SURe v1.0 nucleotide sequence unanimity alignments for HIV-1 Protease encoding region (last modified Feb 13, 2019. v5) Viral and Human Genomics Laboratory, Facultad de Medicina UASLP (http://midasmap.uaslp.mx/suretool/). Ave. Venustiano Carranza \#2405 Col. Filtros Lomas CP 78210 San Luis Potosí, SLP. Mexico


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| Base | $\left.\right\|_{A} ^{2334}$ |  |  | T | V | L |  | E | M |  |  |  |  |  |  |  |  |  |  |  | G |  |  |  | F | 414 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HXB2 | GCA | GAT | GAT | ACA | GTA | TTA | GAA | GAA | AtG | AGT | ttg CCA | GGA | AGA | TGG | AAA | CCA | AAA | ATG | ATA | GGG | GGA | ATT | GGA | GGT | TtT | AtC |
| CONS_B | --- | --- | --- | --- | --- | --- | --- | --- | --- | -A- | --- --- | --- | --- | --- | --- | --- | --- |  | --- | --- |  |  |  |  |  |  |
| MX207 | --- | --- | --- | --- | --- | --- | --- | --C | --- | -A- | --A --- | --G | --- | --- | --G | --- | --- |  |  | -- |  |  |  |  |  |  |
| MX066 | --G | -- | --- | - | --C | -- | --- | --C | --A | GA- | - | --- | --- | -- | --G | --- | --- |  | -- | -- |  |  |  | - |  |  |
| MX470 | --- | - | --- | --- | --- | --- | --- | --C | --- | -A- | --- | --T | --- | -- | --- | --- | -G- | -- | -- | -- |  |  |  |  |  |  |
| MX474 | --G | --- |  | --- | --- | --- | --- |  | --- | GAK | --- --G | --G | --R |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX125 | --- | -- |  |  |  |  | --- | C | -- | -A- | --- --- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX527 | --- | --- |  |  |  |  | --- |  | - |  | - --- |  |  |  |  |  | -G- |  |  |  |  |  |  |  |  |  |
| MX050 | --- | --- |  |  |  | - | --- | --C | --- | CA- | -- --- |  | -A- |  | -G- |  |  |  |  |  |  |  |  | C |  |  |
| MX395 |  |  |  |  |  |  | --- | -C | --- | -A- | -- --- |  |  |  | - |  |  |  |  |  |  |  |  |  |  |  |
| MX352 | --- | --- | --C | --- |  |  | --- | --C | --- | -A- | ---- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX473 |  |  |  |  |  |  | --- |  |  | -A- | ----- | --- | -A- |  | - |  |  |  |  |  |  |  |  |  |  |  |
| MX401 |  |  |  |  |  |  | --- | K |  |  | - --- | -G | -A- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX160 |  |  |  |  | --G |  |  |  |  | -A- | - | - | -A- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX350 |  |  |  |  | --- |  | --- | - | --- | GA- | --A --- | -- | -A- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX324 |  | --- |  |  | --- |  | --- | --- |  | -A- | -- | - | -A- | -- | --G |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MX313 } \\ & \text { MX54 } \end{aligned}$ | --- | ---- | ---- | ---- | -- | -- | ---- | --- | - | -A- | -- --- |  | -A- | -- | --G | ---- |  |  |  |  | --- | --A |  | -- |  | -- |
| MX390 | --- | --- | -- | --- | - | - | - | -- | --- | -A- | -- --- | - | -A- | -- | --G | --- | --- | --- | -- | -- | - | -- | --- | - |  |  |
| mX376 | --- | --- | - | --- | - | - | - | --C | --- | -A- | --- --- | -- | -A- | -- | --G | --- | --- | -- | -- | -- |  |  |  | --- |  |  |
| MX399 | --- | --- | - | -- | --- | - | - | --C | --A | -A- | - | -- | -A- | -- | --G | --- | -- | -- | -- | -- |  |  |  | - |  |  |
| MX370 | --- | --- | --- |  | --- | - | --- | --C | - | GAG | -- --- | - |  | -- | --- | - | -- |  |  |  |  |  |  |  |  |  |
| MX384 | --- | --- | --- |  | --- | - | --- | --T | - | CAG | --- --- | --- | -A- |  | -- |  | -G- |  |  |  |  |  |  |  |  |  |
| MX230 | --- | --- | --- |  | --- | --- | --- | --T | --A | GAG | --- --- | -AG | --- | -A- |  |  |  |  | -- | A-A | A- |  | A-- | - |  |  |
| MX355 | --- | --- | --- | --- | --G | --- | --- | -T | --- | GAG | --- --- | --- |  |  |  |  |  |  |  |  |  |  |  | - |  |  |
| MX463 | --- | --- | --- | --- | --- | --- | --- | --- | --A | -A- | -- --- | -R | --- |  |  |  |  | T-A | -- |  |  |  |  |  |  |  |
| MX381 | --- |  | --- |  |  | --- |  |  |  | -A- | -- --- | - |  |  |  |  |  |  |  | A-- |  |  |  |  |  |  |
| MX439 | --- | --- | --- | --- | --- | G | --- |  |  | -A- | -- --- | -- | -A- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX494 |  |  |  |  | --- | G |  |  |  | -A- | -- --- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX110 |  | --- | C | --- |  |  |  |  |  | -A- | -- --- |  | -A- |  |  |  | -G |  |  |  |  |  |  |  |  |  |
| MX545 |  |  |  |  |  |  |  |  |  | -A- | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MX433 } \\ & \text { MX398 } \end{aligned}$ | -- | --- | --- | -- | -- | --- | --- | --- | --- | $\begin{aligned} & \text {-A- } \\ & -\mathrm{AC} \end{aligned}$ | ---- ---- |  | ---- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX057 | --- | --- | --- | --- | --- | - | - | - | --A | GA- | --A --- | -- | --- | -- | -- | --- | -- | -- | -- | -- | -- | - | -- | -- |  |  |
| MX210 | --- | --- | - | --- | --- | G-- | -- | -- | --- | GA- | - | --- | -A- | --- | --- | --- | -G- | --- | --- | --- | --- | --- | --- | -- |  |  |
| MX540 | --- | --- | --- | --- | --- | --- | - | --C | --A | GA- | - | --- | --- | --- | -- | --- | --- | --- | --- | --- | --- | --- | -- | -- |  |  |
| MX296 | --- | --- | --- | --- | --- | -- | --- | --- | --A | GA- | --- | --- | -R- | -- | --- | --- | --- | --- | -- | --- | --- | -- | -- | -- |  |  |
| MX459 MX071 | ---- | --- | -- | ---- | --G | ---- | ---- | --R | ---- | - C - | -- -- | ---- | -R- | ---- | --- | --- | ---- | --- | --- |  |  | -- |  | -- |  |  |
| $\begin{aligned} & \text { MX071 } \\ & \text { MX } \end{aligned}$ | ---- | --Y | - |  | --G |  |  | --R |  | $\begin{aligned} & -\mathrm{A-} \\ & -\mathrm{A} \end{aligned}$ | ---- ---- | --R |  |  | --G |  |  |  |  |  |  |  |  |  |  |  |
| MX385 | --- |  |  |  |  |  |  |  | - | -A- | -- --T | --- | - |  | --- |  |  |  |  |  |  |  |  |  |  |  |
| MX450 |  |  |  |  |  |  |  | - | --A | -A- | - | -- | -A- |  | -- | --- | -R- |  |  |  |  |  |  |  |  |  |
| MX354 |  |  |  |  |  |  |  |  |  | -A- | -- --- | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX553 |  |  |  |  | --G |  |  |  | --- | GA- | - | -G | --- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX469 |  |  |  |  |  |  | - | -C | C-A | -A- | -- |  | -A- |  |  |  |  |  | -- |  |  |  |  |  |  |  |
| MX546 |  |  |  |  |  |  |  |  | C-- | -A- | --- --- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX086 |  | --- |  |  | --- |  |  |  | --- | -A- | --A --- |  | -- | --- | - |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MX422 } \\ & \text { MX55 } \end{aligned}$ | ---- | - | -- | - | - | - | - | - | --- | -A- | --A --- | -- | -- | -- | T-- | ---- | --- |  |  |  |  |  |  |  |  |  |
| MX476 | --- | - | - | -- | - | -- | -- | - | --A | -A- | --R --- | -- | --- | - | - | --- | --- | -- | --- | --- | --- | -- | --- | -- |  |  |
| m×327 | --- | --- | --- | -- | --- | -- | --- | --- | -- | -C- | -- т-- | - | --- | - | -- | -- | --- | --- | -- | --- | --- | --- | --- | --- |  |  |
| CONS_D | --- | --- | --- | -- | --- | -- | --- | --- | --A | -A- | ---- | - | -A- | --- | -- | --- | --- | --- | -- |  |  |  | -- | -- |  |  |
| MX172 |  | --- | --- | -- | --- | -- | --- | - | --- | -A- | - --- | - | -A- | --- | -- | --- | --- | --- | --- | --- | --- | -- | -- | -- |  |  |
| CONS_F1 |  | --- | --- |  | - | - | --- | --C | --A | -A- | --- --- | --- | -A- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CONS_F2 |  |  |  |  |  | -- | --- | -T | --A | -A- | -- --- | --- | -A- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CONS_H |  |  |  |  | --- | -- | --- | --- | --A | -A- | -- --- |  | -A- |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CONS_A2 |  | --- | --- | -- | --G | --- | --- | - | --A | -A- | -- --- | -- | -A- | --- |  |  |  |  | -- |  |  |  |  |  |  |  |
| CONS_C |  |  | --- | -- | --- | -- | --- | - | --A | -A- | - | --- | -A- | --- | --- | --- | -- | -- | -- | -A | --- | --- | --- | -- |  |  |
| CONS_A1 |  | --- |  |  |  | - | --- | C | --A | -A- | --- --- | --- | -A- | --- | --- | --- | --- | -- | --- |  |  |  | -- | --- | --C |  |
| CONS_G |  | --- | --- |  | --- | -- | --- | --- | --A | -A- | --A --- | --- | -A- | -- | -- | --- | --- | -- | --- |  |  |  |  |  |  |  |
| MX460 | --- | --- | --C |  | --- | - | -- | -- | --A | GA- | --A --- | -- | -A- | --- | --- | --- | --- | -- | --- |  |  | --- |  |  |  |  |
| CONS_O Residue | $\stackrel{\text { A }}{\mid} \stackrel{1}{28}$ |  | $\begin{aligned} & \text { D } \\ & \mid \\ & 30 \end{aligned}$ |  | --- | C-- | A-- | A-C | --A |  |  |  |  |  | -C- |  |  |  |  |  |  | $\begin{gathered} --\mathrm{A} \\ \mathrm{I} \\ \mid \\ 50 \end{gathered}$ | G | G | F | 54 |
|  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { Elbov } \\ & \text { (S37 } \end{aligned}$ | $\begin{aligned} & \text { wregion } \\ & 7-K 43 \text { ) } \end{aligned}$ |  |  |  |  |  |  | Tip of | the flap G49 - | $\begin{aligned} & \text { flap res } \\ & -\mathrm{G} 52) \end{aligned}$ |  |  |  |  |  |  |

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| Base | $\left.\right\|_{K} ^{2415}$ |  |  | $\bigcirc$ | Y |  |  | 1 |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | + ${ }_{\text {P }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HхB2 | AAA | GTA | AGA | CAG | tat | GAT | CAG | Ata | СтC | ATA | GAA | ATC | TGT | GGA | CAT | AAA | GCT | ATA | GGT | ACA | GTA | tTA | GTA | GGA | ССт | ACA | CT |
| CONS_B | --- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX207 | --- |  | -A- | --A |  |  |  |  | -C- |  |  | --A |  | -- | T- |  |  | G-- |  |  |  |  | A-- |  | --C |  |  |
| MX066 | --- |  | -A- |  |  |  |  |  | -C- |  |  |  | -A- |  | - |  | A-- | G-- |  |  |  |  |  |  |  | T |  |
| MX470 | --- |  | -A- |  |  |  | - |  | тСт | G |  |  | --- | - |  |  | -т- |  |  |  |  |  | A-- |  |  |  |  |
| MX474 | --- |  | -A- |  |  |  |  | G-- | -C- | T |  |  | - | - |  |  |  |  |  |  |  |  | -- |  | -Y |  |  |
| MX125 | --- |  | - |  |  |  |  |  | -C- | G- |  |  |  | C |  |  |  | G-- |  |  |  | --G | -- |  |  |  |  |
| MX527 |  |  | -A- |  |  |  |  |  | -C- |  |  |  |  | -- |  |  |  | W- |  |  |  |  | - |  | --C |  |  |
| MX050 |  |  |  |  |  |  |  | G-- | C- |  |  |  |  |  |  |  |  |  |  |  |  |  | A-- |  |  |  |  |
| MX395 |  |  |  |  |  |  |  |  |  | G-- |  |  | -- |  |  |  |  |  |  |  |  |  | A-- |  | --C |  |  |
| MX352 | --- | -- |  |  |  |  |  |  |  | G-G | --- |  |  |  |  |  |  |  |  |  |  |  | A-- | -- | - |  |  |
| MX473 | --- | --- |  | --- | --- | --- | -- | --- | C- | --- | --- | --T | --- | -- | т-C | --- | --- | -C- | --- | -- | --G | --- | -- | --- |  |  |  |
| MX401 | --- | --- | --G | -- | --- | --- | --A | - | G-- | --- | --- |  |  | - | --- | -G- | -- |  | --- | -- | --- | --- | R-- | -- |  |  |  |
| MX160 | --- | --- | --- | --A | --- | -- | --- | --- | GCY | --- | --- | --T | --C | --G | -- | --- | --A | G-- | --- | -- | -- | --- | A-- | -- |  |  |  |
| MX350 | --- | --- |  | --- | --- | --G | --A | --- | -C- | --- | --- | --A | -- | --T | --- | -- | --- | --- | --- | --- | --- | --G | --- | -- | -- |  | --A |
| MX324 | --- |  |  | --- | --- | --- | - | --T | -C- | --- |  | --- | -- | --- | - | -- | -- | -- | --- | --- | -- | --- | -- | -- | -A |  |  |
| MX313 | --- |  |  |  |  | --- | --- | G-- | SC- | M-- |  |  |  |  |  |  |  |  |  |  |  |  | A-- |  |  |  |  |
| MX542 | ---- | --- | -A- | - | --- | --- |  | ---- | -C- | ---- | --- | --T | -- | -- |  | -- | A-- | -- | -- | -- | -W | --- | A-- |  |  |  |  |
| MX390 MX376 |  | --- | -A- | -A |  |  |  |  | -C- |  |  | --T |  |  |  |  |  |  |  |  |  |  | A-- |  |  |  |  |
| MX376 MX399 |  |  |  |  |  |  | ---- | -- | тСт | ---- | --G |  |  |  |  | -GR | -T- |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MX399 } \\ & \text { MX370 } \end{aligned}$ | ---- | ---- | -A- | --- | ---- | --A | ---- | ---- | -C- | ---- | --G |  | A-- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX384 | --- |  |  |  |  | --- | --A | --- | -C- | --- | C |  | --- | -- |  | -GC |  |  |  |  |  |  |  |  |  |  |  |
| MX230 | --- |  |  |  |  |  |  | G-- | -C- | T-- | --- | -T | --- | A-- |  |  |  |  | A-- |  |  |  |  | A-- |  |  |  |
| MX355 |  |  |  |  |  |  |  | -- | T | --- | --- | --T | -- |  |  |  |  |  |  |  |  |  | A-- |  |  |  |  |
| MX463 | --- |  |  |  |  |  |  | -- | C- |  |  |  |  |  |  | -R- | -C | --- |  |  | R-- |  |  |  |  |  |  |
| MX381 | --- | -G | --- | --- | -- | --- | --- | G-G | AA- | --- | --- | --T | --- | -- | - | --- | - | --- | --- | --- | --G | --- | - |  |  |  | A |
| MX439 | --- | -- | -A- | --A | --- | - | --A | --- | GC- | --- | --- | --T | - | - | --- | --- | -- | G-G | --- | --- | --- | --- | A- | --- |  |  |  |
| MX494 MX110 | --- | -- | -A- | --A | --- | - | --A | --- | GC- | --- | --- | --T | - | --- | --- | --- | A-- | --G | --- | --- | -- | --- | A- | --- |  |  |  |
| MX110 | --- | --- |  | --- | --- | --- | -T- | C-- | -C- | --- | --- | --T | --- | --- | -- | --- | --- | --- | --- | --- | -- | --- | --- | -- | -- |  |  |
| MX545 | --- | - |  | --- | --- | --- | --- | --- | -A- | --- | --- | --T | --- | --- | --- | -C- | --- | --- | --- | --- | --G | --- | --- | --- | -- |  |  |
| MX433 | --- |  |  | --- | - | -- | -- | --- | -A- | --- | --- | --T | --- | - | - | -C- | --- | -- | --- | --- |  | -- | -- | - |  |  |  |
| MX398 |  |  |  |  |  |  |  | --- | -A- |  | -- | --T | --- | -G |  | -C- | -- | - |  |  |  |  |  |  |  |  |  |
| MX057 |  |  |  |  |  |  |  |  | -CA |  |  |  |  |  | -C | -G- |  | C |  |  |  |  |  |  |  |  |  |
| MX210 |  | --- | - A - |  |  |  |  | - | -AA | G-- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MX540 } \\ & \text { MX296 } \end{aligned}$ | ---- | --- | -A- |  |  |  |  | - | AC- |  | --C | --Y |  |  |  |  | -T- |  |  |  |  | --R |  |  |  |  |  |
| MX459 | -- |  |  |  |  |  |  | -CG | -C- | --G |  |  |  | - |  | --G | -т- |  |  |  |  |  |  |  |  |  |  |
| MX071 | --- |  |  |  |  |  |  | -- | тС- | --G |  |  | -- | -G | --C |  | -т- | C- |  |  |  |  |  |  |  |  |  |
| MX464 |  |  |  |  |  |  |  |  |  |  |  | --T |  |  |  |  |  |  |  |  |  |  | R-- |  |  |  |  |
| MX385 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX450 | --- | -- |  |  | -- | - |  | G-- | - |  |  |  |  |  |  |  |  |  |  |  |  |  | -- |  |  | --C |  |
| MX354 | --- | - |  | --- | -- | -- | -- | G-- | -C- |  |  |  |  |  |  |  |  | -- | -A |  |  |  | - |  |  | - |  |
| MX553 | --- | -- | -- | --- | - | --- | --R | --- | -C- | --- | -- | -- | -- | - |  | -- | - | --- | -- |  |  |  | -- | -- |  |  |  |
| MX469 | --- | -- |  | - | --- | --- | --- | -- | -C- | --- | --- | --- | --- | --G | T-- | -- | --- | -C- | --- | --- | --- | --- | --- | --- | -- |  |  |
| MX546 | --- | --- | - | --A | --- | --- | - | G-- | -C- | --- | --- | --- | --- | --G | Y-K | --- | --- | --- | --- | --- | --- | --- | --- | --- | -- |  |  |
| MX086 | --- | --- |  | --- | --- | --- | - | G-- | -C- | --- | --- | --- | --Y | -- | --- | --- | A-- | --- | --- | --- | --- | --- | A- | --- | -- |  |  |
| MX422 | --- | --- |  | --- | --- | -- | - | G-- | -C- | -- | --- | -- | --- | -- | - | -- | A-- | --- | -- | --- | -- | -- | A-- | -- | -- |  |  |
| MX554 MX476 |  | ---- |  | ---- | --- | -- | - | G-- | ACA | G-- | -- |  | --- | -- | T-- |  | --- | G-- |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { MX476 } \\ & \text { MX327 } \end{aligned}$ | --- | --- |  |  |  |  | --- | G-- | -C- |  |  |  |  |  |  |  |  | G-- |  |  |  |  |  |  |  |  |  |
| CONS_D | --- |  |  |  |  |  | --A | --- |  |  |  |  |  |  |  |  |  |  | -- |  |  |  |  |  |  |  |  |
| MX172 |  |  |  |  |  |  | --- | G-G |  |  |  | --Y | -Y | -- |  | -- |  | -- | - | --- | -R |  |  |  |  |  |  |
| CONS_F1 |  |  | -A- |  |  |  | C | --- |  |  |  | -T |  | - | - | --G | - | -- |  |  | -G |  |  |  |  | -G |  |
| CONS_F2 |  |  |  |  |  |  | - | --- | - |  |  | --T | --- | - | --A | --G | --- | -- |  |  |  |  |  |  |  | G |  |
| CONS_H |  |  |  |  | -- | G | --A | G-- | GC- | --- | -- |  | --- | -- | A-A | --G | - | -- |  |  |  |  |  |  |  |  |  |
| CONS_A2 |  |  |  | --A | -- |  | --- | --- | GCT | --- | --- | -T | -- | -- | A-A | -GG | --C |  |  |  |  |  |  |  |  |  |  |
| CONS_C | --- | --- | -- |  | -- |  | - | --- | -T | --- | --- | --T | -- | - | A-A | --G | --- | -- | -- |  | - |  | - |  |  |  |  |
| CONS_A1 | --G | --- | -A- | - | --- | -- | --- | -- | --T | --- | --- | --T | -- | - | A-A | --G | -- | --- |  |  |  |  |  |  |  |  |  |
| CONS_G | --- | --- |  | --- | -- | -- | --A | -- | --T | -- | -- | --T | A-- | -- | A-A | --G | -- | -- | -G | --- | -- | -- | -- |  |  |  |  |
| MX460 | - | - | -- | --A | --- | -- | -- | --- | --T | --- | -- | --T | --- | --- | A-A | -GG | --C | --G | - | - | --- | --- | --- | -- |  |  |  |
| CONS_O | , | v | -A- | G-A | --- | A-- | --A | G-G | -CA | G-- |  | --A | GA- | -- | AGG | G-- | -TA | C-G | --A | -- | -- | --G | --G |  |  | -T |  |
|  |  |  |  |  |  |  | Q |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Residue | 55 |  |  |  |  | 60 |  |  |  |  |  |  |  |  |  | 70 |  |  |  |  |  |  |  |  |  | 80 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & 60 \text { 's loc } \\ & 66-\mathrm{H} \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

SURe v1.0 nucleotide sequence unanimity alignments for HIV-1 Protease encoding region (last modified Feb 13, 2019. v5) Viral and Human Genomics Laboratory, Facultad de Medicina UASLP (http://midasmap.uaslp.mx/suretool/). Ave. Venustiano Carranza \#2405 Col. Filtros Lomas CP 78210 San Luis Potosí, SLP. Mexico

| Base | ${ }_{2}^{2496}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | ${ }_{\text {P }}^{2549}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HхB2 | GTC | AAC | Ata | АтT | GGA | AGA | AAT | CTG | TTG | АСт | CAG | Att | GGT | TGC | АСт | тTA | AAT | T |
| CONS_B | --- |  |  |  |  |  | --- | --- | --- | --- | --- | --- | --- |  |  |  |  |  |
| MX207 | --- |  | --- | --- | --- | --- | --C | --- | --- | --- | --- | C-- | --- | -- |  |  |  |  |
| MX066 | --- | --- | --- | --- | --- | --- | --C | --- | --- | --- | --- | C- | --- | --- |  |  | --- |  |
| MX470 | --- |  | --- |  |  | -- | -- | --- | --- | --- | --- | C-- | --G | --Y |  |  |  | -Y |
| MX474 | --- |  | --- |  |  |  |  | --- | --A | --- | --- | C- | --- |  |  |  |  |  |
| MX125 |  |  | --- |  |  |  |  | --- | --A | --- | -- | C- |  |  |  |  |  |  |
| MX527 |  | --- | --- |  |  |  |  |  |  | --- | --R | C- | --K |  |  |  |  |  |
| MX050 | --- | --T | --- |  |  |  |  | T-- | --A | --- |  |  |  |  |  |  |  |  |
| MX395 | --T | --- | --- |  |  |  |  | --- | --A | --- |  | --- |  |  |  |  |  |  |
| MX352 | --T |  |  |  |  |  |  | --- | --A | --- |  |  |  |  |  |  |  |  |
| MX473 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX401 | --T |  |  |  |  |  |  | --A |  |  |  |  |  |  |  |  |  |  |
| MX160 | A-- |  |  |  |  |  |  | - |  |  |  |  | -C | -T |  |  |  |  |
| MX350 |  |  |  |  |  | G |  |  |  | - | - | C-- |  |  |  |  |  |  |
| MX324 |  | T |  |  |  |  |  |  |  | - | --- | C-- | --C | --T |  | C-- |  |  |
| MX313 |  |  |  |  |  |  | -- |  | -- | --- | --A | C-- | --C | -- |  |  |  |  |
| MX542 |  |  | --- | --- |  | --- |  | --- | --- | --- | --- |  |  |  |  |  |  |  |
| MX390 | --- |  | --- | --- | -- | --- | -- | --- | -- | --- | -- | C-- | --- | --- |  |  |  |  |
| MX376 | - | --- | --- | --- | -- | --- | - | --- | - | --- | -- | C-- | --- | -- |  |  |  |  |
| MX399 | --A | --- | --- | --- |  | - |  | --- | --- | --- | -- | C-- | --- | -- |  |  |  |  |
| MX370 | --Y | --- | --- |  |  |  |  | --- | --- | --- | --- | C-- | -- | --- |  |  |  |  |
| MX384 |  |  |  |  |  |  |  |  |  |  | --- | C-- | -- | -T |  |  |  |  |
| MX230 | A-- | --- |  |  | A-- |  |  |  | -- |  | --- | C-- | --C | --- |  | C-- |  |  |
| MX355 |  |  |  |  |  |  |  |  | --- | --- | --- | C-- |  |  |  |  |  |  |
| MX463 | --- |  |  |  |  | --- | -- | --- | -A | --- | --- | C-- | --- |  |  |  |  |  |
| MX381 | --- |  |  |  |  | --- |  |  | --- | --- | --- | C-- | --- |  |  |  |  |  |
| MX439 | --- |  |  |  |  |  |  |  | --- | --- | --- | C-- | --- |  |  |  |  |  |
| MX494 |  |  |  |  |  |  |  |  | --- | --- | --- | C- | --- |  |  |  |  |  |
| MX110 |  |  |  |  |  | --- | C |  |  |  | -- | C- | - | -T |  |  |  |  |
| MX545 |  |  | --- |  |  |  |  | T-- | --- |  |  | C- | - | --T | -- | --- |  |  |
| MX4 43 MX398 |  |  |  |  |  | -- | C | T | -- |  |  | C- | - | --T | - | --- |  |  |
| MX398 MX057 | --- | -- | --- | -- |  | -- | -- | T-- | --- |  |  | C- | -- | --T |  | C-- |  |  |
| MX057 MX210 | --- | --- | --- | --- | -- | --- | --- | --- | --- |  | --- | C- | --- | --- |  |  |  |  |
| MX210 MX540 | --- | --- | --- | --- | -- | --- | --- | ---- | ---- | ---- | ---- | C- | ---- | --- |  | --- | - |  |
| MX540 MX296 | --- |  | --- | --- | -- | --- | -- | ---- | ---- | ---- | -- | C-- | --- | --- |  | -- | -- |  |
| $\begin{aligned} & \text { MX296 } \\ & \text { MX } 459 \end{aligned}$ | ---- | --- | --- | --- | -- | ---- | -- | ---- |  |  |  |  |  |  |  |  |  |  |
| MX071 | --- |  |  |  |  |  |  | --- | A-- | --- | --- | C-- | --R | --- |  | C-- |  |  |
| MX464 | --T | --T |  |  |  |  |  |  | --- | GTC | --- | C-- | --C | --- |  |  |  |  |
| MX385 | --T |  |  |  |  |  |  |  | -- | GT- | --- | C-- | --G | --- |  |  |  |  |
| MX450 |  |  |  |  |  |  |  |  | --- | GT- | --- | C-- | --G | --T | - |  |  |  |
| MX354 | --- |  |  |  |  |  |  |  | --- | GT- | --- | C-- | --G | --T |  | -- | -- |  |
| MX553 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MX469 |  |  |  |  |  |  |  | T-- | -- |  | - |  | --C | T |  |  |  |  |
| MX546 |  |  |  |  |  | G |  | T-- | --A | --- | -- | -- | --C |  |  |  |  |  |
| MX086 MX422 |  |  |  |  |  |  |  | -A | --- |  | -- | -- | --C | --T |  |  |  |  |
| MX422 MX554 | --- | --- | --- |  |  | - |  | --R | --- | --- | --- | --- | --M | --Y |  |  |  |  |
| MX554 MX476 |  | -- | --- | --- |  | - |  | --- | --- | --- | --- | -- | --A | -- |  |  |  |  |
| MX476 MX327 | --- |  | --- | -- | -- | --- | -- | --- | --- | --- | -- | --- | --A | --- | -- | --- | -- |  |
| MX327 | --- |  | --- | -- | -- | --- | -- | -- | -- | --- | -- | -- | --A | --- | - | --- | -- |  |
|  | --- | --- | --- | --- | -- | --- | --- | т-- | - | --C | --- | --- |  |  |  | -- | -- |  |
| $\begin{aligned} & \text { MX17 } \overline{2} \\ & \text { CONS_F1 } \end{aligned}$ | ---- |  | ---- |  |  |  | -Y | A-- | --- | --- | ---- |  |  | --Y |  |  |  |  |
| CONS_F2 |  | --- | --- |  |  | --- | - | A-- | --- | --- | --- | --- | --- | --- |  |  |  |  |
| CONS_H | --- | - |  |  | -- | -G | -- | A-A | --- | --- | --A | --- | --- | --- | -C | --- |  |  |
| CONS_A2 | --- |  |  |  |  |  |  | A- | --- | GT- | --- | C-- |  | --T |  | -- |  |  |
| CONS_C | --- |  | --- |  |  | -- | -- | A-- | --- | --- | --- | C | --A | --- | --A | C- | --- |  |
| CONS_A1 | --- |  |  |  |  |  |  | A-- | --- | --C | --- | --- |  | --T |  | --- | --- | --C |
| CONS_G | A-- |  | --- | --- | -G | -- |  | A- |  | -- | -- | --- |  | --T |  | -- |  |  |
| MX460 | A-A | - | - | --- | --G | C-G | --- | A-- | -- | --- | --- |  |  | --T |  |  |  |  |
| CONS_O | --T | --T | --T |  |  |  |  | A-A | -- | --A | GGA |  |  |  |  |  |  | C |
| Residue |  | N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 82 |  |  |  |  |  |  |  | 90 |  |  |  |  |  |  |  |  | 99 |
|  |  |  |  |  | $\begin{aligned} & \text {-termi } \\ & \text { (G86 } \end{aligned}$ | $\begin{aligned} & \text { inal tria } \\ & - \text { N88) } \end{aligned}$ |  |  |  |  |  |  | C-tern regi | $\begin{aligned} & \text { minal d } \\ & \text { ion (TO } \end{aligned}$ | dimeri | $\begin{aligned} & \text { izatiol } \\ & \text { F99) } \end{aligned}$ |  |  |

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