Abstract:
Mucosal surfaces of the body serve as the major portal of entry for human immunodeficiency virus (HIV). Therefore, it is necessary that we thoroughly understand the multiple routes of virus exposure that can lead to HIV infection to develop effective vaccination and therapeutic strategies. An effective vaccine will have to induce mucosal protection against a highly diverse virus. Its development will require assessment of mucosal immune responses. Mucosal surfaces are exposed to high numbers of microbes and are capable of distinguishing between those that are beneficial or avirulent and those that will invade and cause disease. Our understanding of the mechanisms involved in these discriminatory processes has recently begun to expand as new studies bring to light the importance of epithelial cells (presence of human beta defensins) and novel immune cell subsets such as Th17 T cells. This paper focuses on one of the routes of HIV exposure, oral transmission, when HIV infection occurs across the oral and/or gastrointestinal (GI) tract. Oral transmission of HIV primarily occurs through breast milk consumption by infants born to HIV-infected mothers and oral-genital contact during adult sexual intercourse.