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Antivirogram® phenotype

Patient/Sample Details		Physician Details	
CONFIDENTIAL	Subject ID	SampleType	Plasma
		Collection Date	
		Received by Virco	04-Jan-2008
		Visit	NA
		Report Date	05-Feb-2008
Virco ID	CAA004557		

Drug	Trade name	Generic name	Susceptibility			Fold change in IC ₅₀ (Cut-off for normal susceptible range)	Ref.
			Normal susceptible range ¹	Sample within normal susceptible range ¹	Sample above normal susceptible range, but below clinical cut-off ^{1,2,4,5,6}		
			Fold change in IC ₅₀ relative to reference virus (log ₁₀)				
			1	10	100		
NRTI / NtRTI *							
	Retrovir®	Zidovudine				16.4 (2.5)	
	Epivir®	Lamivudine				>45.9 (2.1)	
	Videx®	Didanosine				1.3 (2.3)	
	Zerit®	Stavudine				2.5 (2.2)	
	Ziagen®	Abacavir				4.0 (2.0)	4
	Emtriva®	Emtricitabine				>41.6 (3.1)	
	Viread® *	Tenofovir DF				1.3 (2.2)	3
NNRTI							
	Viramune®	Nevirapine				>62.2 (6.0)	
	Sustiva® , Stocrin®	Efavirenz				85.7 (3.3)	
	Intence™	Etravirine				0.9 (3.2)	7
PI							
	Crixivan®	Indinavir				>63.3 (2.3)	
	Viracept®	Nelfinavir				>36.3 (2.2)	
	Invirase®	Saquinavir				>32.2 (1.8)	
	Lexiva®, Telzir®, a prodrug of	Amprenavir				7.2 (2.2)	
	Kaletra®	Lopinavir				>28.8 (1.6)	2
	Reyataz®	Atazanavir				23.4 (2.1)	
	Aptivus®	Tipranavir				1.8 (1.7)	5
	Prezista™	Darunavir				1.8 (2.0)	6

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Virco ID CAA004557 - Subject ID

Details about patient and sample as well as the test results are printed on the previous page.

[1] **Cut-offs and definitions**

- Biological cut-off values (BCO) are separating HIV-1 strains with a normal range of susceptibility from viral strains with reduced levels of susceptibility. The BCO for the Antivirogram® were set at the 97.5th percentile of the fold change values determined by in vitro phenotypic testing on wild-type viruses.
- [2] Lopinavir is a component of Kaletra®. A consistent decrease in HIV RNA response was observed with a >10-fold reduced susceptibility to lopinavir at baseline and a larger decrease in HIV response was observed with a >40-fold reduced susceptibility to lopinavir at baseline in 50 evaluable NNRTI-naive, protease inhibitor-experienced subjects in Abbott Study 957. These values do not constitute definitive clinical susceptibility breakpoints because this was a select patient population and the sample size was small (Reference: Kaletra US product label, Abbott - Jan 2002). The >10-fold value has been used as a clinical cut-off on the first page of this test result report.
- [3] Miller et al., (JID; 2004: 189; 837-846) have described a reduced virologic response to tenofovir DF-containing therapy in treatment-experienced patients with a baseline Antivirogram FC to tenofovir DF > 1.4 and a lack of response in patients with > 3.8.
- [4] Lanier et al., (Antiviral Therapy 2004; 9: 37-45) have described a reduced virologic response to abacavir containing therapy in treatment experienced patients with a baseline Antivirogram FC to abacavir >3.2, and a lack of response in patients with >7.5 FC. The > 3.2-fold value has been used as a clinical cut-off on the first page of this report.
- [5] Two clinical studies in highly PI experienced patients treated with Aptivus®/ritonavir have reported a reduced virologic response at 24 weeks in patients with a tipranavir baseline FC >3; an even greater reduction in response was observed in patients with >10 FC. The >3 FC value has been used as a clinical cut-off on the first page of this report. These values should not be considered definitive clinical susceptibility breakpoints for a broad patient population. (Reference, Aptivus® US product label).
- [6] De Meyer et al. (Antiviral Therapy; 2006: 11, Supplement 1; S83) have described a reduced virologic response to darunavir/ritonavir-containing therapy in treatment-experienced patients with a baseline Antivirogram FC to darunavir > 10; an even greater reduction in response was observed in patients with a baseline Antivirogram FC to darunavir > 40. The > 10-fold value has been used as a clinical cut-off on the first page of this report. These values should not be considered definitive susceptibility breakpoints for a broad patient population.
- [7] Two clinical studies in NNRTI experienced patients treated with Intelence® have reported a reduced virologic response at 24 weeks in patients with a baseline Antivirogram FC to etravirine >3; an even greater reduction in response was observed in patients with >13 FC. These values should not be considered definitive clinical susceptibility breakpoints for a broad patient population. (Reference, Intelence® US product label).

- The test result relates only to the items tested.
- The report shall not be reproduced without the written approval of the testing laboratory, except when reproduced in full.
- A patient's response to therapy depends on multiple factors including the percentage of a patient's viral population that is resistant, drug pharmacokinetics, and medication compliance. Therefore this test result should be interpreted in conjunction with the patient's antiretroviral treatment history, viral load count, and clinical status when making therapeutic decisions.
- This test may be unsuccessful if the plasma HIV RNA viral load is < 1000 copies of virus per ml of plasma, measured with Roche Amplicor Monitor Assay™ (Roche Diagnostic Systems, Branchburg NJ).
- This assay, including extraction and amplification of the HIV-1 genetic material as performed by Virco, was developed and its performance characteristics determined by Virco.
- For New York State only: "This test result is confidential HIV information and may not be redisclosed except as outlined by New York State Law (art. 27F)."
- Virco is an Evidence Medical licensee under patent Nrs. US081,786 and US6,188, 988 and their foreign equivalents.
- Antivirogram® is a registered trade mark of Virco BVBA.

Final Approval

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Virco Virology Lab Operations