

**9th ANNUAL DEPARTMENT OF PATHOLOGY YOUNG INVESTIGATORS' DAY
POSTER SESSION**

**Thursday, April 5th, 2007
TURNER CONCOURSE
REGISTRATION FORM**

**E-mail COMPLETED Registration form and abstract to:
Stacey Morgan (smorgan9@jhmi.edu) on or before
Friday, March 16th, 2007**

**If you have questions or problems regarding your submission, please contact Stacey
Morgan via e-mail (smorgan9@jhmi.edu)**

Applicant's Name: Tamara S. Flys Degree: BS

Applicant's Division: Transfusion Medicine

Faculty Preceptor: Susan Eshleman
(Must hold a primary appointment in Pathology)

Appointment Category: House Staff Clin Fellow Research Fellow

Medical Student Graduate Student (Program: CMM)

Register for: Clinical Research Translational Research Basic Research

Full Poster Title * **Persistence of K103N-Containing HIV-1 Variants after Single-Dose
Nevirapine for Prevention of HIV-1 Mother-to-Child Transmission**

Where has the work been presented?

Meeting Name XV International HIV Drug Resistance Workshop in Sitges, Spain

Meeting Date 13-17 June 2006

Not Previously Presented _____

Where is this work being published? _____

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In Preparation _____

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***INCLUDE A ONE-PAGE ABSTRACT (including title and all authors) OF THE WORK YOU WILL BE PRESENTING**

Persistence of K103N-Containing HIV-1 Variants after Single-Dose Nevirapine for Prevention of HIV-1 Mother-to-Child Transmission

TS Flys¹, D Donnell², A Mwatha², C Nakabiito³, P Musoke³, F Mmiro³, JB Jackson¹, LA Guay¹, and SH Eshleman^{1}*

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BACKGROUND: The K103N nevirapine resistance mutation is often detected in women after administration of single dose nevirapine for prevention of HIV-1 mother-to-child transmission. We analyzed fading of K103N-containing HIV variants over several years in Ugandan women who received single dose nevirapine in the HIVNET 012 trial.

METHODS: Some women who received single dose nevirapine in HIVNET 012 were enrolled in a long-term follow-up study, with plasma samples collected up to 5 years after single dose nevirapine exposure. We analyzed 144 of those women. K103N was detected in plasma samples using a sensitive and quantitative point mutation assay, LigAmp (assay cutoff: 0.5% K103N).

RESULTS: K103N was detected at 6-8 weeks in 60 (41.7%) of 144 women. Fading (lack of detection) of K103N was documented in 16 women by 2 years, 43 women by 3 years, and 55 women by 4 and 5 years. In a multivariate model, HIV-1 subtype (D vs. A, hazard ratio: 0.50, 95% confidence intervals (CI): 0.33-0.77, p=0.0007) and pre-nevirapine viral load (per log increase, hazard ratio: 0.63, 95% CI: 0.48-0.83, p=0.0006) were independently associated with slower fading, but baseline CD4 cell count was not. The time to fading was about twice as long for women with subtype D compared to women with subtype A, and a log increase in baseline viral RNA increased time to fading by a factor of 1.57.

CONCLUSIONS: K103N was undetectable in plasma from most women within 6-8 weeks of single dose nevirapine exposure, and in plasma from almost all women within 4 years. K103N-containing variants persisted longer in women with subtype D and those with a higher pre-nevirapine viral load. Further studies are needed to evaluate fading of K103N-containing variants in women with other subtypes, and also to determine whether variants with nevirapine resistance mutations are archived in latent reservoirs.