**BI-SP: A BROAD-SPECTRUM BISMUTH-BASED MICROBICIDE**

**BACKGROUND**
In Sub-Saharan Africa, HIV infections are predominantly acquired via heterosexual contact and women are at greatest risk of being infected, accounting for 60% of HIV infections. Currently there is no effective vaccine against HIV and therefore the use of topical microbicides for the prevention of viral entry at the cervico-vaginal surface is an important alternative means of preventing HIV infection that is woman-controlled. Other sexually-transmitted infections (STIs) are also highly prevalent in African women and there is an urgent requirement for broad-spectrum microbicides that can be self-administered by women, alone or in combination with anti-retrovirals, that are active against both HIV and other STIs.

**TECHNOLOGY DESCRIPTION**
The technology involves a novel bismuth (III) complex that can be formulated into a microbicide which is (1) broadly microbicidal, with activity against HIV-1, HSV-2, HPV-16, and C. trachomatis, and demonstrates inhibition of N. gonorrhoea and toxicity towards Trichomonas vaginalis; (2) economical to produce, requiring few synthetic and purification steps and synthesized from non-expensive materials, (3) highly water soluble and rapidly solubilized (and stable over a broad pH range), thus making it compatible with a variety of delivery strategies; and (4) has low toxicity both towards mammalian cells and vaginal Lactobacillus clinical strains.

**VALUE PROPOSITION**
Bi-SP complex is a low-cost, stable, rapidly solubilized active pharmaceutical ingredient that can be formulated into a microbicide with low toxicity towards mammalian cells and vaginal Lactobacillus clinical strains and broad microbicidal activity against most sexually transmitted pathogens, including HIV.

**CURRENT STATUS**
Pre-clinical studies have demonstrated:
- Low toxicity towards mammalian cells and vaginal lactobacilli and no mucosal toxicity in mice
- In vitro activity against HIV-1, HSV-2, HPV-16, C. trachomatis, N. gonorrhoea and Trichomonas vaginalis
- In vivo protection against HSV-2 infection in mice

Further optimization of the microbicide formulation is underway.

**INTELLECTUAL PROPERTY STATUS & PUBLICATIONS**
Patent applications will be filed once the structural characterization and in vivo studies have been completed.

**OPPORTUNITIES**
The technology developers are seeking funding for optimization of the formulation and further pre-clinical evaluation of the optimized compound in preparation for first-in-man studies.

**FOR MORE INFORMATION PLEASE CONTACT:**
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