

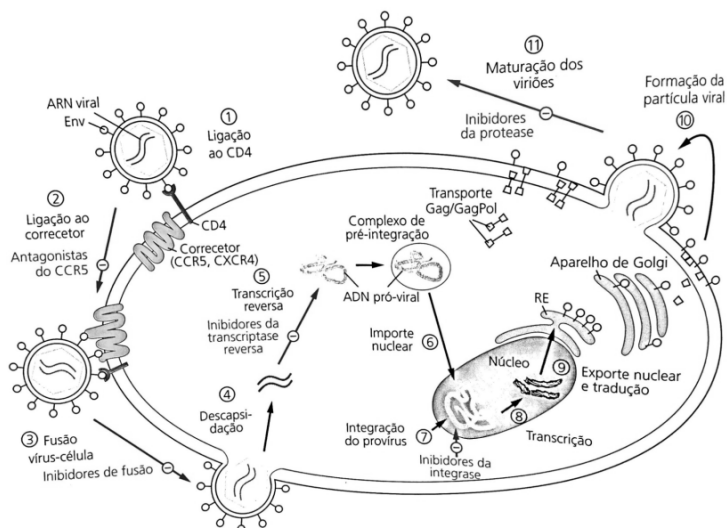
# ANTIVIRAIS

AulaTP

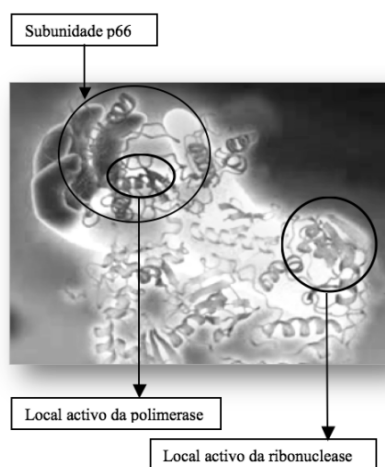


## Antirretrovirais

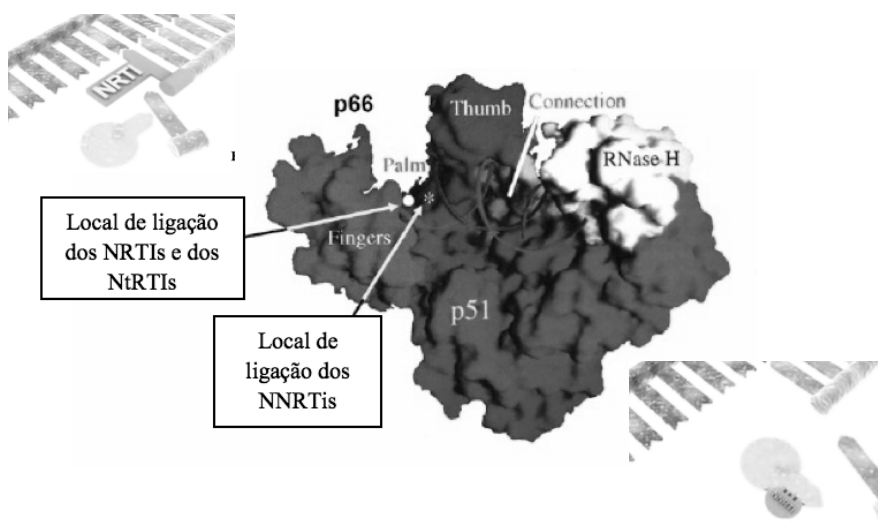
## Ciclo de replicação HIV



## Transcriptase reversa



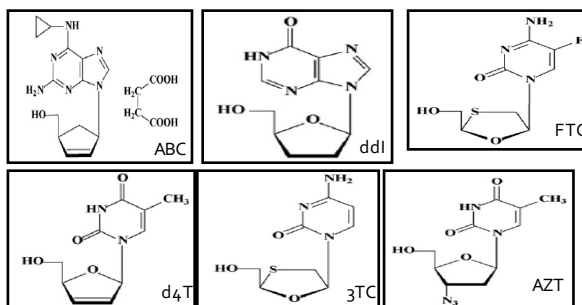
## Transcriptase reversa



## Inibidores análogos dos nucleosídicos/nucleotídicos da TR

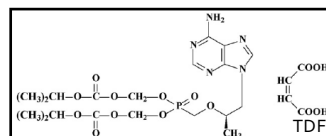
### ■ Inibidores nucleosídicos da transcriptase reversa

- Abacavir
- Didanosina
- Emtricitabina
- Estavudina
- Lamivudina
- Zidovudina

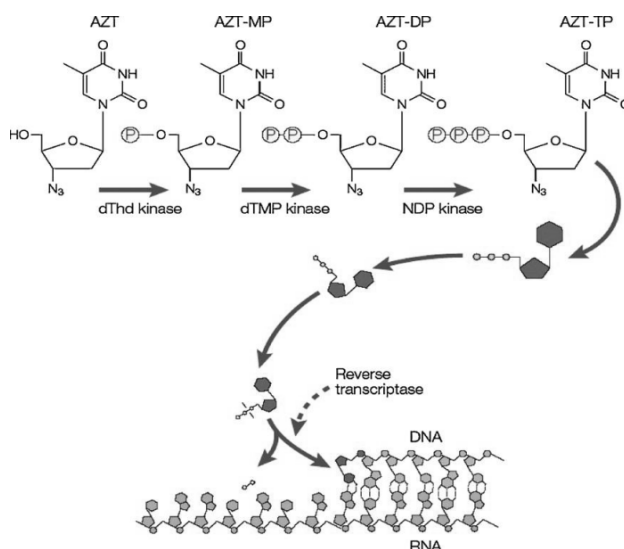


### ■ Inibidor nucleotídico da transcriptase reversa

- Tenofovir



## Mecanismo de ação da zidovudina

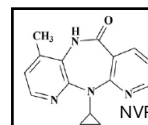
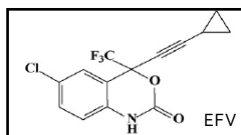


## Inibidores não nucleosídicos da TR

### ■ Inibidores não-nucleosídicos da transcriptase reversa

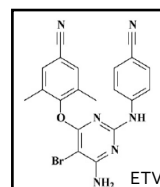
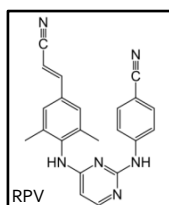
#### ■ 1ª geração

- Nevirapina
- Efavirenz

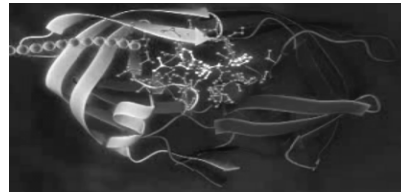


#### ■ 2ª geração

- Rilpivirina
- Etravirina



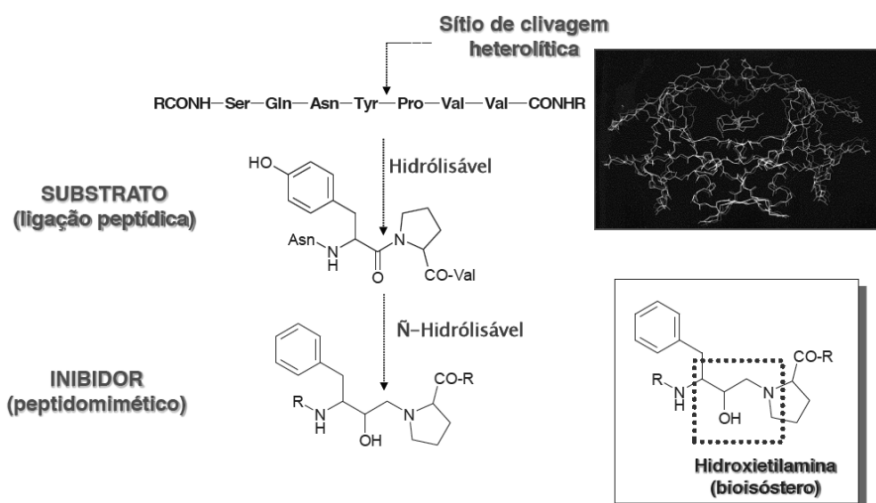
## Inibidores da Protease



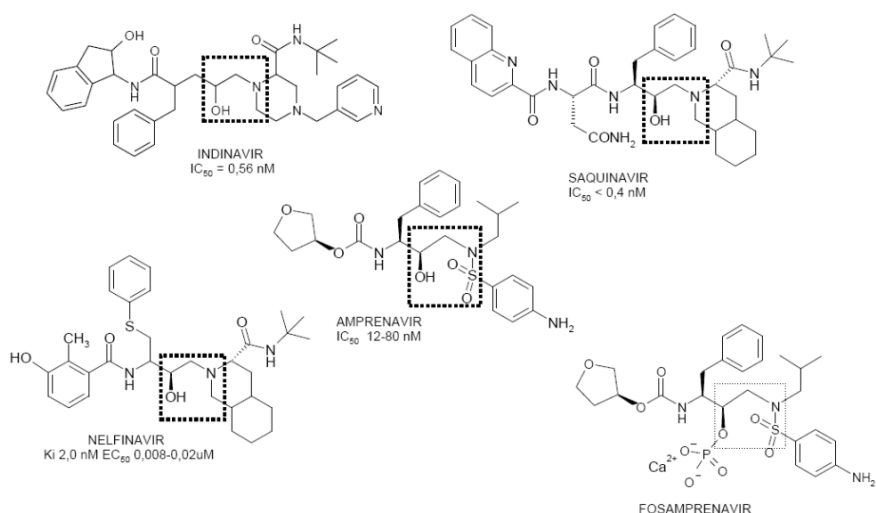
## Inibidores da Protease

- Inibidores da protease
  - Atazanavir
  - Darunavir
  - Fosamprenavir
  - Indinavir
  - Nelfinavir
  - Lopinavir
  - Saquinavir
  - Amprenavir
  - Tipranavir
    - Ritonavir

## Inibidores da Protease



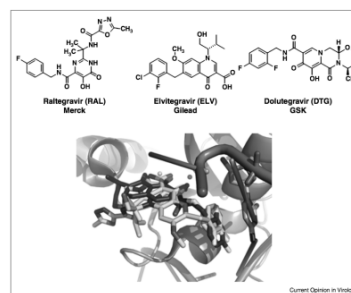
## Inibidores da Protease



## Inibidores da integrase

### ■ Inibidores da integrase

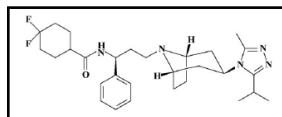
- Raltegravir (aprovado 10/07)
- Elvitegravir\* (aprovado 8/12)
- Dolutegravir (aprovado 8/13)



## Inibidores da entrada

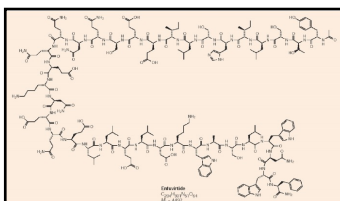
### ■ Inibidores do coreceptor CCR5

- Maraviroc



### ■ Inibidores da fusão

- Efavirtide



## ART / TARc – Recomendações Portuguesas

### ■ Terapêutica Antirretroviral Combinada

Tabela 3: Início da terapêutica antirretrovírica combinada (TARc) em doentes adultos e adolescentes com infeção crónica por VIH-1: regimes preferenciais.

| A                              | B                     | Observações  |
|--------------------------------|-----------------------|--|
| NNITR                          | N(t)ITR               |  |
| EFV                            | TDF/FTC ou<br>ABC/3TC | TDF/FTC coformulado em comprimido único.<br>ABC/3TC coformulado em comprimido único.<br>EFV/TDF/FTC coformulado em comprimido único. |
| NVP                            | TDF/FTC               | TDF/FTC coformulado em comprimido único.   |
| IP potenciado com<br>Ritonavir | TDF/FTC ou<br>ABC/3TC |  |
| ATV/r                          |                       | ATV/r: 300/100 mg <i>qd</i> .  |
| DRV/r                          |                       | DRV/r: 800/100 mg <i>qd</i> .  |
| ITN                            |                       |  |
| RAL                            | TDF/FTC               |  |

2012

## Hepatite B

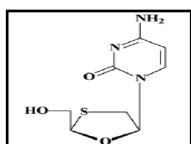


## Hepatite B

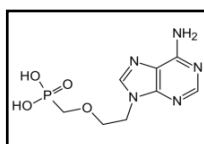
- Análogos dos Nucleótidos/nucleósidos
  - Lamivudina (análogo dos nucleósidos)
  - Adefovir (análogo dos nucleótidos)
  - Entecavir (análogo dos nucleósidos)
  - Telbivudina (análogo dos nucleósidos)

## Hepatite B

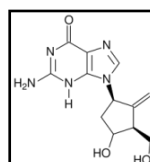
Lamivudina



Adefovir



Entecavir



Interferões-alfa disponíveis para o tratamento da hepatite B.

|                               |                       |
|-------------------------------|-----------------------|
| INF- $\alpha$ -2b             | Intron A <sup>®</sup> |
| IFN- $\alpha$ -2 <sup>a</sup> | Pegasys <sup>®</sup>  |

# Hepatite C

## Hepatite C

Fármacos utilizados na terapêutica do vírus da hepatite C.

|                                 |                                |
|---------------------------------|--------------------------------|
| <b>Terapia imunomodulatória</b> | Interferão-alfa-2 <sup>a</sup> |
|                                 | Interferão-alfa-2b             |
|                                 | Interferão-alfa-2a peguilado   |
|                                 | Interferão-alfa-2b peguilado   |
| <b>Terapia antiviral</b>        | Ribavirina                     |

Interferão-alfa-2a;  
Interferão-alfa-2b;  
Interferão-alfacon-1<sup>80</sup>  
interferão-n1.<sup>80</sup>



## DAAs

### Many Direct Acting Antivirals in Development

#### • Protease inhibitors

- Faldaprevir
- Asunaprevir
- ABT-450
- MK-5172
- Sovaprevir
- ACH-2684
- GS-9451 NAIAD Synergy trial

#### • NS5A Inhibitors

- Daclatasvir
- Ledipasvir
- ABT-267
- GS-5816 pangenotypic
- ACH-3102
- PPI-668
- GSK 2336805
- Samatasvir
- MK-8742

## DAAs

### Direct-Acting Antiviral Agents (DAAs) - Key Characteristics

C E1 E2 p7 NS2 NS3 NS4A NS4B NS5A NS5B

#### NS3 /4A Inhibitors (Protease inhibitor PI)

High potency  
Limited genotypic coverage  
Low barrier to resistance

#### NS5B Nucleos(t)ide Inhibitors (NI)

Intermediate potency  
Pan genotypic coverage  
High barrier to resistance

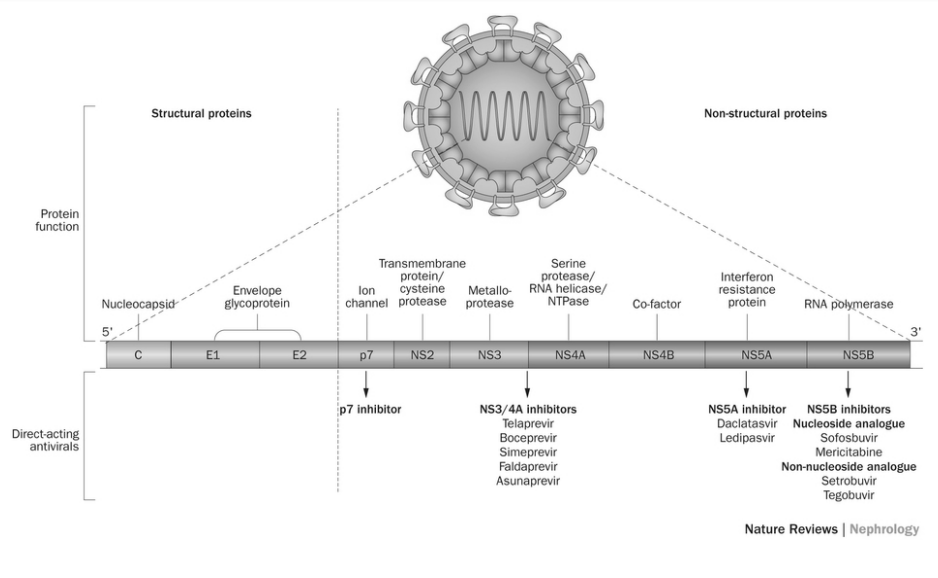
#### NS5A Inhibitors

High potency  
Multi-genotypic coverage  
Low barrier to resistance

#### NS5B Non Nucleoside Inhibitors (NNI)

Intermediate potency  
Limited genotypic coverage  
Low barrier to resistance

## HCV - DAAs



### Guidelines



## EASL Recommendations on Treatment of Hepatitis C 2015

European Association for the Study of the Liver\*

Table 5. Treatment recommendations for HCV-monoinfected or HCV/HIV coinfecting patients with chronic hepatitis C without cirrhosis, including treatment-naïve patients and patients who failed on a treatment based on PegIFN- $\alpha$  and ribavirin (RBV).

| Patients        | PegIFN- $\alpha$ , RBV and sofosbuvir | PegIFN- $\alpha$ , RBV and simeprevir   | Sofosbuvir and RBV | Sofosbuvir and ledipasvir | Ritonavir-boosted paritaprevir, ombitasvir and dasabuvir | Ritonavir-boosted paritaprevir, and ombitasvir | Sofosbuvir and simeprevir | Sofosbuvir and daclatasvir |
|-----------------|---------------------------------------|---|--------------------|---------------------------|--|--|---------------------------|----------------------------|
| Genotype 1a     |                                       | 12 wk, then PegIFN- $\alpha$ and RBV 12 wk (treatment-naïve or relapsers) or 36 wk (partial or null responders) | No                 | 12 wk with RBV            |  |  |                           |                            |
| Genotype 1b     | 12 wk                                 |   | No                 | 8-12 wk, without RBV      | 12 wk without RBV  | No   | 12 wk without RBV         | 12 wk without RBV          |
| Genotype 2      | 12 wk                                 | No  | 12 wk              | No                        | No   | No   | No                        | 12 wk without RBV          |
| Genotype 3      | 12 wk                                 | No  | 24 wk              | No                        | No   | No   | No                        | 12 wk without RBV          |
| Genotype 4      | 12 wk                                 | 12 wk, then PegIFN- $\alpha$ and RBV 12 wk (treatment-naïve or relapsers) or 36 wk (partial or null responders) | No                 | 12 wk without RBV         | No   | 12 wk with RBV                                 | 12 wk without RBV         | 12 wk without RBV          |
| Genotype 5 or 6 | 12 wk                                 | No  | No                 | 12 wk without RBV         | No   | No   | No                        | 12 weeks without RBV       |

**Table 6. Treatment recommendations for HCV-monoinfected or HCV/HIV coinfectd patients with chronic hepatitis C with compensated (Child-Pugh A) cirrhosis including treatment-naïve patients and patients who failed on a treatment based on PegIFN- $\alpha$  and ribavirin (RBV).**

| Patients        | PegIFN- $\alpha$ , RBV and sofosbuvir | PegIFN- $\alpha$ , RBV and simeprevir                                      | Sofosbuvir and RBV | Sofosbuvir and ledipasvir  | Ritonavir-boosted paritaprevir, ombitasvir and dasabuvir | Ritonavir-boosted paritaprevir, and ombitasvir | Sofosbuvir and simeprevir            | Sofosbuvir and daciatasvir           |
|-----------------|---------------------------------------|--|--------------------|--|--|--|--------------------------------------|--------------------------------------|
| Genotype 1a     | 12 wk                                 | 12 wk (treatment-naïve or relapsers) or 24 wk (partial or null responders) | No                 | 12 wk with RBV, or 24 wk without RBV, or 24 wk with RBV if negative predictors of response | 24 wk with RBV   |  | No                                   | 12 wk with RBV, or 24 wk without RBV |
| Genotype 1b     |                                       |  |                    |  | 12 wk with RBV   |  |                                      |                                      |
| Genotype 2      | 12 wk                                 | No   | 16-20 wk           | No   | No   | No   | No                                   | 12 wk without RBV                    |
| Genotype 3      | 12 wk                                 | No   | No                 | No   | No   | No   | No                                   | 24 wk with RBV                       |
| Genotype 4      | 12 wk                                 | 12 wk (treatment-naïve or relapsers) or 24 wk (partial or null responders) | No                 | 12 wk with RBV, or 24 wk without RBV, or 24 wk with RBV if negative predictors of response | No   | 24 wk with RBV                                 | 12 wk with RBV, or 24 wk without RBV | 12 wk with RBV, or 24 wk without RBV |
| Genotype 5 or 6 | 12 wk                                 | No   | No                 | 12 wk with RBV, or 24 wk without RBV, or 24 wk with RBV if negative predictors of response | No   | No   | No                                   | 12 wk with RBV, or 24 wk without RBV |

**FIM**