



## **Shionogi-ViiV Healthcare LLC Presents Positive Data on Investigational Once-Daily Integrase Inhibitor at International AIDS Conference**

***Positive Antiviral Responses Demonstrated in Interim 16 Week Analysis from  
SPRING-1 Study***

***Antiviral activity shown by S/GSK1349572 in treatment-experienced subjects  
resistant to raltegravir from VIKING Study***

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**Vienna, Austria, July 22, 2010** – Shionogi-ViiV Healthcare LLC today reported data from two Phase IIb studies showing that its once-daily, unboosted investigational integrase inhibitor, S/GSK1349572 ('572), exhibited potent antiviral activity in treatment-naïve HIV subjects as well as in treatment-experienced subjects resistant to raltegravir (RAL). These clinical results and additional findings on the virologic profile of '572 were presented at the XVIII International AIDS Conference in Vienna, Austria. '572 is the only once-daily, unboosted integrase inhibitor in Phase IIb clinical development.

“There remains a significant need for additional medicines that can help address the complex treatment issues for HIV, and also help simplify treatment regimens for patients. As a once-daily, unboosted integrase inhibitor, '572 could provide an important therapy for patients living with HIV,” stated Dr. John Pottage, Chief Scientific and Medical Officer of ViiV Healthcare. “We look forward to confirming the safety and efficacy of this compound in Phase III studies, which are expected to begin by the end of the year.”

"We are very pleased with the progress of '572 in collaboration with ViiV Healthcare. We look forward to completing the clinical development process with '572 and providing benefit to the millions of HIV-infected patients throughout the world," said Dr. Tsutae "Den" Nagata, Chief Medical Officer, Shionogi & Co., Ltd.

Overall, five abstracts were presented during the conference relating to the integrase inhibitor program which is being developed by Shionogi-ViiV Healthcare. Highlights from presentations on '572 are described below.

#### **SPRING-1 Study Data (Abstract Number THLBB205)**

SPRING-1 is an ongoing Phase IIb, multicenter, partially-blinded, dose-ranging study comparing '572 to efavirenz (EFV) in 205 treatment-naïve subjects. Individuals were randomized 1:1:1:1 to 10 mg, 25 mg or 50 mg of '572 or EFV 600mg once daily in combination with either tenofovir/emtricitabine (TDF/FTC) or abacavir/lamivudine (ABC/3TC). Eighty-six percent of subjects were male, 20 percent were non-white and 26 percent had HIV-1 RNA levels >100,000 copies/mL.

Key SPRING-1 results through 16 weeks included the following:

- At Week 16, more than 90 percent of subjects treated with '572 achieved viral suppression (HIV-1 RNA levels < 50 copies/mL) compared to 60 percent of subjects treated with EFV. The percentage of subjects who achieved viral suppression was 96 percent, 92 percent and 90 percent for the 10 mg, 25 mg and 50 mg '572 doses, respectively.
- Time to viral suppression was significantly shorter for subjects treated with '572 compared to EFV ( $p < 0.001$ ). By Week 4, 66 percent of subjects treated with '572 were suppressed, compared to 18 percent of subjects treated with EFV.
- Two virologic failures occurred, one in the '572 treatment group and one in the EFV treatment group. No integrase-associated substitutions in genotype or changes in INI susceptibility (to either '572 or RAL) were observed in the subject receiving '572 with virologic failure.
- '572 was generally well tolerated. Drug-related adverse events of moderate or higher intensity were reported in more subjects receiving EFV (9/50, 18 percent of subjects) than

'572 (9/155, 6 percent of subjects). No drug-related moderate to severe adverse event occurred in more than one subject receiving '572. The most frequent category of these events in the EFV and '572 arms were gastrointestinal (4 percent versus 2 percent, respectively), which were the only events that occurred in >1 subject receiving '572. Other events occurring in >1 subject treated with EFV were psychiatric (6 percent) and rash (4 percent) disorders. No dose-relationship for adverse events was noted across '572 doses. More subjects receiving EFV (n=4, 8 percent) withdrew from treatment due to adverse events compared to '572 (n=1, <1 percent).

#### **VIKING Study Data (Abstract Number MOAB0105)**

The VIKING study is an ongoing Phase IIb multicenter, open-label, single arm study designed to assess the antiviral activity, safety and tolerability of '572, as short-term functional monotherapy and over a 24-week treatment period with optimized background therapy in treatment-experienced, HIV-infected adult subjects with RAL resistance. Genotypic and phenotypic changes in HIV integrase were also evaluated.

The study enrolled 27 subjects with screening plasma HIV-1 RNA  $\geq 1000$  c/mL showing genotypic resistance to RAL and at least two other antiretroviral classes. All subjects had RAL-associated mutations at screening. Subjects received '572 50mg QD while continuing their failing regimen (without RAL) to Day 11 when the background regimen was optimized, where feasible, and '572 continued.

Key VIKING study results through Day 11 included the following:

- The majority of subjects treated with '572 demonstrated positive antiviral response, as measured by plasma HIV-1 RNA  $< 400$  c/mL or decline of  $> 0.7$  log<sub>10</sub>, despite the high level resistance to RAL.
- Viral response differed according to baseline integrase inhibitor genotype. Responders included all 16 subjects with N155H, Y143H or Q148 single mutant pathways, three of four subjects with Q148 plus one secondary mutation and two subjects with other mutations.

None of the subjects with Q148 plus two or more secondary mutations showed antiviral response.

- ‘572 was generally well tolerated. The most frequent adverse events were diarrhoea (N = 3) and insomnia (N = 3).
- Few integrase genotypic changes were observed, and minimal changes in ‘572 susceptibility were observed, suggesting minimal virus evolution over the 11-day observation period. On Day 1, 25 of 27 subjects had virus with RAL-associated signature mutations. By Day 11, of 18 subjects with evaluable virus, 17 had phenotypic susceptibility changes to ‘572 < 2-fold. The additional paired viral isolate had a susceptibility change of ~6-fold.

#### **Additional Data on ‘572 (Abstract Number MOPE0032)**

Additional data presented supported the potency of ‘572 when tested against a broad panel of HIV isolates in peripheral blood mononuclear cells and monocyte-derived-macrophages independent of HIV subtype. These observations further support clinical development of ‘572 across all HIV-1 subtypes.

Further study is necessary to determine conclusively the efficacy, safety, and resistance profile of ‘572.

#### **About Shionogi-ViiV Healthcare LLC**

‘572 is the lead compound in Shionogi-ViiV Healthcare LLC. It is currently the only once-daily, unboosted integrase inhibitor in Phase IIb clinical development. Shionogi-ViiV Healthcare LLC is also developing second-generation integrase inhibitors, including S/GSK1265744, currently in Phase II development.

#### **About ViiV Healthcare**

ViiV Healthcare is a global specialist HIV company established by GlaxoSmithKline (NYSE: GSK) and Pfizer (NYSE: PFE) dedicated to delivering advances in treatment and care for people living with HIV. Our aim is to take a deeper and broader interest in HIV/AIDS than any company has done before and take a new approach to deliver effective and new HIV medicines as well as

support communities affected by HIV. For more information on the company, its management, portfolio, pipeline and commitment, please visit [www.viivhealthcare.com](http://www.viivhealthcare.com).

### **About Shionogi & Co., Ltd**

Headquartered in Osaka, Japan, Shionogi & Co., Ltd. is a major research-driven pharmaceutical company dedicated to placing the highest value on patients. Shionogi's Research and Development currently targets three therapeutic areas: Infectious Diseases, Pain, and Metabolic Syndrome. The Company is the originator of innovative medicines which have been successfully delivered to millions of patients worldwide. In addition, Shionogi is engaged in new research areas such as allergy and cancer. Contributing to the health of patients around the world through development in these therapeutic areas is Shionogi's primary goal. For more details, please visit [www.shionogi.co.jp](http://www.shionogi.co.jp). For more information on Shionogi Inc. headquartered in Florham Park, NJ, please visit [www.shionogi-inc.com](http://www.shionogi-inc.com).

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**Pfizer disclosure notice:** Pfizer assumes no obligation to update any forward-looking statements contained in this release as a result of new information or future events or developments.

This release contains forward-looking information about Pfizer, GlaxoSmithKline and ViiV Healthcare and about the prospects of the companies, including revenues from in-line products and the potential benefits of product candidates that will be contributed to that company, as well as the potential financial impact of the transaction. Such information involves substantial risks and uncertainties including, among other things, decisions by regulatory authorities regarding whether and when to approve any drug applications that have been or may be filed for such product candidates as well as their decisions regarding labeling and other matters that could affect the availability or commercial potential of such product candidates; and competitive developments.

A further list and description of risks and uncertainties can be found in Pfizer's Annual Report of Form 10-K for the fiscal year ended December 31, 2009 and in its reports on Form 10-Q and Form 8-K.

**Shionogi forward-looking statement.** This announcement contains forward-looking statements. These statements are based on expectations in light of the information currently available, assumptions that are subject to risks and uncertainties which could cause actual results to differ materially from these statements. Risks and uncertainties include general domestic and international economic conditions such as general industry and market conditions, and changes of interest rate and currency exchange rate. These risks and uncertainties particularly apply with respect to product-related forward-looking statements. Product risks and uncertainties include, but are not limited to, completion and discontinuation of clinical trials; obtaining regulatory approvals; claims and concerns about product safety and efficacy; technological advances; adverse outcome of important litigation; domestic and foreign healthcare reforms and changes of laws and regulations. The company disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise. This announcement contains information on

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