



UKUPHANDA UMAHLUKO PHAKATHI KOBUDE BE-HIV-1 KULANDELELWANO OLUSUKA KWI-PLASMA KUNYE NABEMI BENTSHOLONGWANE ENGASEBENZIYO KUXINZELELO LOBUGCISA BABAMKELI BOQHAQHO-FAKELO EMZANTSI AFRIKA



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1. I-Abstract

Ukuqonda ngokuphangaleleyo ukohluka kofuzo phakathi kolandelelwano lwe-HIV-1 kusuka kwizigulane ezikunyangolucinezelayo lwe-antiretroviral (i-ART) kubalulekile kwiinzame zokunyanganga i-HIV kunye nokwandisa ulwazi koovimba be-HIV-1 abagcina i-viremia ekwinqanaba elisezantsi phantsi konyango olusebenzayo. Kuye kwaboniswa ukuba ukwakheka kofuzo lwe-HIV efunyenwe kwi-plasma, eqwalaselwe njengegqibo kuveliswa, inokwahluka ngokwemfuzo kwiintsholongwane zangaphambili ezihlanganisiweyo zithathwe kwiiseli zemononyukliya kwigazi langaphandle (peripheral blood mononuclear cells) (i-PBMC), ezinokuthi zigcine iintsholongwane ezikwazi ukubuya. Njengeziphumo, ukufunda iimpawu kunye nokwakheka kofuzo lwe-plasma kunye nokulandelelana kwentsholongwane yeselula ngaxelishanye inganikeza inkcukacha enxabiso kwiyantluko yofuzo lwe-HIV-1 kwi-vivo kunye negalelo labo kugcino lovimba lwentsholongwane. Ukusebenzisa i-illumina kwisizukulwana esilandelayo, Sihlalutya ubudlelwane befuzo Phakathi kwemvulophu V3 ye-HIV-1 kulandelelwano oluvela kwi-plasma RNA kunye i-DNA yeselula efunyenwe kubamkeli be-ART abacinezelwe kuxhaxho fakelo lwezintso (i-n=26). Sifumene idatha equka i-6,386,288 yolandelelwano lobude. Ukulandela ukuhlanganiswa kwedatha kunye nokususwa kolandelelwano olujikelezayo oluhambelana ne-inoculum yabaxhasi, Ifilogeni yokudibanisa umelwane kunye nohlalutyo lomgama okubini kwenziwa kulandelelwano lwe-1129. Abantu abahlanu bebe nolandelelwano olukhoyo lwe-DNA kunye ne-RNA, abanye abane babo bebe nolandelelwano olufanayo lwe-DNA kunye ne-RNA ngamaxesha ahlukeneyo. Umgama ophakathi obhalisweyo phakathi kwe-RNA kunye ne-DNA yamaqela exesha ahlukeneyo ukusuka kwi-0.015 ukuya kwi-0.024, noxa ulandelelwano lwe-DNA luveze iiyantlukwano ngokwentelekiso enye kunye nomgama ophakathi koluhlu olusuka ku-0.003 ukuya ku-0.005. Lo msebenzi uza kuqhubeka phambili wenze uphando olunzulu lovimba we-HIV ngokuvavanya ulandelelwano lwentsholongwane kwimithombo eyahlukeneyo, oku kubandakanya iintsholongwane ezikwaziyo ukuguqulela.

2. Imvelaphi

Ukwahlukana kwemfuzo kuye kwaxelwa phakathi kokudityaniswa kweentsholongwanezokuqala kwiiseli zemononyukliya kwigazi langaphandle (i-PBMC) enokuthi igcine iintsholongwane ezikwaziyo ukubuya kunye neentsholongwane zeplasma ezithathwa njengezisando kuveliswa^{1'2}. Ukuqonda banzi kwethu ngendlela oovimba be-HIV-1 zigcinwa phantsi kwe-ART, safunda ngaxeshalinye ezi ntsholongwane zimbini zisuka kwizigulane ezosulelwe yi-HIV ezibhalise kwisifundo se-HIV+ ukuya kuphononongo lofakelo lwezintso. Esi Sifundo siza kuphonononga inani labemi ababalulekileyo abasoloko bengamelwangwa kuphando lonyango.

4. Uhlalutyo lwe-data

Kubathathi-nxaxheba abali-26 kwesi Sifundo, abahlanu bebene-DNA kunye ne-RNA ulandelelwano olukhoyo kunye nabathathi-nxaxheba abane (i-KID 114, i-KIDI 19, i-KID141 kunye ne-KID150) ukuba nokufana kwe-DNA kunye nolandelelwano lwe-RNA ngamaxesha ahlukeneyo.

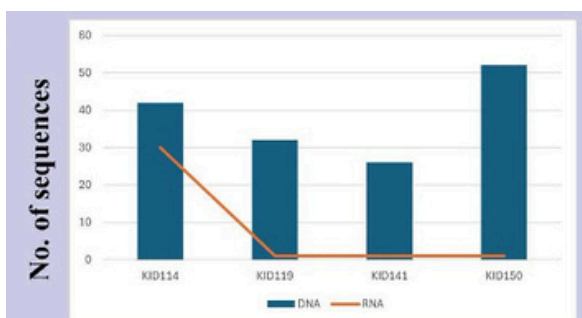


Fig 2. Inani lolandelelwano lwentsholongwane kubathathi-nxaxheba abanokufana kwe-DNA kunye nolandelelwano lwe-RNA

3. Indlela yophando

Abathathi nxaxheba kwisifundo n=26 i-RNA
plazima ye-HIV-1 kunye i-DNA evela kwi-ART icinezele abamkeli bezintso zoqhaqho fakelo.

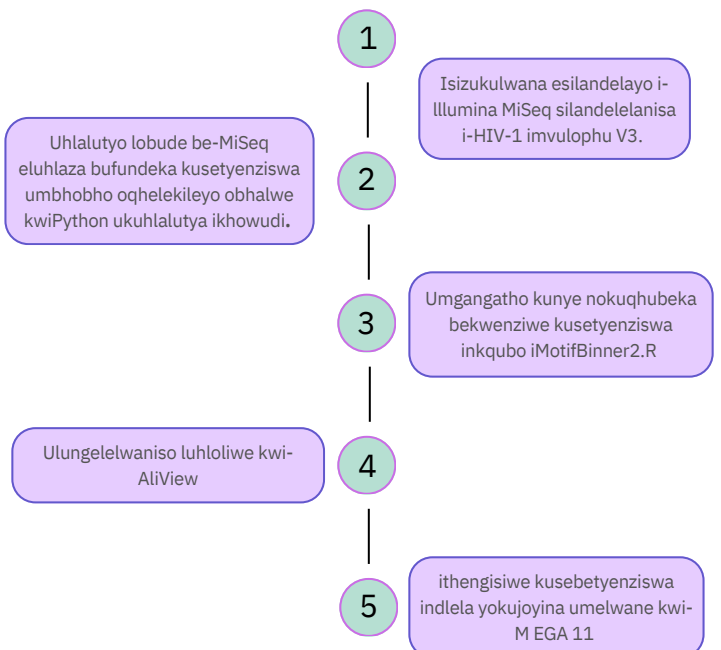
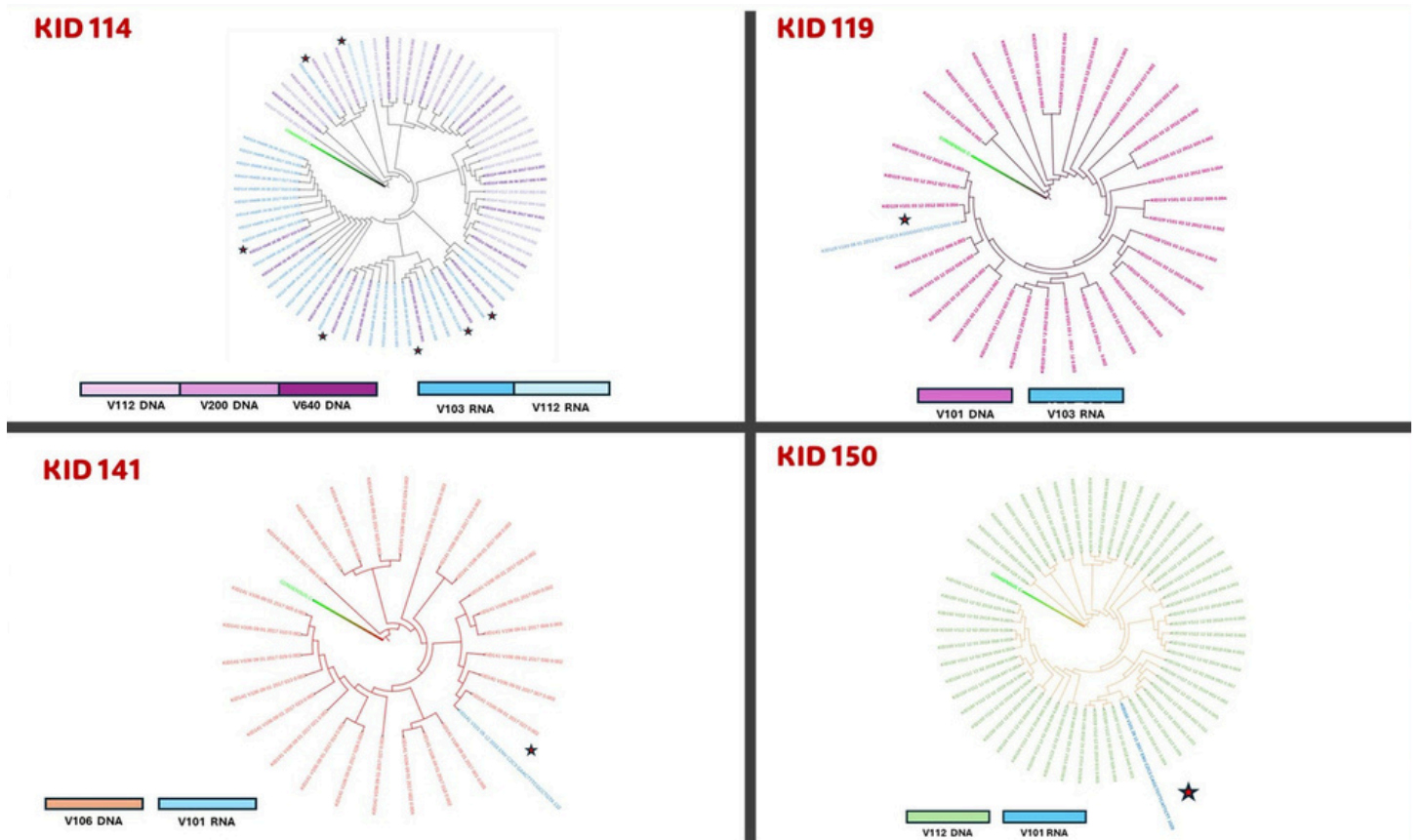


Fig 1. Isishwankathelo sendlela yokusebenza kophononongo

5. Iziphumo



Figa yesi-3. Ubuudlelwano befilojenetikhi ye-Plasma kunye nentsholongwane efunaneka kwi-PBMC. Umthi wokudibanisa umelwane weMvulophu V3 ulandelelwano lwakhiwe kwi-MEGAL 1 kusetyenziswa indlela ye-p-distance.

Iplasma RNA kunye neselula ye-DNA zifakwe umbala. Imvumelwano yohlobo olusezantsi (subtype) C lubonakaliswe luhlaza ngapha kwabathathi nxaxheba. Ukuthelekisa i-plasma ye-RNA kunye neentsholongwane ze-DNA zeselula ziboniswa ngamaxesha okutyelela aboniswe ngokulandelelana (VIOI=iiveki enye emva koqhaqho-fakelo; V103= iiveki ezintathu emva koqhaqho-fakelo; V106= iiveki ezithandathu emva koqhaqho-fakelo; V112 = iiveki ezilishumi elinye emva koqhaqho-fakelo; V200 = Unyaka omnye emva koqhaqho-fakelo; V640 (~Iminyaka esithandathu emva koqhaqho-fakelo).

6. Inyathelo elilandelayo

Uphando oluthe vetshe ngeesampuli zoqhaqho lofakelo lwezintso lobude be-HIV+ ngokuqala kuphononongwe uvimba wentsholongwane efihlakeleyo (i-LVR) kuqondwa ubukhulu bobuchule boguqulo kusetyenziswa uvavanyo ivayirali protheyini sipoti (i-VIP-SPOT).

Uvavanyo 3'4 olutsha oluphuhlise ngokunonophela nangempumelelo lwenzelwe ukuqwalasela iqhezu le-T zeeseli ze-CD4+ ezine-HIV-1 efihlakeleyo enokuthi iphinde isebenze xa ivuselelwa. Kulandela ubungakanani bemveliso yentsholongwane, Iimfano zofuzo phakathi kwe-LVR ekwazi ukuguqulela ulandelelwano kunye nokujikeleza kwe-plasma kokubakho kwentsholongwane yezinga eliphantsi egazini ngaxesha linye kuya kumiselwa.

7. Imithombo yolwazi

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