTA
196	Solifenacin	LC-MS/MS	Plasma	1.024 to 30.000ng/mL	K ₂ EDTA
197	Suvorexant	LC-MS/MS	Plasma	0.100 to 1053.133 ng/mL	K ₂ EDTA
198	Tacrolimus	LC-MS/MS	Whole blood	0.250 to 80.000 ng/mL	K ₂ EDTA
199	Tamsulosin and Solifenacin	LC-MS/MS	Plasma	0.050 to 15.040 ng/mL(Tamsulosin) and 0.100 to 30.088 ng/mL (Solifenacin)	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
200	Tapentadol	LC-MS/MS	Plasma	1.005 to 300.867 ng/mL	Sodium Heparin
201	Telmisartan	LC-MS/MS	Plasma	2.012 to 601.205 ng/mL	K ₂ EDTA
202	Teriflunomide	LC-MS/MS	Plasma	5.008 to 3000.826 ng/mL	K ₂ EDTA
203	Teriflunomide (HR)	LC-MS/MS	Plasma	7.512 to 5002.963 ng/mL	K ₂ EDTA
204	Tizanidine	LC-MS/MS	Plasma	0.101 to 10.000 ng/mL	K ₂ EDTA
205	Tofacitinib	LC-MS/MS	Plasma	0.200 to 80.000 ng/mL	K ₂ EDTA
206	Torsemide	LC-MS/MS	Plasma	40.057 to 10006.474 ng/mL	K ₂ EDTA
207	Torsemide	LC-MS/MS	Urine	40.111 to 6550.899 ng/mL	-
208	Tramadol and O-desmethyl Tramadol	LC-MS/MS	Plasma	1.2528 to 250.54 ng/mL and 0.25138 to 50.272 ng/mL	K ₂ EDTA
209	Tramadol	LC-MS/MS	Plasma	1.968 to 300 ng/mL	K ₂ EDTA
210	Tramadol	LC-MS/MS	Plasma	1.998 to 600.212 ng/mL	K ₂ EDTA
211	Tramadol	LC-MS/MS	Plasma	2.003 to 1002.705 ng/mL	K ₂ EDTA
212	Triamterene	LC-MS/MS	Plasma	0.300 to 159.929ng/mL	K ₂ EDTA
213	Triamterene and Hydrochlorothiazide	LC-MS/MS	Plasma	0.508 to 400.479 ng/mL for Triamterene and 0.760 to 599.446 ng/mL for Hydrochlorothiazide	K ₂ EDTA
214	Trimetazidine	LC-MS/MS	Plasma	1 to 200 ng/mL	K ₂ EDTA
215	Trospium	LC-MS/MS	Plasma	25 to 15000 pg/mL	K ₂ EDTA
216	Umeclidinium	LC-MS/MS	Plasma	5.003 to 500.159 pg/mL	K ₂ EDTA
217	Ursodiol, Glycoursodeoxycholic acid and Tauroursodeoxycholic acid	LC-MS/MS	Plasma	99.911 to 12001.563 ng/mL (Ursodiol), 100.262 to 12043.776 ng/mL (Glycoursodeoxycholic acid), 10.175 to 3028.146 ng/mL Tauroursodeoxycholic acid	K ₂ EDTA

Sl. No.	Drug/Metabolite	Method	Matrix	Range	Anticoagulant
218	Ursodiol, Glycoursodeoxycholic acid and Tauroursodeoxycholic acid	LC-MS/MS	Plasma	50.640 to 10023.538 ng/mL (Ursodiol), 50.605 to 10016.800 ng/mL (Glycoursodeoxycholic acid), 2.002 to 308.030 ng/mL Tauroursodeoxycholic acid	K ₂ EDTA
219	Valproic Acid	LC-MS/MS	Plasma	1011.076 to 80115.804 ng/mL	K ₂ EDTA
220	Valsartan	LC-MS/MS	Plasma	25 to 10058 ng/mL	K ₃ EDTA
221	Vortioxetine	LC-MS/MS	Plasma	0.100 to 20.058 ng/mL	K ₂ EDTA
222	Valsartan, Sacubitril and Sacubitrilat	LC-MS/MS	Plasma	Valsartan (6.001 to 2500 ng/mL), Sacubitril (3.000-1250ng/mL), Sacubitrilat (12.002-5000 ng/mL)	K ₂ EDTA
223	Ziprasidone	LC-MS/MS	Plasma	0.5 to 512.25 ng/mL	K ₃ EDTA
224	Zofenopril, Zofenoprilat, HCTZ	LC-MS/MS	Plasma	0.251 to 125.442 ng/mL (Zofenopril), 1.501 to 750.530 ng/mL (Zofenoprilate), 0.403 to 201.708 ng/mL Hydrochlorothiazide)	K ₂ EDTA
225	Zolmitriptan and N-Desmethyl Zolmitriptan	LC-MS/MS	Plasma	196.939 to 20070.203 pg/mL (Zolmitriptan), 100.325 to 10224.214 ng/mL N-Desmethyl Zolmitriptan)	K ₂ EDTA
226	Efavirenz	HPLC-UV	Plasma	0.02 to 22.9 µg/mL	CPDA
227	Levetiracetam	HPLC-UV	Plasma	0.5 to 40.0 µg/mL	CPDA
228	Lopinavir	HPLC-UV	Plasma	0.1 to 24.7 µg/mL	CPDA
229	Metformin	HPLC-UV	Plasma	0.09 to 6.22 µg/mL	CPDA
230	Mycophenolic acid	HPLC-UV	Plasma	0.2 to 25.022 µg/mL	K ₂ EDTA
231	Ritonavir	HPLC-UV	Plasma	0.1 to 12.7 µg/mL	CPDA
232	Voriconazole	HPLC-UV	Plasma	0.05 to 20.4 µg/mL	CPDA
233	Mesalamine	HPLC-FL	Plasma	5.806 to 508.6 ng/mL	CPDA



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