Chapter 2.4

Concluding remarks **Section 2**

This section has demonstrated that syndecan-3 and DC-SIGN are both attachment receptors for HIV-1 on DC-SIGN$^+$ DCs. These receptors enhance DC infection *in cis*, *de novo*-transmission and *trans*-infection (Figure 2.4.1). The last years, different reports suggested the presence of an unknown attachment receptor with a similar role in HIV-1 transmission as DC-SIGN, which we have now identified as syndecan-3. The receptors CD4, galactosyl ceramide, and mannose receptor were proposed as candidate receptors. We have never observed a role for CD4 or mannose receptor in HIV-1 transmission by DCs (Chapter 2.3; data not shown). Furthermore, our experiments demonstrate that DC-SIGN and syndecan-3 are the main receptors involved in HIV-1 capture on DC-SIGN$^+$ DCs, since blocking both receptors abrogated binding to levels of envelope deficient HIV-1. Our results indicate that syndecan-3 and DC-SIGN are promising candidate targets to prevent HIV-1 transmission.

Figure 2.4.1