

# HIV CareLink

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## Entecavir (Baraclude®) in Hepatitis B Virus (HBV) HIV Co-Infected Patients

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A Supplement to the Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents - October 10, 2006, was released April 30<sup>th</sup>, 2007 advising entecavir not be used for the treatment of HBV infection in HIV/HBV co-infected patients without concomitant treatment for HIV. This recommendation was based upon the development of the HIV resistance mutation (M184V) in one of 3 patients in a series treated with entecavir alone for hepatitis B virus. This issue was first reported by McMahon M, et al at the 14<sup>th</sup> Conference on Retroviruses and Opportunistic Infections in Los Angeles, February 2007. See below for a summary of the abstract presented at CROI. Go to [aidsinfo.nih.gov](http://aidsinfo.nih.gov) for the Supplement and full set of Guidelines.

### Entecavir Demonstrates Anti-HIV Activity and Selection of M184V ARV-Resistance Mutation

McMahon M, et al. Abstract 136LB

- Entecavir is a cyclopentyl guanosine analog FDA-approved for the treatment of chronic hepatitis B
- Previously believed to have no anti-HIV activity and recommended as a treatment option for HIV-infected patients with chronic hepatitis B who did not yet require HIV therapy
- After recent case reports of suppression of HIV-1 viral load in HIV/HBV co-infected patients on entecavir monotherapy, its effects on HIV drug resistance have been questioned
- This laboratory analysis evaluated entecavir's anti-HIV activity and development of resistance mutations
  - Anti-HIV activity assessed via *in vitro* dose response curves for inhibition of HIV replication
  - Resistance development assessed with serial laboratory monitoring of an HIV/HBV co-infected pt receiving entecavir monotherapy

### Results

- Entecavir does inhibit HIV replication with 50% inhibitory concentration (IC<sub>50</sub>): 0.1-1 nM
- Entecavir can select for M184V mutation which confers high-level resistance to the anti-HIV drugs lamivudine (3TC, Epivir®) and emtricitabine (FTC, Emtriva®)

Months on Entecavir	HIV clone with M184V mutation, %
0	0
4	6
6	96

### Conclusions

- Entecavir demonstrates activity against HIV replication and selected for M184V mutation which confers resistance to entecavir and lamivudine/ emtricitabine
- Entecavir should not be used in HIV/HBV co-infected individuals not receiving HAART



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### ABOUT US

The Florida/Caribbean AIDS Education and Training Center provides HIV education, consultation, and resource materials to health care providers in Florida, Puerto Rico and the US Virgin Islands.

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