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## Nanoscale membrane organization of tetraspanins during HIV-1 assembly and budding

Tetraspanins are transmembrane proteins that have the singular particularity to form a network of protein-protein interactions named the tetraspanin web. They are organized in a special type of microdomain or TEM (tetraspanin-enriched microdomain) forming dynamic interaction platforms within the plasma membrane. Tetraspanins are co-regulators of many cellular functions and are co-opted by pathogenic microorganisms. Recent works have documented a functional role of these proteins in regulating entry and budding of HIV-1 virus.

Using a combination of single molecule fluorescence microscopies and atomic force microscopy (AFM), we have analyzed membrane partition and dynamics of tetraspanins relative to HIV-1 assembly sites in HeLa cells. We demonstrated that these proteins are specifically recruited at the assembly sites and highly concentrated in the budding structures.

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