Maraviroc approved in Canada

On September 21, 2007, Health Canada approved the use of the novel anti-HIV drug maraviroc. To be sold under the brand name Celsentri, maraviroc is meant for treatment-experienced people who have HIV-1 that is resistant to other medications. Maraviroc will be marketed by Pfizer Canada.

In clinical trials lasting one year, maraviroc was found to significantly reduce production of new HIV and raise the level of important T-cells in the blood. These changes led to improved health for people with HIV/AIDS (PHAs). In these trials, maraviroc was found to be generally safe.

Why maraviroc is different

Maraviroc is the first approved oral medication in a new class of anti-HIV drugs called entry inhibitors. Currently, there are four other classes of approved medications for the treatment of HIV infection, as follows:

- nucleoside analogues (nukes)
- non-nukes (NNRTIs)
- protease inhibitors
- fusion inhibitor

When used in combination, these drugs are usually effective. However, HIV can develop mutations that help it resist the effect of these drugs. This is why the ongoing discovery and development of new anti-HIV agents is important. Maraviroc has antiviral activity against strains of HIV that are resistant to currently licensed medications.

Most approved therapies for the treatment of HIV infection work by interfering with HIV after it has infected a cell. Maraviroc is different because it works by covering a molecule called CCR5, which is found on the surface of cells of the immune system. HIV needs to attach itself to CCR5 in order to enter and infect a cell. Maraviroc blocks access to CCR5 so HIV cannot get in, hence it is called an entry inhibitor.

Know your co-receptors

HIV needs a number of different receptors to help it enter and infect a cell. The first of those receptors is called CD4. This receptor is found on many cells of the immune system, including T-cells and macrophages.

But HIV also needs at least one of two co-receptors—CXCR4 (X4) or CCR5 (R5)—to help it get into a cell. HIV that prefers R5 receptors is called R5 tropic and HIV that prefers X4 receptors is called X4 tropic. Some forms of HIV can attach to either receptor; these viruses are called dual or mixed tropic.

To help assess which kind of virus predominates in PHAs, the company Monogram Biosciences developed a test called Trofile. Using this test, a sample of blood can be analysed to find out the tropism of HIV.

Before using maraviroc, a Trofile test must be performed on a patient’s blood sample to help physicians decide if the drug is going to work.

More about Trofile

In order to profile the co-receptor tropism, potential maraviroc users will have their blood assessed with Trofile prior to starting therapy with this drug. This will help doctors determine who might benefit from maraviroc. This is an important step because maraviroc only works against HIV that prefers to use R5, and some people have HIV that prefers to use X4 or both X4 and R5.
Trofile results can be as follows:

- R5 tropic – this means that a person’s HIV prefers the CCR5 co-receptor; maraviroc will work
- X4 tropic – this means that a person’s HIV prefers the X4 co-receptor; maraviroc will not work
- dual/mixed tropism – this means that a person’s HIV can attach to both X4 and R5 co-receptors; maraviroc will not have a significant benefit

Trofile is an expensive test, costing hundreds of dollars. However, because the use of maraviroc depends on knowing a person’s HIV co-receptor preference, Pfizer is paying for the cost of Trofile in Canada. Trofile is expected to be available in major treating centres across Canada and is currently used in the maraviroc expanded access program (EAP).

**Cost**

Maraviroc will be available for sale in Canada in mid-October 2007. The wholesale price is about $33 per day for either 150 mg or 300 mg, taken twice daily. The drug will be supplied in bottles containing 60 film-coated tablets.

In the United States, the wholesale cost of maraviroc is about $29 per day. In that country, the brand name of maraviroc is Selzentry.

In the European Union, as in Canada, maraviroc will be sold under the brand name Celsentri.

**The long and winding road**

Once Health Canada approves a drug, physicians can prescribe it but patients must pay for the drug unless their private insurance plan provides coverage. HIV/AIDS is a catastrophic disease that affects people’s ability to work and requires expensive care. In Canada, the cost of HIV medications is subsidized by provincial and territorial ministries of health. Each ministry has a listing of drugs for which it is prepared to pay. These listings are called formularies.

After federal approval, each HIV medicine must undergo another review process called Common Drug Review (CDR). As part of this review, recommendations are made as to whether the drug in question should be:

- listed on formularies
- listed on formularies with conditions, in which case its use is restricted
- not listed at all

The CDR may even result in no decision being made for the time being as additional information is gathered. With the exception of Quebec, all provinces and territories, the Departments of National Defense and Veterans Affairs and the Non-Insured Health Benefits plan participate in CDR.

Maraviroc will undergo the CDR process later this year and the results will be available sometime in 2008.

In Quebec, which operates outside of the CDR, formulary authorities will hopefully list the drug by mid-2008.

**Expanded access program for Canada**

In the meantime, Canadian physicians who have patients who may benefit from maraviroc can consider enrolling them in the maraviroc expanded access program. For more information about this EAP, physicians can call the following telephone numbers:

- 1.514.693.4101
- 1.800.267.2553 ext. 4101

The maraviroc EAP is expected to operate until the CDR recommendation.

**REFERENCES:**


Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

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Production of this content has been made possible through a financial contribution from the Public Health Agency of Canada.

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