

Poster presentation

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CONRAD Testing Algorithm: Microbicidal Compounds Screened For Cytotoxicity and Activity Against HIV-1

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Cytotoxicity and virucidal/antiviral testing conducted for the CONRAD Program identifies compounds that may be developed as microbicides used to reduce or eliminate the risk of HIV-1 sexual transmission. Preliminary testing begins with a cytotoxicity screen (CTS) to assess the impact of each compound on cell viability. Activity against infectious HIV-1 was measured using viral binding/entry inhibition (VBI) assays, in which each compound was evaluated for the ability to inhibit binding or entry events between target cells and HIV-1 strains IIIB (X4 phenotype) or BaL (R5 phenotype). Finally, compounds have been screened to determine their ability to interfere with cell-to-cell (CTC) HIV-1 transmission. In all assays, dextran sulfate was used as a control because of its minimal cytotoxicity and potent anti-HIV-1 activity. Out of 477 compounds tested since May 2001, 77 compounds tested using this algorithm were shown to have high selectivity indices (little or no cytotoxicity and consistently high activity in all three viral assays). These endeavors will greatly facilitate the search for compounds and formulations that can be used globally as topical microbicides.