### HIV-1 Resistance Mutation List:

#### NRTI Class

**EPIVIR®** (lamivudine, 3TC)

- **{M184V,M184I***}**
- [69ins**, K65R, Q151M]

**EMTRIVA®** (emtricitabine, FTC)

- **{M184V,M184I***}**
- [69ins**, K65R, Q151M]

**VIDEX®** (didanosine, ddl)

- **{K65R, L74I***, L74V, Q151M, 69ins**}

**ZERIT®** (stavudine, d4T)

- **{69ins**, K65R, Q151M, Y115F**}

**ZIAGEN®** (abacavir, ABC)

- **{69ins**, K65R, Q151M, Y115F**}

**VIREAD®** (tenofovir, TDF)

- **{69ins**, K65R**}
- [K65N**, Q151M, K70E**, K70G**]

**RETROVIR®** (zidovudine, ZDV)

- **{69ins**, K65R**}
- [K65N**, Q151M, K70E**, K70G**]

### NNRTI Class

**INTELENCE®** (etravirine, ETR)

- **{Y181V**, Y181F**}

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FOR IN VITRO DIAGNOSTIC USE

ViroSeq® HIV-1 Genotyping Software v3.0.0.32
## NNRTI Class Mutations Included within the Algorithm

**SUSTIVA® (efavirenz, EFV)**


**VIRAMUNE® (nevirapine, NVP)**


**EDURANT® (rilpivirine, RPV)**


## PI Class Mutations Included within the Algorithm

**APTIVUS® (tipranavir, TPV)**

- [I84V, V262*, I84A**, V262T]

**CRIXIVAN® (indinavir, IDV)**

- [I84A**]  
  - L50T**

**FORTOVASE® / INVIRASE® (saquinavir, SQV)**


**KALETRA® (lopinavir + ritonavir, LPV)**

- [I47A**]  
  - [I84A**, I50V**, L76V**]
  - L50T**

**PREZISTA® (darunavir, DRV)**

  - I50V**, I47V**, G73C**, L10F**
  - L50T**
**PI Class** | **Mutations Included within the Algorithm**
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**REYATAZ® (atazanavir, ATV)**
{I84V}, {I84C}, {I50L}, {I84A}, {N88S}

**VIRACEPT® (nelfinavir, NFV)**
{I84V}, {L90M}, {D30N}, {I84C}, {I84A}, {N88D}, {N88S}
{G48L}, {G48M}, {M46I}, {V82A}, {V82C}, {V82F}, {N88T}

**LEXIVA® (fosamprenavir, FPV)**
{L76V}, {I84V}, {I84C}, {I84A}, {I47A}, {I54M}, {I54L}, {I50L}
{V82F}, {I47V}

### Mutation Notations Key:
- **[Red Bold Curly Bracket]** Presence of this mutation alone confers viral resistance
- **[Blue Bold-Italics Square Bracket]** Presence of this mutation alone confers the possibility of viral resistance
- **(Black Parenthesis)** This mutation must appear with at least one other mutation to confer the possibility of viral resistance
- **<Green Angle Bracket>** This mutation counters resistance
- *** NOTE:** This mutation has not been fully validated
- **** NOTE:** This mutation has not been clinically verified
- ***** NOTE:** For this mutation, both notes above apply

### References: