

Supplemental Material

Serum cytokine biosignatures for identification of tuberculosis among HIV-positive inpatients

SUPPLEMENTARY TABLES

Supplementary Table 1: Diagnostic efficiency of the individual cytokine in diagnosing TB in the first cohort.

Parameter	IL-2	IL-4	IL-6	IL-10	TNF- α	IFN- γ
AUC	0.70 (0.63 to 0.77)	0.61 (0.54 to 0.68)	0.80 (0.75 to 0.86)	0.79 (0.73 to 0.85)	0.75 (0.68 to 0.82)	0.89 (0.84 to 0.93)
Accuracy	68% (61% to 74%)	53% (47% to 60%)	75% (69% to 80%)	76% (70% to 82%)	75% (69% to 80%)	85% (80% to 89%)
Specificity	63% (54% to 71%)	34% (26% to 42%)	74% (67% to 81%)	86% (79% to 91%)	83% (76% to 89%)	86% (80% to 91%)
Sensitivity	76% (66% to 84%)	85% (76% to 91%)	76% (66% to 84%)	62% (51% to 72%)	60% (50% to 71%)	82% (73% to 90%)
NPV	81% (72% to 87%)	78% (66% to 87%)	83% (76% to 89%)	78% (71% to 84%)	77% (70% to 83%)	89% (82% to 93%)
PPV	56% (47% to 65%)	45% (37% to 52%)	65% (55% to 74%)	73% (61% to 82%)	70% (58% to 79%)	79% (69% to 87%)

Data in parentheses represent 95% CI. AUC, area under the ROC curve; PPV, positive predictive value; NPV, negative predictive value.

Supplementary Table 2: Comparison of different prediction models in diagnosing TB in the first cohort.

Parameter	SVM		MLP		LR	
	Training set	Validation set	Training set	Validation set	Training set	Validation set
AUC	0.92 (0.88 to 0.96)	0.85 (0.72 to 0.97)	0.92 (0.87 to 0.96)	0.82 (0.68 to 0.95)	0.92 (0.88 to 0.96)	0.86 (0.74 to 0.98)
Accuracy	87% (82% to 92%)	83% (69% to 92%)	87% (81% to 91%)	81% (67% to 91%)	87% (81% to 91%)	83% (69% to 92%)
Specificity	95% (89% to 98%)	77% (58% to 90%)	97% (93% to 96%)	77% (58% to 90%)	95% (89% to 98%)	77% (58% to 90%)
Sensitivity	76% (64% to 85%)	94% (71% to 100%)	70% (59% to 87%)	88% (64% to 99%)	74% (63% to 84%)	94% (71% to 100%)
NPV	86% (79% to 91%)	96% (79% to 100%)	84% (76% to 89%)	92% (74% to 99%)	85% (78% to 91%)	96% (79% to 100%)
PPV	90% (80% to 96%)	70% (47% to 87%)	95% (85% to 99%)	68% (45% to 86%)	90% (80% to 96%)	70% (47% to 87%)

Data in parentheses represent 95% CI. SVM, binary support vector machine; MLP, multilayer perceptron; LR, logistic regression;

AUC, area under the ROC curve; PPV, positive predictive value; NPV, negative predictive value.