SUPPLEMENTARY TABLES

Supplementary Table 1. **Antiretroviral drugs and HMG-CoA reductase inhibitor use in HIV+ subjects.**

	HIV + (n 71)	HIV + men (n 49)	HIV + women (n 22)	P value
NRTI	67 (94.4 %)	46 (93.9%)	21 (95.5%)	0.79
NNRTI	37 (52.1 %)	26 (53.1%)	11 (50%)	0.81
PI	18 (25.4 %)	15 (30.6%)	3 (13.6%)	0.13
INI	32 (45.1%)	19 (38.8%)	13 (59.1%)	0.11
Thymidine analogue (d4t/AZT)	5 (7%)	3 (6.1 %)	2 (9.1%)	0.65
HMG-CoA reductase inhibitor	26 (36.6%)	20 (40.8 %)	6 (27.3%)	0.29
PI + HMG-CoA reductase inhibitor	12 (16.9%)	11 (22.4%)	1 (4.5%)	0.06

Legend: Abbreviations: NRTI, nucleoside reverse-transcriptase inhibitor; NNRTI, nonnucleoside reverse-transcriptase inhibitor; PI, protease inhibitor; INI, Integrase inhibitor; HMG-CoA, hydroxymethylglutaryl-coenzyme.*Chi-square test or Fisher exact test.

Supplementary Table 2. **Comparison of muscle morphometry between HIV positive and negative participants.**

CT Dataset	HIV+ (n=38)	HIV- (n=25)	P-value*
Fat CSA (mm^2)	5770 (4052-7739)	6649 (4833-9764)	0.227
Low Density Muscle (LDM) CSA (mm^2)	2993 (2299-3830)	2972 (2133-3521)	0.491
High Density Muscle (HDM) CSA (mm^2)	9248 (7982-10436)	8543 (7368-9949)	0.279
Total CSA (mm^2)	19544 (17624-21808)	21752 (17195-23627)	0.474
Anterior LDM CSA (mm^2)	1390 (1041-1744)	1377 (1141-1689)	0.736
Anterior HDM CSA (mm^2)	5332 (4443-6308)	4914 (4141-6157)	0.474
Anterior Total CSA (mm^2)	7091 (6495-8712)	6813 (5750-8233)	0.325

Legend: Muscle morphometry using CT scans of mid-thigh. CT scan images were analyzed using ImageJ software. Regions of interest were traced for CSA of selected muscle, subcutaneous fat, and total area. The density for fat, low density muscle (LDM), high density (HDM) and total CSA were measured by setting the threshold Hounsfield Units (HU) as follows, -190 to -30, 0 to 34, 35 to 100, and -190 to 100, respectively. Values are median and IQR. * The Mann-Whitney U test was used to compare the 2 groups.

Supplementary Table 3. **Associations between internalized nuclei and biomarkers in subgroup receiving muscle biopsy.**

Biopsy subgroup (n = 54)	Ln(Internal Nuclei)	
	Correlation Coefficients*	p-value
T-cell activation		
Ln(CD4)	-0·058	0·680
Ln(CD8)	0·340	0·012
Ln(CD8$^+$HLADR$^+$)	0·396	0·003
Ln(CD8$^+$HLADR$^+$ CD38$^+$)	0·245	0·075
Ln(CD8$^+$CD38$^+$)	0·108	0·436
Ln(CD45)^	0·489	0·0004
Inflammation		
Ln(CRP)	0·060	0·665
Ln(IL6)	0·156	0·262
Ln(sCD14)	-0·126	0·364
Ln(sCD163)	0·144	0·298
HIV+ biopsy subgroup (n = 22)	Ln(Internal Nuclei)	
	Linear regression Coefficient*	p-value
Ln(Years since HIV diagnosis)	0·635	0·011
Ln(Years since HIV diagnosis), age adjusted	0·705	0·007

Legend: Associations between internalized myonuclei and biomarkers. Internalized nuclei correlations with T-cell activation markers and inflammatory biomarkers, and linear regression of internalized nuclei with years since HIV diagnosis with/without age adjustment. Shown are Pearson Correlations of natural log (internalized myonuclei) and natural log-transformed T-cell activation and inflammation markers and years since HIV diagnosis. *Pearson correlation coefficients. ^Data available for 49 participants.

Supplementary Table 4. **Univariate logistic regression models for HIV outcome.**

DOMAIN	VARIABLE*	Odds Ratio (95% CI)	P-value	C-statistics
Inflammation	CRP (n169)	0·69 (0·50-0·95)	0·025	0·61
	IL6 (n 169)	0·98 (0·72-1·33)	0·884	0·53
	sCD14 (n 169)	0·60 (0·43-0·85)	0·003	0·62
	sCD163 (n 169)	0·55 (0·39-0·77)	0·001	0·66
Immune Activation	HLADRCD38 (n 167)	0·34 (0·22-0·51)	<0·001	0·76
	CD38 (n 167)	0·66 (0·47-0·92)	0·015	0·59
	HLADR (n 167)	0·32 (0·21-0·49)	<0·001	0·77

Legend: Variables are log-transformed and standardized to normal distribution.

Supplementary Table 5. **Multivariate logistic regression models for HIV outcome in biopsy subset (n=53).**

Variable	Model 1		Model 2		Model 3		Model 4	
	Odds Ratio (95% CI)	**P-value**	**Odds Ratio (95% CI)**	**P-value**	**Odds Ratio (95% CI)**	**P-value**	**Odds Ratio (95% CI)**	**P-value**
CD8+HLADR+	0·20 (0·07-0·53)	0·001	0·28 (0·10-0·74)	0·010	0·19(0·06-0·57)	0·003	0·37 (0·12-1·12)	0·077
sCD163	0·58 (0·28-1·21)	0·148	0·57 (0·26-1·24)	0·155	0·65 (0·27-1·56)	0·334	0·96(0·34-2·7)	0·932
VACS	N/A	N/A	N/A	N/A	1·74 (0·78-3·89)	0·177	4·18 (1·23-14·25)	0·022
FACIT	N/A	N/A	N/A	N/A	0·34 (0·12-0·93)	0·036	0·15 (0·03-0·81)	0·027
Internal nuclei	N/A	N/A	3·32 (1·17-9.43)	0·024	N/A	N/A	8·70 (1·77-42·9)	0·008

Legend: Variables are log-transformed and standardized to normal distribution. Model 1: C-statistics = 0.85, optimism-adjusted C-statistics=0.84. Model 2: C-statistics = 0.88, optimism-adjusted C-statistics=0.85. Model 3: C-statistics = 0.88, optimism-adjusted C-statistics = 0.84. Model 4: C-statistics = 0.95, optimism-adjusted C-statistics = 0.91.

Supplementary Table 6. **Multivariate logistic regression models predicting HIV outcome in biopsy subset (N=53).**

Variable	Model 1		Model 2		Model 3		Model 4	
	Odds Ratio (95% CI)	P-value	Odds Ratio (95% CI)	P-value	Odds Ratio (95% CI)	P-value	Odds Ratio (95% CI)	P-value
Inflammatory score	2·83 (1·20-6·65)	0·017	2·25 (0·89-5·68)	0·087	2·19 (·95-5·05)	0·065	1·13 (0·42-3·01)	0·811
Immune activation score	3·35 (1·48-7·61)	0·004	3·36 (1·27-8·84)	0·014	3·17(1·33-7·57)	0·009	2·40 (0·85-6·77)	0·099
VACS	N/A	N/A	N/A	N/A	1·71 (0·81-3·58)	0·157	4·14 (1·21-14·16)	0·024
FACIT	N/A	N/A	N/A	N/A	0·54 (0·21-1·34)	0·182	·23 (0·04-1·24)	0·087
Internalized nuclei	N/A	N/A	3·14 (1·25-7·85)	0·015	N/A	N/A	7·92 (1·61-38·9)	0·011

Legend: Variables are log-transformed and standardized to normal distribution. Model 1: C-statistics = 0.84, optimism-adjusted C-statistics = 0.83. Model 2: C-statistics = 0.90, optimism-adjusted C-statistics = 0.87. Model 3: C-statistics = 0.86, optimism-adjusted C-statistics= 0.82. Model 4: C-statistics= 0.94, optimism-adjusted C-statistics = 0.90.