



15 August 2013

FDA Circular  
No. 2013-021

**SUBJECT: Comparator Drugs for Selected Pharmaceutical Products Containing Biopharmaceutics Classification System (BCS) Class 4 Drug Molecules**

For the effective implementation of FDA Circular No. 2013-014: *List of Products Requiring Bioequivalence (BE) Studies as Part of the Application for Marketing Authorization in Addition to Rifampicin and the 11 Products Listed in Bureau Circular No. 2006-008*, particularly on the provision requiring BE Studies for pharmaceutical products containing Biopharmaceutics Classification System (BCS) Class 4 drug molecules (i.e. low solubility, low permeability), the Center for Drug Regulation and Research (CDRR) hereby provides the following listing of comparator drugs for use in the BE Studies of pharmaceutical products containing BCS Class 4 drug molecules:

Active Ingredient	Dosage Strength and Form	Comparator Drug	Marketing Authorization Holder [Manufacturer]	Registration Number
Acetazolamide	250 mg Tablet	DIAMOX	Wyeth Phils., Inc. [Wyeth Lederle Ltd. – India]	DR-2928
		CETAMID	Euro Generics Int'l Phils., Inc. [The ACME Labs. Ltd. – Bangladesh]	DRP-1877 (DR-XY28768)
Albendazole	400 mg Chewable Tablet	ZENTEL	GlaxoSmithKline Phils., Inc. [SmithKline Beecham (Phils.)]	DR-XY13050
		HYEMEX	Blue Sky Trading Co., Inc. [Swisspharma Research Labs., Inc.]	DR-XY30860
		Unbranded	Blue Sky Trading Co., Inc. [Swisspharma Research Labs., Inc.]	DR-XY29062



	200 mg/5 mL Oral Suspension	ZENTEL	GlaxoSmithKline Phils., Inc. [SmithKline Beecham (Phils.)]	DR-XY21457
		Unbranded	Blue Sky Trading Co., Inc. [Swisspharma Research Labs., Inc.]	DR-XY31624
Artemether + Lumefantrine FDC	20 mg/120 mg Tablet	COARTEM	Novartis Healthcare Phils., Inc. [Beijing Novartis Pharma Ltd. – China]	DR-XY25933
	20 mg/120 mg Dispersible Tablet	COARTEM Dispersible	Novartis Healthcare Phils., Inc. [Novartis Pharm'ls Corp. – USA]	DR-XY39663
Azathioprine sodium	50 mg Tablet	IMURAN	Aspen Phils., Inc. [Excella GmbH – Germany]	DR-XY9450
Azithromycin dihydrate	250 mg Tablet	ZITHROMAX	Pfizer, Inc. [Pfizer Australia Pty. Ltd. – Australia]	DRP-3379 (DR-XY16629)
	500 mg Tablet	ZITHROMAX	Pfizer, Inc. [Pfizer Australia Pty. Ltd. – Australia]	DRP-3366 (DR-XY26462)
	200 mg/5 mL Powder or Granules for Oral Suspension	ZITHROMAX	Pfizer, Inc. [Haupt Pharma Latina S.r.l. – Italy]	DRP-3367 (DR-XY16630)
	2 g Extended Release Powder for Oral Suspension	ZMAX ONE DOSE	Pfizer, Inc. [Pfizer Pharm'l LLC – Puerto Rico]	DR-XY31104
Azithromycin monohydrate	250 mg Tablet	AZYTH	Sandoz Phils. Corp. [Novartis Ltd. – Bangladesh]	DRP-1285
	500 mg Tablet	AZYTH	Sandoz Phils. Corp. [Novartis Ltd. – Bangladesh]	DRP-1286
	200 mg/5 mL Powder or Granules for Oral Suspension	AZYTH	Sandoz Phils. Corp. [SC Sandoz S.r.l – Romania]	DRP-1879
Cefixime	100 mg Capsule	TERGECEF	United American	DR-XY15861

			Pharm'ls, Inc. [Asian Antibiotics, Inc.]	
	200 mg Capsule	TERGECEF	United American Pharm'ls, Inc. [Asian Antibiotics, Inc.]	DR-XY16196
	400 mg Capsule	TERGECEF OD	United American Pharm'ls, Inc. [Asian Antibiotics, Inc.]	DR-XY35403
	100 mg/5 mL Powder or Granules for Oral Suspension	TERGECEF	United American Pharm'ls, Inc. [Asian Antibiotics, Inc.]	DR-XYI6177
Ciclosporin	25 mg Softgel Capsule	SANDIMMUN NEORAL	Novartis Healthcare Phils., Inc. [R.P. Scherer GmbH & Co. KG – Germany]	DR-XY19305
	100 mg Softgel Capsule	SANDIMMUN NEORAL	Novartis Healthcare Phils., Inc. [R.P. Scherer GmbH & Co. KG – Germany]	DR-XY19307
Diloxanide furoate	500 mg Tablet	DILFUR	St. Martin Pharm'l Labs., Inc.	DRP-1127 (DR-XY33834)
	125 mg/5 mL Oral Suspension	DILFUR	St. Martin Pharm'l Labs., Inc.	DRP-3697
Erythromycin stearate	250 mg Tablet	ERYTHROCIN	A. Menarini Phils., Inc. [Interphil Labs., Inc.]	DR-XY15612
		ETRIOGAPE	Pascual Labs., Inc. [Pascual Labs., Inc.]	DR-XY16271-B
		Unbranded	Pharex Health Corp. [Pascual Labs., Inc.]	DR-XY16271
	500 mg Tablet	ERYTHROCIN	A. Menarini Phils., Inc. [Interphil Labs., Inc.]	DR-X585
		ETRIOGAPE	Pascual Labs., Inc. [Pascual Labs., Inc.]	DR-XY16566-B
		Unbranded	Pharex Health Corp. [Pascual Labs., Inc.]	DR-XY16566
Erythromycin ethylsuccinate	200 mg/5 mL Powder or Granules for Oral Suspension	ERYTHROCIN	A. Menarini Phils., Inc. [Interphil Labs., Inc.]	DR-785

	400 mg/5 mL Powder or Granules for Oral Suspension	ERYTHROCIN DS	A. Menarini Phils., Inc. [Interphil Labs., Inc.]	DR-XY3293
Erythromycin estolate	100 mg/mL Oral Suspension	ILOSONE	Aspen Phils., Inc. [Interphil Labs., Inc.]	DR-1773
	125 mg/5 mL Oral Suspension	ILOSONE	Aspen Phils., Inc. [Interphil Labs., Inc.]	DR-1779
	250 mg/5 mL Oral Suspension	ILOSONE DS	Aspen Phils., Inc. [Interphil Labs., Inc.]	DR-XY10241-L
Furosemide	20 mg Tablet	FRUSEMA	L.R. Imperial, Inc. [Amherst Labs., Inc.]	DR-X887
	40 mg Tablet	LASIX	Sanofi-Aventis Phils., Inc. [Handok Pharm'l Co. Ltd. – Korea]	DR-1110
		FRUSEMA	L.R. Imperial, Inc. [Amherst Labs., Inc.]	DR-X886
Glibenclamide	2.5 mg Tablet	SEMI-EUGLUCON	Roche Phils., Inc. [Patheon Italia S.p.A. – Italy]	DR-7919
	5 mg Tablet	DAONIL	Sanofi-Aventis Phils., Inc. [PT. Aventis Pharma – Indonesia]	DRP-087
		EUGLUCON	Roche Phils., Inc. [Interphil Labs., Inc.]	DR-1713
Glibenclamide in Metformin HCl + Glibenclamide FDC	250 mg/1.25 mg Tablet	GLUCOVANCE	Merck, Inc. [Merck Sante S.A.S. – France]	DR-XY28383
	500 mg/2.5 mg Tablet	GLUCOVANCE	Merck, Inc. [Merck Sante S.A.S. – France]	DR-XY28382
	500 mg/5 mg Tablet	GLUCOVANCE	Merck, Inc. [Merck Sante S.A.S. – France]	DR-XY28255
	1 g/5 mg Tablet	GLUCOVANCE	Merck, Inc. [Merck Sante S.A.S. – France]	DR-XY41213
	400 mg/2.5 mg Tablet	EUGLO PLUS	Roche Phils., Inc. [Patheon Italia S.p.A. – Italy]	DR-XY31288
Haloperidol	2 mg Tablet	HALDOL	Johnson & Johnson Phils., Inc. [Lusomedicamenta-Sociedade Tecnica]	DR-XY23387

			Farmaceutica SA – Portugal]	
	5 mg Tablet	HALDOL	Johnson & Johnson Phils., Inc. [Lusomedicamenta-Sociedade Tecnica Farmaceutica SA – Portugal]	DR-6630
		SERENACE	Pfizer, Inc. [Piramal Healthcare UK Ltd. – United Kingdom]	DRP-1933
	10 mg Tablet	HALDOL	Johnson & Johnson Phils., Inc. [Lusomedicamenta-Sociedade Tecnica Farmaceutica SA – Portugal]	DR-X6733
	20 mg Tablet	SERENACE	Pfizer, Inc. [Piramal Healthcare UK Ltd. – United Kingdom]	DRP-1975
Indinavir sulfate	400 mg Capsule	CRIXIVAN	Merck Sharp & Dohme (I.A.) Corp. [Merck Sharp & Dohme Corp. – USA]	DR-XY23211
Lopinavir + Ritonavir FDC	200 mg/50 mg Tablet	ALUVIA	Abbott Labs. Phils., Inc. [Abbott GmbH & Co. KG – Germany]	DR-XY35003
Mebendazole	100 mg Tablet	ANTIOX	Johnson & Johnson Phils., Inc. [Xian-Janssen Pharm'l Ltd. - China]	DR-XY19304
	500 mg Chewable Tablet	ANTIOX (Chocolate Flavor)	Johnson & Johnson Phils., Inc. [Interphil Labs., Inc.]	DR-XY20154
	500 mg Chewable Tablet	ANTIOX	Johnson & Johnson Phils., Inc. [Janssen Korea Ltd. – Korea]	DR-XY40801
	20 mg/mL (100 mg/5 mL) Oral Suspension	ANTIOX	Johnson & Johnson Phils., Inc. [Janssen Pharmaceutica N.V. – Belgium]	DR-X3594

		ANTIOX	Johnson & Johnson Phils., Inc. [Interphil Labs., Inc.]	DR-XY15649
	50 mg/mL Oral Suspension	ANTIOX	Johnson & Johnson Phils., Inc. [Interphil Labs., Inc.]	DR-XY20534
Mefloquine hydrochloride	250 mg Tablet	LARIAM	Roche Phils., Inc. [F. Hoffmann-La Roche Ltd. – Switzerland]	DR-XY16323
Mercaptopurine	50 mg Tablet	PURI-NETHOL	Aspen Phils., Inc. [Excella GmbH – Germany]	DR-272
Pyrantel embonate	125 mg Tablet	COMBANTRIN	Johnson & Johnson Phils., Inc. [PT. Pfizer Indonesia – Indonesia]	DR-769
	250 mg Tablet	COMBANTRIN	Johnson & Johnson Phils., Inc. [PT. Pfizer Indonesia – Indonesia]	DR-X1110
	125 mg/5 mL Oral Suspension	COMBANTRIN	Johnson & Johnson Phils., Inc. [Interphil Labs., Inc.]	DR-X2920
Pyrantel embonate in Oxantel embonate + Pyrantel embonate FDC	100 mg/100 mg Tablet	QUANTREL Tablet	Johnson & Johnson Phils., Inc. [Interphil Labs., Inc.]	DR-X7039
	20 mg/20 mg per mL (100 mg/100 mg per 5 mL) Oral Suspension	QUANTREL	Johnson & Johnson Phils., Inc. [Interphil Labs., Inc.]	DR-X7040
Pyrimethamine in Sulfadoxine + Pyrimethamine FDC	500 mg/25 mg Tablet	FANSIDAR	Roche Phils., Inc. [F. Hoffmann-La Roche Ltd. – Switzerland]	DR-9514
Retinol palmitate	25,000 IU Capsule	AFAXIN	Sanofi-Aventis Phils., Inc. [Catalent Australia Pty. Ltd. – Australia]	DR-2133
	50,000 IU Capsule	AFAXIN	Sanofi-Aventis Phils., Inc. [Catalent Australia Pty. Ltd. – Australia]	DR-2134
Sulfadiazine in Cotrimazine (Sulfadiazine + Trimethoprim FDC)	820 mg/180 mg Tablet	TRIZINE FORTE	Phoenix Pharm'ls, Inc. [Swisspharma Research Labs., Inc.]	DR-XY24055
	205 mg/45 mg	TRIZINE	Phoenix Pharm'ls, Inc.	DR-XY21983

	per 5 mL Oral Suspension		[Swisspharma Research Labs., Inc.]	
Spironolactone	25 mg Tablet	ALDACTONE	Pfizer, Inc. [Piramal Healthcare UK Ltd. – United Kingdom]	DRP-2016
	50 mg Tablet	ALDACTONE	Pfizer, Inc. [Piramal Healthcare UK Ltd. – United Kingdom]	DRP-2013
	100 mg Tablet	ALDACTONE	Pfizer, Inc. [Piramal Healthcare UK Ltd. – United Kingdom]	DRP-2014
Spironolactone in Spironolactone + Hydroflumethiazide FDC	25 mg/25 mg Tablet	ALDAZIDE	Pfizer, Inc. [Piramal Healthcare UK Ltd. – United Kingdom]	DR-7294

FDC – Fixed-Dose Combination

Please take note that the above list is **not exhaustive** and primarily covers drugs in the Model List of Essential Medicines (EML) of the World Health Organization (WHO). For those BCS Class 4 drug-containing pharmaceutical products not mentioned in this list, submission of a satisfactory BE Study Report following the ASEAN Bioequivalence Study Reporting Format shall still be required using the comparator drug predetermined by FDA.

For a pharmaceutical product containing a BCS Class 4 drug molecule considered as new and has never been introduced in the Philippine market, pertinent requirements for New Drug (Monitored Release) registration shall apply. In this regard, submission of appropriate pre-clinical and clinical studies is required to support the product application.

Moreover, in the event that the sale and marketing of a currently listed comparator drug has been discontinued by the registered Marketing Authorization Holder (MAH), an alternative comparator drug shall be determined by FDA in its place.

For your information and guidance.

  
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