

# Report on New Patented Drugs — Ziagen

<b>Brand Name (generic):</b>	Ziagen (abacavir)	
<b>DIN:</b>	02240357	300 mg tablet
	02240358	20 mg/mL oral solution
<b>Patentee:</b>	GlaxoSmithKline Inc.	
<b>Indication (as per product monograph):</b>	An antiretroviral combination therapy for the treatment of Human Immunodeficiency Virus (HIV) infection.	
<b>Notice of Compliance:</b>	June 4, 1999	
<b>Date of First Sale:</b>	June 17, 1999	
<b>ATC Class:</b>	J05AF06 <i>Antiretrovirals for systemic use: nucleoside reverse transcriptase inhibitors (NRTI)</i>	

## Application of the Guidelines

### Summary:

The introductory prices of Ziagen were found to be within the Guidelines because the cost of therapy did not exceed the cost of therapy with existing drugs in the therapeutic class comparison and the prices did not exceed the range of prices in other comparator countries where Ziagen was sold.

### Scientific Review:

The PMPRB's Human Drug Advisory Panel (HDAP) reviewed Ziagen (abacavir) 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 Anatomical, Therapeutic, Chemical (ATC) System that are clinically equivalent in addressing the approved indication. The Guidelines provide that it may, however, be appropriate to include products from other ATC classes if they are clinically equivalent for the appropriate indication to the drug product under review. See the PMPRB's *Compendium of Guidelines, Policies and Procedures* for a more complete description of the Guidelines and the policies on TCCs.

Members of the same 4<sup>th</sup> level ATC class as Ziagen include Videx (didanosine), 3TC (lamivudine), Hivid (zalcitabine), Zerit (stavudine) and Retrovir (zidovudine).

The *Guidelines for the use of antiretroviral agents in HIV-infected adults and adolescents* maintained by the HIV/AIDS Treatment Information Service (ATIS) in the U.S. (published online: <http://www.hivatis.org/trtgdlns.html#Adult>) include Ziagen, in combination with 3TC and Videx, among the list of "recommended as an alternative" to the "strongly recommended" non-nucleoside reverse transcriptase inhibitors (NNRTIs) and protease inhibitors (PIs) based regimens. The *British HIV Association (BHIVA) guidelines for the treatment of HIV-infected adults with antiretroviral therapy* (July 2001) also identify Ziagen, PIs and NNRTIs to be used in combination with dual nucleoside reverse transcriptase inhibitors (NRTIs) background therapy.

One published review of HIV therapy (Evidence/Reference 14) made the following comment with respect to choice of first-line antiviral regimens:

*"On the basis of these data, it would appear reasonable to consider either a NNRTI-based regimen, a PI-based regimen or an abacavir-based regimen for first line therapy. The choice between these options should be individualized, taking account of patient preference, adherence, and lifestyle, as well as careful consideration of the future possibilities should the patient fail to achieve a sustained virologic suppression."*

In light of the evidence that a Ziagen-based regimen could be considered clinically comparable to NNRTI- or PI-based regimens in some circumstances, the HDAP recommended NRTIs, NNRTIs and PIs as comparators for Ziagen.

The PMPRB's Guidelines provide that the dosage recommended for comparison purposes will normally not be higher than the maximum of the usual recommended dosage. The maintenance adult daily dose identified in individual product monographs and supported by clinical literature was recommended for comparison purposes. See table in price test section below.

**Price review:**

Under the Guidelines, the introductory price for a new category 3 drug product will be presumed to be excessive if it exceeds the price of all of the comparable drug products based on the TCC test, and if it exceeds the prices of the same medicine in the seven countries listed in the *Patented Medicine Regulations, 1994*.

**Ziagen 300 mg tablet:**

The following TCC was established for Ziagen 300 mg tablet. It should be noted that although Rescriptor and Sustiva would have been appropriate TCC comparators from the scientific perspective, they have not been included as these drug products were under review at the time of Ziagen's review. The exclusion of these drugs does not affect the outcome of the price review.

**Ziagen 20 mg/mL:**

The following TCC was established for Ziagen 20 mg/mL oral solution. The comparators are of the same or comparable dosage form as Ziagen 20 mg/mL.

Name	Strength	Comparable dosage regimen	Unit price	Cost per day <sup>3</sup>
Ziagen (abacavir)	300 mg tablet	300 mg twice daily	\$6.25 <sup>1</sup>	\$12.50
Retrovir (zidovudine)	100 mg capsule	200 mg three times daily	\$1.70 <sup>2</sup>	\$10.20
Retrovir (zidovudine)	300 mg tablet	300 mg twice daily	\$5.10 <sup>1</sup>	\$10.20
Videx (didanosine)	100 mg tablet	200 mg twice daily	\$1.54 <sup>2</sup>	\$6.16
Hivid (zalcitabine)	.75 mg tablet	.75 mg three times daily	\$2.15 <sup>2</sup>	\$6.45
Zerit (stavudine)	40 mg capsule	40 mg twice daily	\$4.25 <sup>1</sup>	\$8.50
3TC (lamivudine)	150 mg tablet	150 mg twice daily	\$4.40 <sup>1</sup>	\$8.80
Viramune (nevirapine)	200 mg tablet	200 mg twice daily	\$4.65 <sup>1</sup>	\$9.30
Crixivan (indinavir)	400 mg capsule	800 mg three times daily	\$2.69 <sup>1</sup>	\$16.14
Viracept (nelfinavir)	250 mg tablet	750 mg three times daily	\$1.82 <sup>1</sup>	\$16.38
Norvir (ritonavir)	100 mg capsule	600 mg twice daily	\$1.34 <sup>1</sup>	\$16.08
Fortovase (saquinavir)	200 mg capsule	1200 mg three times daily	\$1.02 <sup>1</sup>	\$18.36

1 Ontario Drug Benefit Formulary, 2001

2 Liste de médicaments, Régie de l'assurance maladie du Québec, 2001

3 This medication is administered on a chronic base, therefore the cost per day was used as the basis for cost comparison with the comparators.

The prices of all strengths of Ziagen did not exceed the price of the same medicine sold in France, Germany, Italy, Sweden, Switzerland, the United Kingdom and the United States. The Canadian prices of Ziagen were the second lowest of these countries.

Name	Strength	Dosage Regimen	Unit Price	Cost Per Day <sup>3</sup>
Ziagen (abacavir)	20 mg/mL	600 mg daily	\$0.42/mL <sup>1</sup>	\$12.60
Retrovir (zidovudine)	10 mg/mL	600 mg daily	\$0.18/mL <sup>2</sup>	\$10.80
3TC (lamivudine)	10 mg/mL	300 mg daily	\$0.29/mL <sup>1</sup>	\$8.70
Norvir (ritonavir)	80 mg/mL	1200 mg daily	\$1.07/mL <sup>1</sup>	\$16.05
Viracept (nelfinavir)	15 mg/g	45 mg daily	\$0.36/g <sup>1</sup>	\$16.20

**Evidence/  
Reference  
considered by  
HDAP:**

There are 34 references.

**Click here.**

- 1 Ontario Drug Benefit Formulary, 2001
- 2 Liste de médicaments, Régie de l'assurance maladie du Québec, 2001
- 3 This medication is administered on a chronic base, therefore the cost per day was used as the basis for cost comparison with the comparators.

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. ■