

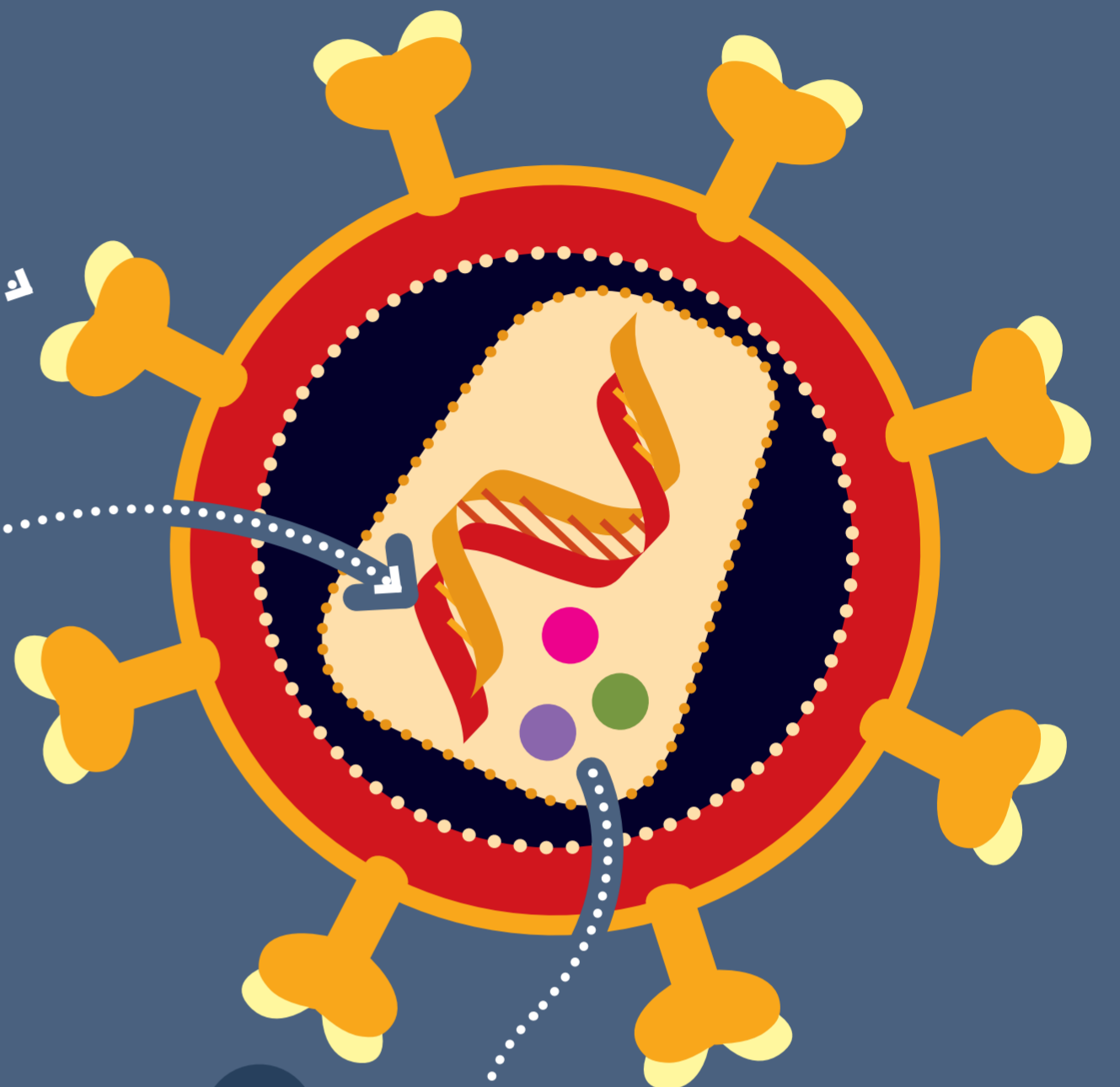
THE **HIV** LIFE CYCLE

CD4 CELLS (OR 'T-CELLS') ARE A TYPE OF WHITE BLOOD CELL THAT PLAY A MAJOR ROLE IN PROTECTING YOUR BODY FROM INFECTION. THE HIV ATTACKS YOUR T-CELLS AND USES THEM TO MAKE COPIES OF ITSELF.

THE HIV VIRUS

GP120

RNA



CD4 CELL

CCR5 CO-RECEPTOR

CD4 CELL RECEPTOR

● reverse transcriptase enzyme

● integrase enzyme

● protease enzyme

CD4 CELL NUCLEUS

CORE

DNA

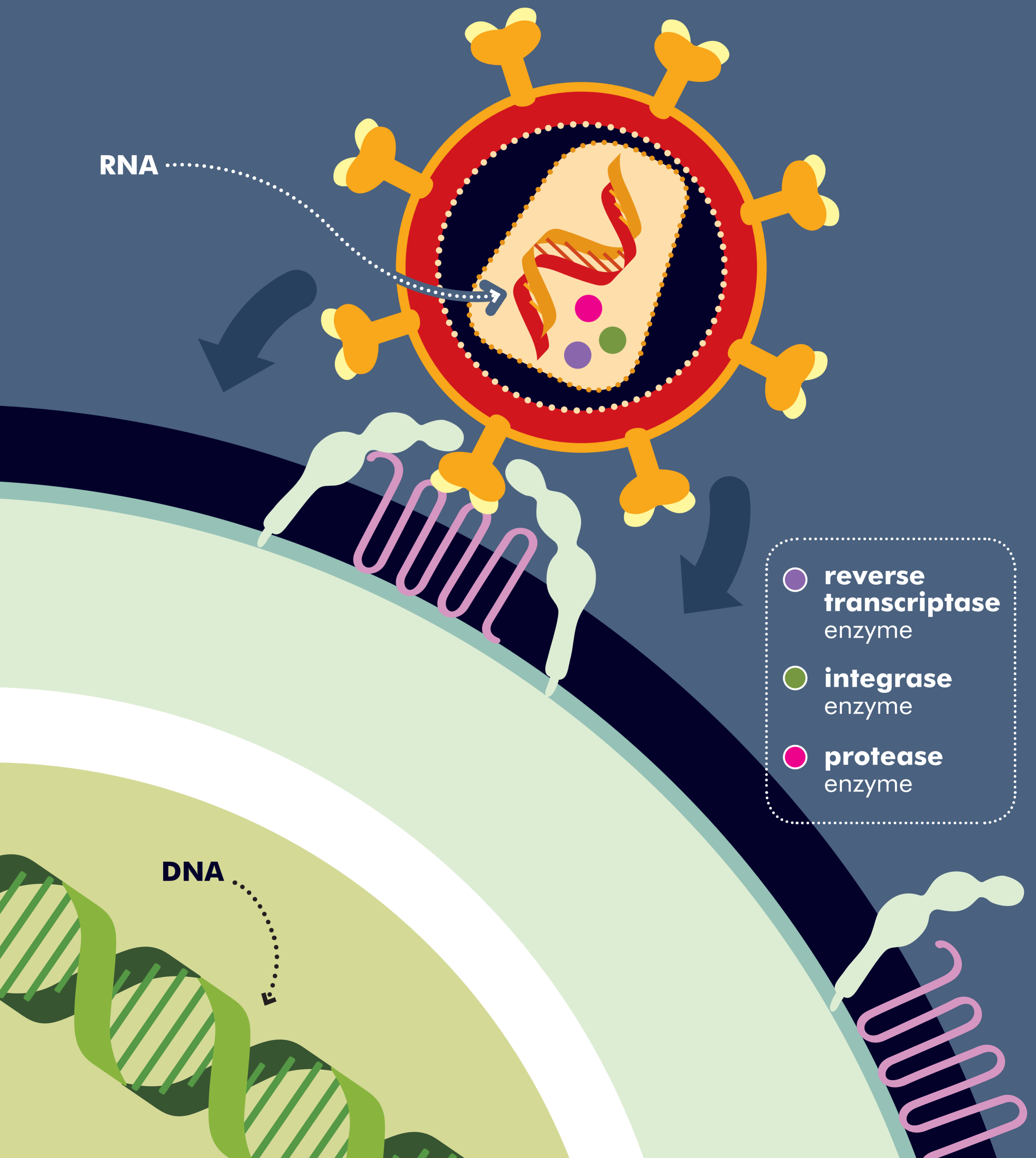


THE HIV LIFE CYCLE

1

BINDING

HIV binds/attaches itself to receptors on the surface of a CD4 cell.



THE **HIV** LIFE CYCLE

2

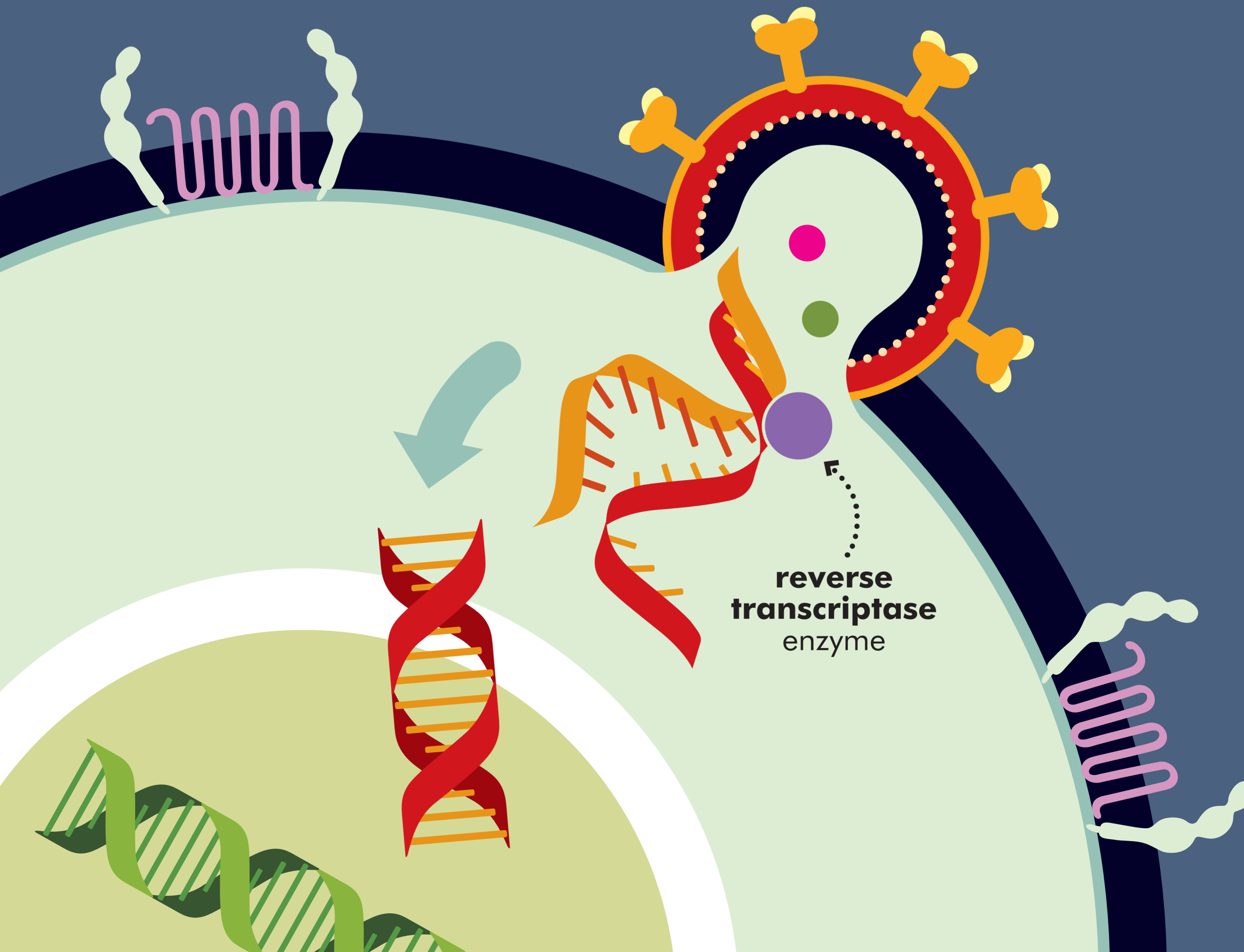
FUSION

The HIV envelope and the CD4 cell membrane fuse, which allows HIV to enter the CD4 cell.

3

REVERSE TRANSCRIPTION

Inside the CD4 cell, HIV releases and uses **reverse transcriptase** (HIV enzyme) to convert its genetic material HIV RNA to HIV DNA. The conversion allows the HIV DNA to enter the CD4 cell nucleus and combine with the cell's DNA.

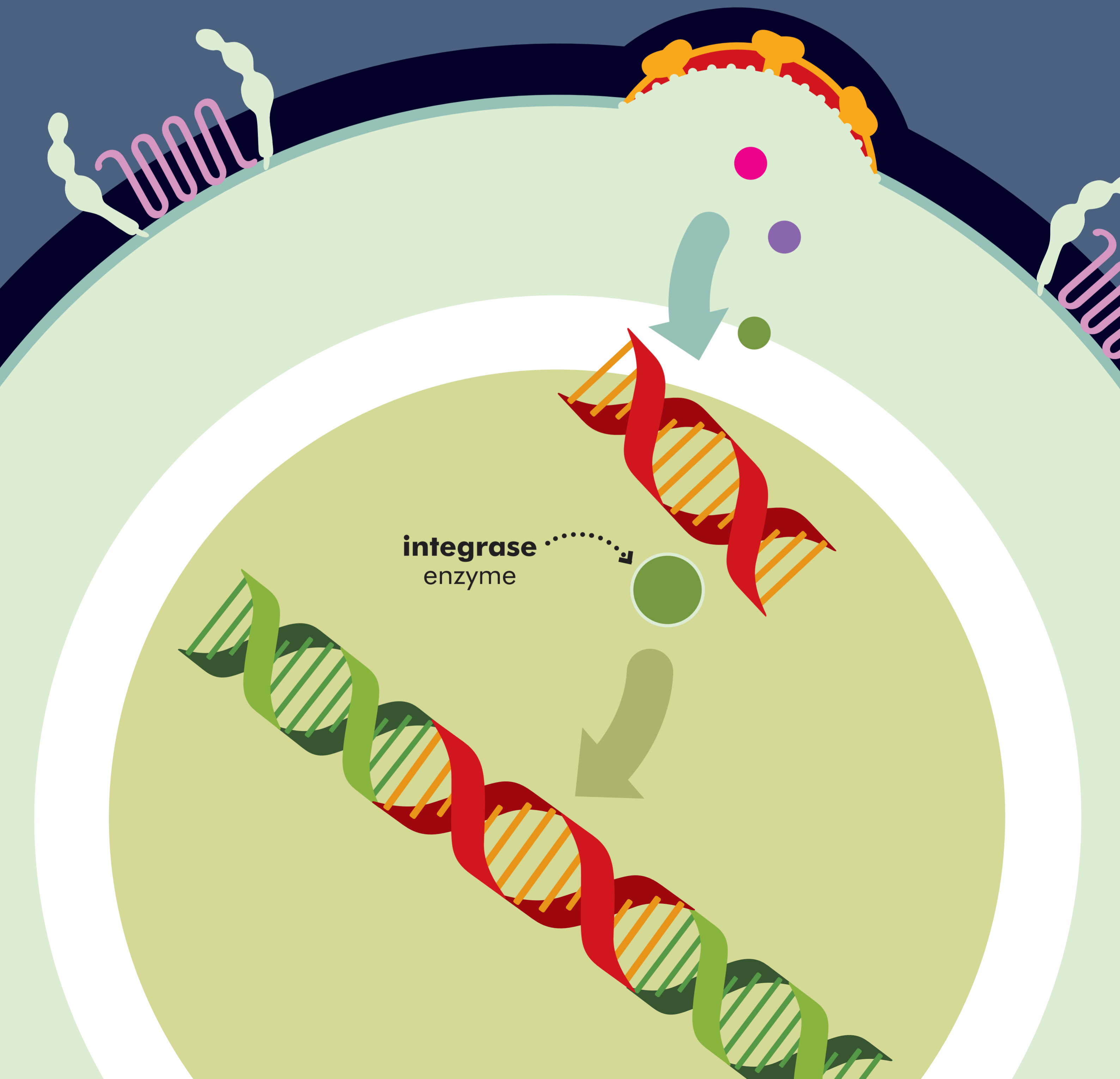


THE **HIV** LIFE CYCLE

4

INTEGRATION

Inside the CD4 cell nucleus, HIV releases **integrase** (HIV Enzyme). HIV uses **integrase** to insert its viral DNA into the DNA of the CD4 cell.



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5

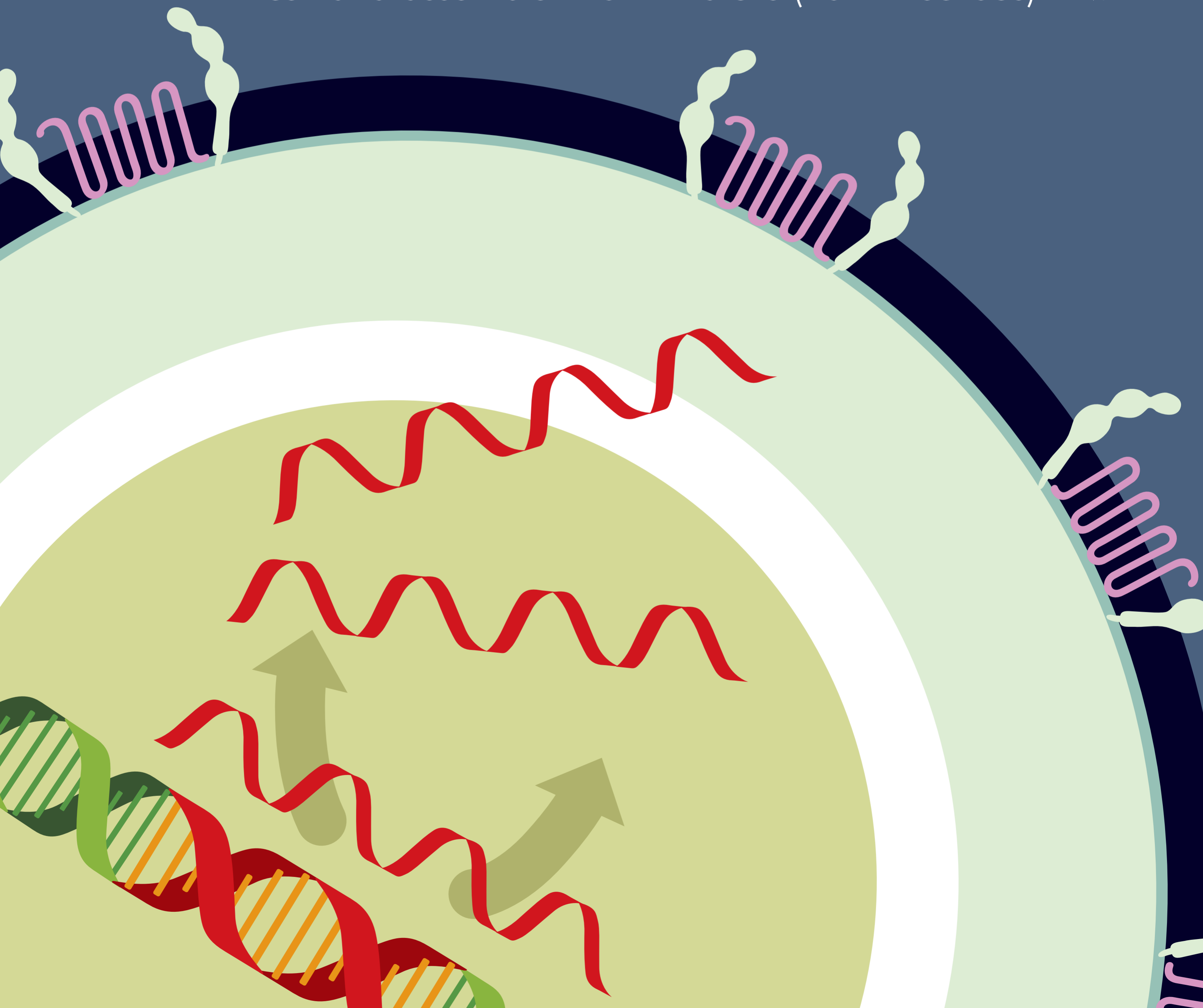
REPLICATION

Once integrated into the CD4 cell DNA, HIV begins to use the machinery of the CD4 cell to make long chains of HIV protein. The protein chains are the building blocks for more HIV.

6

ASSEMBLY

New HIV proteins and HIV RNA move to the surface of the cell and assemble into immature (non-infectious) HIV.

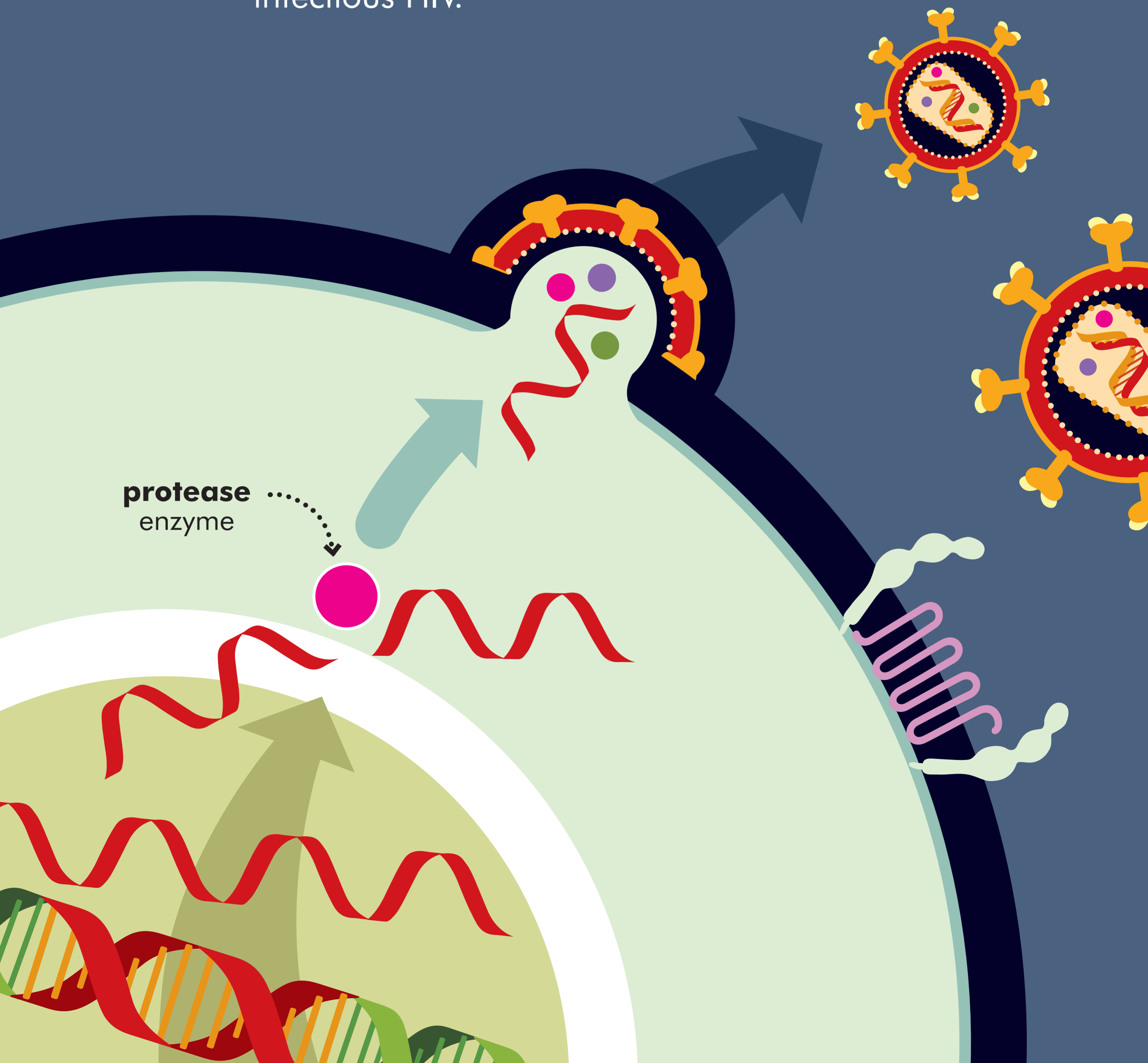


THE HIV LIFE CYCLE

7

BUDDING

Newly formed immature HIV pushes itself out of the host CD4 cell. The new HIV releases **protease** (HIV enzyme). **Protease** acts to break up the long protein chains that form the immature virus. The smaller HIV proteins combine to form mature infectious HIV.



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