**Supplementary Table 1** All features included in the random forest model

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | Abbreviations | Full names | Methods |
| demographics |  | — |
| 1 | age | — | — |
| 2 | sex | — | — |
| 3 | height | — | — |
| 4 | weight | — | — |
| 5 | BMI | Body mass index | — |
| 6 | Ma | Marital status | — |
| 7 | Edu | Education years | — |
| 8 | Ethnicity | — | — |
| comorbidities |  |  |
| 9 | smoking | — | — |
| 10 | drinking | — | — |
| 11 | HYP | Hypertension | — |
| 12 | DM | Diabetes mellitus | — |
| 13 | CHD | Coronary heart disease | — |
| 14 | CB | Chronic bronchitis | — |
| 15 | Can | Cancer | — |
| 16 | Stroke | — | — |
| clinical data |  |  |
| 17 | breath | Respiration rate | — |
| 18 | tempp | Fever | — |
| 19 | consci | Consciousness disorder   | — |
| 20 | consciousness | Self-consciousness | — |
| 21 | heart | Heart rate | — |
| 22 | BPhigh | Systolic blood pressure | — |
| 23 | BPlow | Diastolic blood pressure | — |
| 24 | Glasgow Coma Scale score | — |
| Laboratory measures |  |  |
| 25 | GLOB | Globulin | Calculation |
| 26 | ABO | ABO blood type | Western blot |
| 27 | ADA | Adenosine deaminase | Automatic analyser |
| 28 | AFU | α-L-Fucosidase | Automatic analyser |
| 29 | ALB | Albumin | Bromocresol green on an automatic analyser |
| 30 | ALP | Alkaline phosphatase | Enzymatic, randox amp 37°C on an automatic analyser |
| 31 | ALT | Alanine aminotransferase | Enzymatic, on an automatic analyser |
| 32 | AMY | Blood α-amylase | Randox liquid stable pnpg7 37°C on an automatic analyser |
| 33 | AMY2 | Urine α-amylase | Randox liquid stable pnpg7 37°C on an automatic analyser |
| 34 | ANA | Antinuclear antibodies | Automatic specific protein analyzer |
| 35 | APTTs | Activated partial thromboplastin time | Automated hematology analyzer |
| 36 | AST | Aspartate aminotransferase | Enzymatic, tris buffer without p5p 37°C on an automatic analyser |
| 37 | Baso | Basophil count | Automated hematology analyzer |
| 38 | BILD2 | Direct bilirubin | Dichlorophenyldiazonium (dpd) |
| 39 | C3 | Complement C3 | Microplate fluorescence readers |
| 40 | C4 | Complement C4 | Microplate fluorescence readers |
| 41 | CA | Ca2+ ion concentration | Arsenazo iii on an automatic analyser |
| 42 | CHE | Cholinesterase  | Colorimetric butyrylthiocholine 37°C on an automatic analyser |
| 43 | CK | Creatine kinase | Ck-nac (ifcc) 37°C on an automatic analyser |
| 44 | CKMB | Creatine kinase-MB | Immunoturbidimetry |
| 45 | Cl | Cl- ion concentration | Ise method on an automatic analyser |
| 46 | CO2CP | Carbon dioxide combining power | Blood gas testing system |
| 47 | CO2L | Partial pressure of carbon dioxide | Blood gas testing system |
| 48 | CREA | Creatinine | Alkaline picrate no deproteinization on an automatic analyser |
| 49 | CRP | C-reaction protein | Automatic specific protein analyzer |
| 50 | CTNT | Cardiac troponin T | Immunoturbidimetry |
| 51 | Dimer | D-dimer | Automated blood coagulation analyzer |
| 52 | dsDNA | Anti-dsDNA antibodies | Western blot |
| 53 | dsELISA | Anti-ribosomal antibodies | Western blot |
| 54 | eGFR | Estimated glomerular filtration rate | Calculation |
| 55 | Eos | Eosinophil count | Automated hematology analyzer |
| 56 | ESR | Erythrocyte sedimentation rate | — |
| 57 | FDP | Fibrin degradation products | Automated blood coagulation analyzer |
| 58 | FIB | Fibrinogen | Automated blood coagulation analyzer |
| 59 | GGT |  γ-glutamyltranspeptidase | Gamma glutamyl-3-carboxy-4-nitroanilide (ifcc) 37°C on an automatic analyser |
| 60 | GLU | Glucose | Glucose oxidase on an automatic analyser |
| 61 | Gtrial | 1,3-β-D glucan assay | — |
| 62 | Hb | Hemoglobin | Automated hematology analyzer |
| 63 | HBDH | α-Hydroxybutyrate dehydrogenase | Immunoassay by commercially available kits |
| 64 | HBP | Heparin-binding protein | — |
| 65 | HCO3 | HCO3- ion concentration | Blood gas testing system |
| 66 | Hct | Hematocrit | Automated hematology analyzer |
| 67 | HDL | High-density lipoprotein | Direct clearance method on an automatic analyser |
| 68 | IBIL | Indirect bilirubin | Calculation |
| 69 | IgA | Immunoglobulin A | Microplate fluorescence readers |
| 70 | IgE | Immunoglobulin E | Microplate fluorescence readers |
| 71 | IgG | Immunoglobulin G | Microplate fluorescence readers |
| 72 | IgM | Immunoglobulin M | Microplate fluorescence readers |
| 73 | INR | International Normalized Ratio | Automated blood coagulation analyzer |
| 74 | K | K+ ion concentration | Ise method on an automatic analyser |
| 75 | LDH | Lactate dehydrogenase | L->p ifcc 37°c on an automatic analyser |
| 76 | LDH1 | Lactate dehydrogenase-1 | Immunoturbidimetry |
| 77 | LDL | Low-density lipoprotein | Direct clearance method on an automatic analyser |
| 78 | LIP | Lipase | Colorimetric 37°c on an automatic analyser |
| 79 | LymphE | Lymphocyte count | Automated hematology analyzer |
| 80 | MCH | Mean corpuscular hemoglobin | Automated hematology analyzer |
| 81 | MCHC | Mean corpuscular hemoglobin concentration | Automated hematology analyzer |
| 82 | MCV | Erythrocyte mean corpuscular volume | Automated hematology analyzer |
| 83 | MG | Mg+ ion concentration | Xylidyl blue  |
| 84 | MonoE | Monocyte count | Automated hematology analyzer |
| 85 | MPV | Mean platelet volume | Automated hematology analyzer |
| 86 | Na | Na+ ion concentration | Ise method on an automatic analyser |
| 87 | NeutE | Neutrophil count | Automated hematology analyzer |
| 88 | NRBC | Nucleated red blood cell count | Automated hematology analyzer |
| 89 | nRNPSm | Anti-nRNP/Sm antibodies | Immunoassay by commercially available kits |
| 90 | P | Total phosphorus in serum | Phosphomolybdateuv |
| 91 | PA | Prealbumin | Immunoturbidimetry |
| 92 | Pct | Thrombocytocrit | Automated hematology analyzer |
| 93 | PDWfl | Platelet distribution width | Automated hematology analyzer |
| 94 | PLT | Platelet count | Automated hematology analyzer |
| 95 | PROBNP | Pro-brain natriuretic peptide | Immunoturbidimetry |
| 96 | PT | Prothrombin activity % | Automated blood coagulation analyzer |
| 97 | PTs | Prothrombin time | Automated blood coagulation analyzer |
| 98 | RBC | Red blood cell count | Automated hematology analyzer |
| 99 | RBCC | Schistocyte count | Automated hematology analyzer |
| 100 | RDW | Red blood cell distribution width | Automated hematology analyzer |
| 101 | RibP | Anti-Rib-P antibodies | Western blot |
| 102 | Ro52 | Anti-Ro52 antibodies | Western blot |
| 103 | Scl70 | Anti-scl70 antibodies | Western blot |
| 104 | SLE | Systemic lupus erythematosus | Western blot |
| 105 | Sm | Anti-sm antibodies | Western blot |
| 106 | SSA | Anti-SSA antibodies | Western blot |
| 107 | SSB | Anti-SSB antibodies | Western blot |
| 108 | TBA | Total bile acid | 5th generation colorimetric on an automatic analyser |
| 109 | TBIL | Total bilirubin | Diazo with dichloroaniline (dca) on an automatic analyser |
| 110 | TCD3p | CD3+ T-cell percentage | Flow cytometer |
| 111 | TCHO | Total cholesterol | Cholesterol oxidase on an automatic analyser |
| 112 | TG | Triglyceride | Lipase/gpo-pap no correctionon an automatic analyser |
| 113 | THCD4p | CD4+ T-cell percentage | Flow cytometer |
| 114 | THTS | Th/Ts ratio | Calculation |
| 115 | TP | Total protein | Biuret reaction end point on an automatic analyser |
| 116 | TSCD8p | CD8+ T-cell percentage | Flow cytometer |
| 117 | TTs | Thrombin time | Automated blood coagulation analyzer |
| 118 | UA | Uric acid | Uricase peroxidase with ascorbate oxidase |
| 119 | UNGAL | Neutrophil gelatinase-associated lipocalin | — |
| 120 | WBC | White blood cell count | Automated hematology analyzer |
| 121 | BUN | Blood urea nitrogen | Urease kinetic on an automatic analyser |
| 122 | Mono | Monocyte percentage | Automated hematology analyzer |
| 123 | Neut | Neutrophil percentage | Automated hematology analyzer |
| 124 | Lymph  | Lymphocyte percentage | Automated hematology analyzer |
| 125 | Baso | Basophil percentage | Automated hematology analyzer |
| 126 | Eos | Eosinophil percentage | Automated hematology analyzer |
| 127 | Pho | Phospholipids | On an automatic analyser |
| 128 | Tran | Transferrin | Immunoturbidimetry |
| 129 | UIBC | Unsaturated iron binding capacity | Calculation |
| 130 | Iron | Free iron | Colorimetric without ppt. On an automatic analyser |
| 131 | ApoA1 | Apolipoprotein A1 | Immunoassay system |
| 132 | ApoB | Apolipoprotein B | Immunoassay system |
| 133 | TSH | Thyroid stimulating hormone | Immunoassay system |
| 134 | FT3 | Triiodothyronine | Immunoassay system |
| 135 | FT4 | Thyroxine | Immunoassay system |
| 136 | Lac | Lactic acid | Colorimetric lactate oxidase on an automatic analyser |
| 137 | TIBC | Total iron binding capacity | Fe+uibc (saturation with iron) on an automatic analyser |