

ORAL PRESENTATION

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# Investigation of anti-HIV activity, cytotoxicity and HIV integrase inhibitory activity of polyherbal formulation BH extracts

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From 2nd International Science Symposium on HIV and Infectious Diseases (HIV SCIENCE 2014) Chennai, India. 30 January - 1 February 2014

## Background

HIV integrase (IN) plays important roles at several steps, including viral DNA nuclear import, targeting viral DNA to host chromatin and integration. Identification of novel inhibitors of HIV Integrase has emerged as promising antiviral agents for the treatment of HIV/AIDS. Present work is to investigation of anti-HIV activity and HIV integrase inhibitory activity of various extracts of polyherbal formulation BH.

## Method

Polyherbal extracts (BH) were tested for anti-HIV activity against HIV-1 and -2 in MT-4 cells and cytotoxicity also tested against uninfected MT-4 cells. BH extracts were investigated for inhibition of HIV integrase enzymatic activity to understand the mechanism of antiviral action.

## Results

All extracts exhibited inhibitory activity against HIV-1 integrase (3P IC<sub>50</sub>: 8.8-63 µg/mL and ST IC<sub>50</sub>: 4.9-65 µg/mL). The ethanolic extract (BH-HT) displayed significant inhibitory activity against both step of HIV in enzymatic activity (3P IC<sub>50</sub>: 8.8µg/mL and ST IC<sub>50</sub>: 7.5 µg/mL). The ethanolic extract also inhibits the HIV-1 replication at the concentration of 59.30 µg/mL and cytotoxicity was found to be more than >125 µg/mL.

## Conclusion

All the extracts inhibit the HIV integrase activity and ethanolic extract inhibit HIV and Integrase enzyme.

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Published: 27 May 2014

doi:10.1186/1471-2334-14-S3-O23

**Cite this article as:** Balraj et al.: Investigation of anti-HIV activity, cytotoxicity and HIV integrase inhibitory activity of polyherbal formulation BH extracts. *BMC Infectious Diseases* 2014 **14**(Suppl 3):O23.

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