

HIV Drug Patents in China



Summary of Patent Landscape

The landscape reveals that for the majority of ARVs, patents covering the base compound (active ingredient) have been granted. However, patents covering the base compounds for nevirapine and ritonavir do not appear to have been filed in China. Due to translations of claims not being available, it is also unclear whether the base compounds of indinavir and lamivudine have been patented.

In addition to patents claiming the active ingredients, patents for polymorphs, key formulations and processes for ARVs have been applied for or granted in relation to a number of ARVs.

The following is a summary of the findings:

Drug	Applicant	Subject Matter of Patent	Status
Abacavir	Wellcome Foundation Ltd	Abacavir (including succinate salt)	Patented
	Wellcome Foundation Ltd	New intermediates of abacavir	Patented
	Glaxo Group Ltd	Hemisulfate salt of abacavir	Patented
	Glaxo Group Ltd	Various salts of abacavir	Patented
	Glaxo Group Ltd	New formulation for pediatric use	Rejected
Atazanavir	Novartis AG	Atazanavir	Patented
	Novartis AG	Derivative compounds of atazanavir	Patented
	Bristol Myers Squibb Co	Bisulfate salt of atazanavir	Patented
	Bristol Myers Squibb Co	Process for preparing atazanavir	Pending
Darunavir	Bristol Myers Squibb Co	Method of using atazanavir to reduce elevated LDL and/or triglyceride levels in HIV patients	Patented
	G D Searle & Co	Intermediate compounds	Patented
	Tibotec NV	N-oxides, stereoisomers and racemic forms of darunavir	Patented
	Tibotec Pharm Ltd	Combination of darunavir with a cytochrome P450 inhibitor	Patented
	Tibotec Pharm Ltd	Pseudopolymorphic forms of darunavir	Patented
Didanosine	Tibotec Pharm Ltd	Methods for preparing intermediate compounds of darunavir	Patented
	Tibotec Pharm Ltd	Process for preparing polymorphic and pseudopolymorphic forms of darunavir	Patented
	Bristol Myers Squibb Co	Method for making didanosine	Pending
	Bristol Myers Squibb Co	New dosage form of didanosine	Patented
	Bristol Myers Squibb Co	Enteric coated composition of didanosine	Patented
Efavirenz	Merck & Co. Inc	Efavirenz	Patented
	Merck & Co. Inc	Efavirenz in combination with zidovudine, didanosine or stavudine	Patented
	Merck & Co. Inc	Crystallised forms of efavirenz	Patented
	Merck & Co. Inc	Process for obtaining crystallised forms of efavirenz	Patented
	Bristol Myers Squibb Co	Solid dosage forms of efavirenz	Patented
Elvitegravir	Japan Tobacco Inc	Elvitegravir	Patented
	Japan Tobacco Inc	Crystal forms of elvitegravir	Pending
	Gilead Sciences Inc	Use of elvitegravir with ritonavir and/or other ARVs for improving pharmacokinetics	Pending
Emtricitabine	Emory University	Methods for obtaining the racemic form of emtricitabine	Patented
Enfuvirtide	Trimeris Inc	Combination of enfuvirtide with didanosine, lamivudine or zidovudine	Rejected
	Trimeris Inc	Methods for synthesising enfuvirtide	Patented
Etravirine	Janssen Pharmaceutical N.V.	Etravirine	Patented
	Tibotec Pharmaceuticals Ltd	New analogs of etravirine	Pending
Fosamprenavir/ Amprenavir	Vertex Pharmaceuticals Incorporated	Amprenavir	Patented
	Glaxo Group Ltd	Liquid formulation of amprenavir	Rejected
	Vertex Pharmaceuticals Incorporated	Composition comprising amprenavir with lamivudine and/or zidovudine	Abandoned
	Vertex Pharmaceuticals Incorporated	Fosamprenavir	Pending

Drug	Applicant	Subject Matter of Patent	Status
	Vertex Pharmaceuticals Incorporated	Isomeric forms of fosamprenavir	Patented
	Glaxo Group Ltd	Form I crystalline of calcium salt of fosamprenavir	Patented
Indinavir	Merck & Co. Inc	Combination of indinavir sulfate with zidovudine or didanosine	Lapsed
Lamivudine	IAF Biochem International, Inc	Enantiomer of lamivudine	Patented
	Shily Biolog Chemistry Co Ltd	Method for preparing enantiomer of lamivudine	Patented
	Glaxo Group Ltd	Liquid pharmaceutical composition comprising lamivudine	Patented
Maraviroc	Pfizer Ltd	Maraviroc	Rejected
		Salts, solvates and hydrates of maraviroc	Patented
		Polymorph of maraviroc	Pending
Nevirapine	Boehringer Ingelheim Chemicals	Process for making nevirapine	Patented
		Nevirapine hemihydrate	Patented
Raltegravir	Angeletti P. Ist Recherche Bio	Raltegravir	Pending
	Merck & Co. Inc	Potassium salt of raltegravir	Pending
Rilpiverine	Janssen Pharmaceutical N.V.	Rilpiverine	Patented
Ritonavir, Lopinavir and Ritonavir/ Lopinavir	Abbott Laboratories	Lopinavir	Patented
		Crystalline form of lopinavir	Patented
		Polymorph of ritonavir	Pending
		Amorphous form of ritonavir	Pending
		Soft gel capsule formulation of ritonavir, and ritonavir and lopinavir	Patented
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		Intermediate compounds for lopinavir	Patented
		Solid galenic formulation	Pending
		Solid pharmaceutical dosage forms of ritonavir, and ritonavir and lopinavir	Pending
		Prodrug of ritonavir and lopinavir	Pending
Saquinavir	F.Hoffmann-la Roche AG	Saquinavir	Patented
		Method for preparing saquinavir	Patented
		New dosage form of saquinavir	Patented
		Process for making liquid capsules of saquinavir	Patented
Stavudine	Bristol Myers Squibb Co	Sustain release beadlets containing stavudine	Lapsed
Tenofovir Disoproxil Fumarate	Gilead Sciences Inc	Tenofovir disoproxil	Patented
		Tenofovir disoproxil fumarate	Patented
		Lithium alkoxide and tenofovir for preparing intermediate compounds of tenofovir disoproxil fumarate	Patented
		Formulations of tenofovir disoproxil fumarate for tropical application	Pending
		Prodrugs of tenofovir and their screening methods	Patented
Tpranavir	The Upjohn Co	Tipranavir	Patented
	Boehringer Ingelheim Chemicals	Oral dosage form of tipranavir	Patented
	Pharmacia & Upjohn Co	Method for improving pharmacokinetics of tipranavir	Patented
	Pharmacia & Upjohn Co	Pharmaceutical composition comprising tipranavir	Patented
Fixed Dose Combinations	Glaxo Group Ltd	Zidovudine and lamivudine	Patented
	Wellcome Foundation Ltd	Abacavir, zidovudine, lamivudine and emtricitabine	Patented
	Glaxo Group Ltd	Abacavir, zidovudine and lamivudine	Patented
	Glaxo Group Ltd	Amprenavir, zidovudine and abacavir	Withdrawn
	Glaxo Group Ltd	Abacavir and lamivudine	Withdrawn
	Tibotec Pharm Ltd	Rilpiverine, emtricitabine, lamivudine, zidovudine, abacavir and/or tenofovir disoproxil fumarate	Pending
	Merck & Co Inc	Indinavir, lamivudine and zidovudine	Patented
	Glaxo Group Ltd	Amprenavir, zidovudine, emtricitabine and lamivudine	Withdrawn
	Bristol Myers Squibb and Gilead Sciences Inc	Efavirenz, emtricitabine and tenofovir disoproxil fumarate	Pending
Tibotec Pharm Ltd	Darunavir, tenofovir disoproxil fumarate and lopinavir	Pending	