

## Report on New Patented Drugs - Prezista

Under its transparency initiative, the PMPRB publishes the results of the reviews of new patented drugs by Board Staff, for purposes of applying the PMPRB's *Excessive Price Guidelines* (Guidelines) for all new active substances introduced after January 1, 2002.

**Brand Name:** Prezista  
**Generic Name:** (*darunavir*)  
**DIN:** 02284057 (300 mg tablet)  
**Patentee:** Janssen-Ortho Inc.

### Indication - as per product monograph:

Co-administered with 100 mg ritonavir, and with other antiretroviral agents, is indicated for the treatment of HIV infection in treatment-experienced adult patients who have failed prior antiretroviral therapy.

### Date of Issuance of First Patent(s)

**Pertaining to the Medicine:** August 27, 2002

### Notice of Compliance with Conditions:

July 28, 2006

### Date of First Sale:

August 14, 2006

### ATC Class:

J05AE10  
Antiinfectives for Systemic Use; Antivirals for Systemic Use; Direct Acting Antivirals; Protease inhibitors

## APPLICATION OF THE GUIDELINES

### Summary

The introductory price of Prezista was found to be within the Guidelines because the cost of therapy did not exceed the cost of therapy of existing drugs in the therapeutic class comparison and did not exceed the range of prices of the same medicine in the comparator countries listed in the *Patented Medicines Regulations, 1994* (Regulations) where Prezista was sold.

## **Scientific Review**

Prezista is a new active substance and the PMPRB's Human Drug Advisory Panel (HDAP) recommended that Prezista be classified as a category 3 new medicine (provides moderate, little or no therapeutic advantage over comparable medicines).

The Therapeutic Class Comparison (TCC) test of the Guidelines provides that the price of a category 3 new drug product cannot exceed the prices of other drugs that treat the same disease or condition. Comparators are generally selected from among existing drug products in the same 4<sup>th</sup> level of the World Health Organization (WHO) Anatomical Therapeutic Chemical (ATC) System that are clinically equivalent in addressing the approved indication. See the PMPRB's *Compendium of Guidelines, Policies and Procedures* for a more complete description of the Guidelines and the policies on TCCs.

The HDAP identified Aptivus (*tipranavir*) as a comparator to Prezista as it is clinically equivalent to Aptivus. Aptivus shares the same 4<sup>th</sup> level ATC class and is indicated and used in combination antiretroviral treatment of HIV-1 infected adult patients with evidence of viral replication who are treatment-experienced.

Other boosted Protease inhibitors (PIs) were not recommended for inclusion in the TCC as they are not indicated nor used for treatment-experienced HIV-1 patients who have multiple PIs resistant strains.

The Guidelines provide that the dosage recommended for comparison purposes will normally not be higher than the maximum of the usual recommended dosage. The recommended comparable dosage regimens for Prezista and the comparator Aptivus are based on respective product monographs and supported by clinical literature.

## **Price Review**

Under the Guidelines, the introductory price of a new category 3 drug product will be presumed to be excessive if it exceeds the price of all of the comparable drug products in the TCC test, or if it exceeds the prices of the same medicine in the seven countries listed in the Regulations.

The price of Prezista 300 mg tablet was within the Guidelines as the cost per treatment did not exceed the cost per treatment of the comparator medicine.

**Introductory Period (August to December 2006)**

<b>Name</b>	<b>Strength</b>	<b>Dosage Regimen</b>	<b>Unit Price</b>	<b>Cost per Treatment (per day)</b>
Prezista (darunavir) + Norvir SEC (ritonavir)	300 mg tablet + 100 mg capsule	4 tablets + 2 capsules	\$6.9000 <sup>(1)</sup>  \$1.4169 <sup>(2)</sup>	\$27.8400 + <u>\$2.8338</u> \$30.6738
Aptivus (tipranavir) + Norvir SEC (ritonavir)	250 mg capsule + 100 mg capsule	4 capsules + 4 capsules	\$8.2500 <sup>(3)</sup>  \$1.4169 <sup>(2)</sup>	\$33.0000 + <u>\$5.6676</u> \$38.6676

Sources:

(1) Publicly available price as per the Regulations

(2) Ontario Drug Benefit Formulary, June 2006

(3) Liste des médicaments, Régie de l'assurance maladie du Québec, Février 2007

In 2006, Prezista was being sold in one of the seven countries listed in the Regulations, namely the United States. In compliance with the Guidelines, the price in Canada did not exceed the price in the United States.

*Where comparators and dosage regimens are referred to in the Summary Reports, they have been selected by the PMPRB Staff and the HDAP for the purpose of carrying out the PMPRB's regulatory mandate, which is to review the prices of patented medicines sold in Canada to ensure that such prices are not excessive. The publication of these reports is also part of the PMPRB's commitment to make its price review process more transparent.*

*The information contained in the PMPRB's Summary Reports should not be relied upon for any purpose other than its stated purpose and is not to be interpreted as an endorsement, recommendation or approval of any drug nor is it intended to be relied upon as a substitute for seeking appropriate advice from a qualified health care practitioner.*

## References - Prezista

1. Aberg JA, Gallant JE, Anderson J, Oleske JM, Libman H, Currier JS, et al. Primary care guidelines for the management of persons infected with human immunodeficiency virus: recommendations of the HIV Medicine Association of the Infectious Diseases Society of America. *Clin Infect Dis*. 2004 Sep 1;39(5):609-29.
2. Anon. Darunavir (Prezista) for HIV infection. *Med Lett Drugs Ther*. 2006 Sep 11;48(1243):74-5.
3. Anon. Drugs for HIV Infection. *Treat Guidel Med Lett*. 2006 Oct;4(50):67-76.
4. Anon. Food and Drug Administration. USA. Prezista. Medical Reviews (Executive Summary, Integrated Review of Efficacy). Available at: [http://www.fda.gov/cder/foi/nda/2006/021976s000\\_Sprycel\\_MedR.pdf](http://www.fda.gov/cder/foi/nda/2006/021976s000_Sprycel_MedR.pdf)
5. Anon. Panel on Clinical Practices for Treatment of HIV Infection. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Washington, D.C. Department of Health and Human Services Department of Health and Human Services, pages 7-10 inclusive.
6. Anon. Tipranavir (Aptivus) for HIV. *The Medical Letter*. Volume 47, Issue 1219. October 10, 2005.
7. Arasteh K, Clumeck N, Pozniak A, Lazzarin A, De Meyer S, Muller H, et al. TMC114/ritonavir substitution for protease inhibitor(s) in a non-suppressive antiretroviral regimen: a 14-day proof-of-principle trial. *AIDS*. 2005 Jun 10;19(9):943-7.
8. Boulos D, Yan P, Schanzer D, Remis RS, Archibald CP. Estimates of HIV prevalence and incidence in Canada, 2005. *Can Commun Dis Rep*. 2006 Aug 1;32(15):165-74. Available from: <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/06vol32/dr3215e.html>
9. Canadian Pharmacists Association. e-CPS [database on the Internet; cited 8 Oct 2006]. Ottawa: Canadian Pharmacists Association; 2006.
10. Gazzard B. BHIVA Writing Committee. British HIV Association (BHIVA) guidelines for the treatment of HIV-infected adults with antiretroviral therapy (2005). *HIV Med*. 2005;6 Suppl 2:1-61. Available from: <http://www.bhiva.org/guidelines/2005/HIV/guidelines2005.pdf>

11. Hammer SM, Saag MS, Schechter M, Montaner JS, Schooley RT, Jacobsen DM, et al. Treatment for adult HIV infection: 2006 recommendations of the International AIDS Society-USA panel. *JAMA*. 2006 Aug 16;296(7):827-43.
12. Health Canada. Drug Product Database [database on the Internet; cited 7 Oct 2006]. Available from: <http://www.hc-sc.gc.ca/hpb/drugs-dpd/>
13. Health Canada. Notice of Compliance Search [database on the Internet; cited 9 Oct 2006]. Available from: <http://www.nocdatabase.ca/>
14. Hicks CB et al. Durable efficacy of tipranavir-ritonavir in combination with an optimized background regimen of antiretroviral drugs for treatment-experienced HIV-1-infected patients at 48 weeks in the Randomized Evaluation of Strategic Intervention in multi-drug resistant patients with Tipranavir (RESIST) studies: an analysis of combined data from two randomized open-label trials. *Lancet* 2006;368:466-75.
15. Janssen-Ortho Inc. Prezista Product Monograph. Toronto, Ontario, July 27, 2006.
16. Kuriakose B, Millar D. Association between CD4 counts, viral load and clinical outcomes in HIV/AIDS: a review of the literature. Agro Health Associates. April 20, 2006.
17. Lalezari JP et al. Enfuvirtide, and HIV-1 Fusion inhibitor, for drug-resistant HIV infection in North and South America. *N Eng J Med* 2003;348:2175-85.
18. Lazzarin A et al. Efficacy of enfuvirtide in patients infected with drug-resistant HIV-1 in Europe and Australia. *N Eng J Med* 2003;348:2186-2195.
19. Nelson M et al. Durable efficacy of enfuvirtide over 48 weeks in heavily treatment-experienced HIV-1-infected patients in the T-20 versus optimized background regimen only 1 and 2 clinical trials. *J Acquir Immune Defic Syndr* 2005;40:404-412.
20. Panel on Clinical Practices for Treatment of HIV Infection. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Washington, D.C.: Department of Health and Human Services; October 10, 2006. Available from: <http://aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>
21. Phillips AN, Lundgren JD. The CD4 lymphocyte count and risk of clinical progression. *Curr Opin HIV AIDS* 2006; 1:43-49.

22. U.S. National Institutes of Health. ClinicalTrials.gov [database on the Internet; cited 8 Oct 2006]. Available from: <http://www.clinicaltrials.gov/>
23. WHO Collaborating Centre for Drug Statistics Methodology. ATC Index [database on the Internet; cited 7 Oct 2006]. Available from: <http://www.whocc.no/atcddd/>