**Supplementary Tables**

Supplementary Table 1: Clinical symptoms, hematological as well as biochemical parameters of healthy subject and VL patients before and after anti-leishmanial therapy. n: number of sample, SGOT: Serum glutamic oxaloacetic transaminase, SGPT: Serum glutamic pyruvic transaminase.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study groups | Healthy (n=13) | | | Visceral Leishmaniasis (VL) Patients (n=13) | | | | | |
| Before treatment | | | After treatment | | |
|  | Male  (n= 8) | Female (n=5) | Male  (n= 9) | | Female (n=4) | Male  (n= 9) | | Female (n=4) |
| Age | 25-45 | 25-45 | 25-45 | | 25-45 | 25-45 | | 25-45 |
| Weight (Kg) | 55-75 | 45-65 | 52-69 | | 42.5-62 | 53.1-72.6 | | 42.6-63 |
| Body Mass  Index (Kg/m2) | 23.12  ± 2.91 | 18.8  ± 1.75 | 14.46  ±2.27 | | 12.89  ±2.02 | 19.90  ±1.96 | | 15.51  ±1.77 |
| Body  Temperature (in ⁰F) | 97.5  ±0.5 | 97.5  ±0.45 | 100.56  ±1.892 | | 100.76  ±1.831 | 97.22  ±0.375 | | 97.4  ±0.35 |
| Hepatomegaly  (in cm) | 0 | 0 | 3.3  ±2.26 | | 2.8  ±1.76 | 0.7  ±0.948 | | 0.59  ±0.827 |
| Splenomegaly  (in cm) | 0 | 0 | 7.8  ±3.39 | | 6.9  ±2.99 | 0.8  ±1.135 | | 0.71  ±1.035 |
| Haemoglobins  (g/dl) | 12.76  ±0.955 | 10.98  ±0.865 | 7  ±1.44 | | 5.8  ±1.84 | 9.31  ±0.896 | | 8.1  ±0.692 |
| WBC (white blood cells) (per mm2) | 6760  ±1581.37 | 6978  ±1248.56 | 2650  ±949.10 | | 2715  ±1045.10 | 5309  ±486.85 | | 5509  ±687.15 |
| Lymphocytes (%) | 32.46  ±5.73 | 33.81  ± 6.9 | 43.5  ±8.195 | | 45.8  ± 6.5 | 27.6  ±2.547 | | 29.5  ±2.74 |
| SGOT (U/L) | 8  ±4.358 | 7.743  ±3.745 | 36  ±16.013 | | 31  ±13.935 | 28.4  ±8.60 | | 21.4  ±7.122 |
| SGPT (U/L) | 8  ±1.581 | 7.4  ±1.437 | 31  ±13.730 | | 29.96  ±14.533 | 23  ±9.281 | | 21.7  ±7.836 |
| Blood Urea (mg/dl) | 20.5  ±4.725 | 20  ±5.581 | 24.1  ±6.849 | | 23.6  ±7.581 | 20.31  ±11.834 | | 21  ±10.721 |
| Serum Creatinine (mg/dl) | 0.7  ±0.158 | 0.56  ±0.132 | 0.468  ±0.153 | | 0.442  ±0.144 | 0.49  ±0.154 | | 0.50  ±0.143 |
| Sodium (mEq/L) | 137  ±7.582 | 142  ±5.342 | 139.8  ±3.049 | | 140.3  ±4.836 | 136.6  ±5.253 | | 139  ±3.789 |
| Potassium (mEq/L) | 4.44  ±0.650 | 4.23  ±0.526 | 4.26  ±0.337 | | 3.9  ±0.454 | 4.77  ±0.934 | | 5  ±1.432 |

Supplementary table 2: HLA A0201 restricted 9 mer epitopes. Antigen specific cytotoxic T cell epitopes was predicted by SYFPEITHY using matrix-based algorithm. Peptide binders to MHC-I molecules from protein sequences or sequences alignment was predicted using RANKPEP which is a Position Specific Scoring Matrices (PSSMs) based bioinformatics tool. Immune Epitope Database (IEDB, a database which includes the tool that predicts the MHC class I and class II binding epitopes) was used to experimentally measure immune epitopes.

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| --- | --- | --- | --- | --- | --- | --- |
| **Peptide** | **Start Position** | **SYFPEITHY** | **RANKPEP** | **IEDB** | **Query Coverage** | **Identity** |
| S L A K L K D A V | 446 | 26 | 78.0 | 2.7 | 100 | 88 |
| L L I V V M D G L | 17 | 25 | 66.0 | 2.6 | 77 | 86 |
| A T I A G V E A V | 435 | 25 | 64.0 | 2.6 | 88 | 75 |
| K L K D A V D S I | 449 | 25 | 89.0 | 4.0 | 100 | 67 |
| A L K S G M Y D V | 408 | 24 | 88.0 | 2.3 | 100 | 67 |
| T L S P V P V F I | 497 | 22 | 80.0 | 1.7 | 77 | 86 |

Supplementary table 3: HLA DRB1 0401 restricted 15 mer epitopes. Immune Epitope Database (IEDB, a database which includes the tool that predicts the MHC class I and class II binding epitopes) was used to experimentally measure immune epitopes. Antigen specific cytotoxic T cell epitopes was predicted by SYFPEITHY using matrix-based algorithm. NETMHC II is a server, which predicts binding of peptides to HLA-DR using artificial neuron networks.

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| --- | --- | --- | --- | --- | --- | --- |
| Peptide | **Start**  **Position** | **IEDB** | **SYFPEITHI** | **NETMHC II** | **Query**  **Coverage** | **Identity** |
| LGAFTKEGSTLHLIG | 114 | 1.46 | 22 | SB (27.9) | 60 | 78 |
| SRRFRSVRAHGTAVG | 51 | 2.93 | 22 | WB(62) | 46 | 100 |
| CVNFRGDRVIEMTRA | 278 | 3.34 | 22 | WB(98.6) | 86 | 77 |
| YDAVHMASTPFMDAQ | 33 | 3.82 | 26 | WB(148.9) | 53 | 75 |
| TLHLIGLLSDGGVHS | 123 | 3.90 | 20 | WB(57.6) | 46 | 100 |