Figure 1

Table 1. Contribution of HIV invasion sites to global HIV infections (adapted from (1,123-130))

<table>
<thead>
<tr>
<th>HIV invasion site</th>
<th>Anatomical sub-location</th>
<th>Type of epithelium</th>
<th>Transmission medium</th>
<th>Transmission probability per exposure event</th>
<th>Estimated contribution to HIV cases worldwide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female genital tract</td>
<td>Vagina</td>
<td>Squamous, non-keratinized</td>
<td>Semen</td>
<td>1 in 200 - 1 in 2,000</td>
<td>12.6 million</td>
</tr>
<tr>
<td></td>
<td>Ectocervix</td>
<td>Squamous, non-keratinized</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Endocervix</td>
<td>Columnar, single layer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>Various epithelia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male genital tract</td>
<td>Inner foreskin</td>
<td>Squamous, poorly keratinized</td>
<td>Cervicovaginal and rectal secretions and desquamations</td>
<td>1 in 700 - 1 in 3,000</td>
<td>10.2 million*</td>
</tr>
<tr>
<td></td>
<td>Penile urethra</td>
<td>Columnar, stratified</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>Various epithelia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rectum</td>
<td>Columnar, single layer</td>
<td>Semen</td>
<td>1 in 20 - 1 in 300</td>
<td>3.9 million**</td>
</tr>
<tr>
<td>Intestinal tract</td>
<td>Upper GI tract</td>
<td>Various epithelia</td>
<td>Semen</td>
<td>1 in 2,500</td>
<td>1.5 million***</td>
</tr>
<tr>
<td>Placenta</td>
<td>Chorionic villi</td>
<td>Two layer epithelium</td>
<td>Maternal blood, genital secretions*</td>
<td>1 in 5 - 1 in 10</td>
<td>960,000***</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(cyto- and syncytiotrophoblast)</td>
<td>Breast milk††</td>
<td>1 in 5 - 1 in 10</td>
<td></td>
</tr>
<tr>
<td>Blood stream</td>
<td></td>
<td>Blood products, sharps</td>
<td>Maternal blood‡‡‡</td>
<td>1 in 10 - 1 in 20</td>
<td>480,000***</td>
</tr>
</tbody>
</table>

* Includes men having sex with men (MSM), bisexual men and heterosexual men
** Includes MSM, bisexual men and women infected via anal receptive intercourse
*** Mother-to-child transmission: †intrapartum ‡‡‡breastfeeding †††intrauterin
**** Mostly intravenous drug use (IDU), but includes infections by transfusions and health care related accidents
Figure 3

- Basal cell layer
- Desmosomes
- Keratin fibers
- Centriole
- Nucleus

A. Basal cell layer
B. Centriole, Nucleus
C. Keratin fibers, Desmosomes
Figure 4

(A) CD4+ T cell

- Integrated proviral DNA
- NF-AT
- NF-κB
- HIV replication
- T cell activation
- Budding
- CD4
- CD3
- ICAM
- Fusion
- CCR5
- CD4

(B) DC-SIGN
- Multivesicular body
- Endosomes
- Lysosomes
- HIV replication

(C) Exosomes
- Surface trapping
- Infectious synapse
- Immunological synapse

(D) T cell
- CD4
- MHC II
- Budding

Immunological synapse

1. Fusion
2. Endocytosis
3. Surface trapping

Dendritic cell

100nm

100nm