Immunology Acronyms

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  | 2 |  |  |  |  |  |  |  |
|  |  |  |  |  | 3 |  |  |  |  |  |  |  | 4 |  | 5 |  | 6 |  |  |  | 7 |  |  |  |  |  |  |  |  |
|  | 8 |  |  |  |  |  |  |  |  | 9 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 11 |  |  |  |  |
|  |  |  | 12 |  |  |  |  |  | 13 |  |  |  |  |  |  | 14 |  |  |  | 15 |  |  |  |  |  |  | 16 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 17 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 19 |  |  |  | 20 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | 21 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 22 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 23 |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 24 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 25 |  |  | 26 |  |  |  |  |  | 27 |  |  |  | 28 |  |  |  |  |  | 29 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | 30 |  |  |  |  | 31 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 32 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 33 |  |  |  |  | 34 |  |  |  |  |  |  | 35 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 36 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 37 |  |  |  | 38 |  |  |  |  |  |  |  | 39 |  |  |  | 40 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | 41 |  |  |  |  |  |  |  |  |  |  | 42 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  | 43 |  |  |  |  | 44 |  | 45 |  |  |  |  |  |  | 46 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 47 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 48 |  |  |  |  |  |  |  |  |  |  |  | 49 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 50 |  |  |  |  |  |  | 51 |  |  |  |  |  |  |  |  |  |  | 52 |  |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **Across**  **2.** Nuclear factor of activated T cells, a key transcription factor that is required to bind to the IL-2 promoter to cause IL-2 transcription  **9.** \_\_\_\_\_ cell, DC, a type of APC that presents antigen in the context of MHC to T cells  **14.** Recombination signal sequences, short DNA sequences flanking Ig and TCR V, D and J gene segments that serve as the binding sites for the RAG complex, allowing Ig and TCR gene rearrangement (somatic recombination)  **15.** human \_\_\_\_ antigen, HLA, name of MHC gene complex and proteins in humans  **18.** \_\_\_\_\_ \_\_\_\_\_\_ receptors, PRR, receptors on immune cells and epithelial cells that recognize and bind to PAMPs on microbes  **21.** \_\_\_\_\_\_-binding lectin, MBL, soluble acute phase response protein that can bind mannose on pathogens; can activate the lectin pathway of Complement and acts as an opsonin  **24.** Ig, protein family to which antibodies and B-cell receptors belong  **25.** Subset of CD4+ T cells characterized by the cytokines they produce; involved in fully activating macrophages and promoting CTL responses against intracellular pathogens  **27.** Cell adhesion molecule  **30.** Family names of chemokines, chemicals that are a sub-class of cytokines with cell-attractant properties  **31.** B cell receptor, sIg on B cells that binds Ag and transmits signal 1 to activate B cells  **33.** T cells that express the co-receptor protein CD4 which upon activation differentiate into distinct Thelper phenotypes with different roles in adaptive immunity  **35.** Major histocompatibility complex, designation for a family of cell surface molecules involved in the presentation of peptide antigens to T cells  **38.** \_\_\_\_\_ factor κB, NFκB, transcription factor that helps activate the expression of many pro-inflammatory genes  **39.** Cell mediated immunity, adaptive immune responses in which there is a major role for effector T cells  **40.** Membrane attack complex, end product of the Complement cascade that can kill pathogens directly by forming a pore in pathogen membrane leading to lysis  **41.** Subset of CD4+ T cells characterized by the cytokines they produce; involved in stimulating B cells to produce antibody against extracellular pathogens  **42.** Fragment with antigen binding, the part of an antibody (that can be isolated by protease digestion) responsible for antigen binding, consisting of the light chain and amino-terminal half of the heavy chain disulfide-bonded together  **43.** mΦ, large mononuclear phagocyte that takes residence in many different tissues and organs and contributes to innate immune responses and can act as an effector cell in adaptive immune responses  **46.** B lymphocyte that upon activation can differentiate into plasma cells secreting antibody molecules or B memory cells  **48.** \_\_\_\_ T lymphocytes, CTL, CD8+ T cells with the effector function of targeting and killing virally infected cells and tumor cells by apoptosis  **49.** Systemic lupus \_\_\_\_\_\_\_, SLE, autoimmune disease where autoantibodies (against DNA, RNA, and proteins associated with nucleic acids) form immune complexes  **50.** Natural killer cell, large granular lymphocyte that serves as an innate effector cell by inducing apoptosis of target cells (virally infected cells or tumor cells)  **51.** \_\_\_\_ regulator, AIRE  **52.** Highly active anti-retroviral therapy, multiple drug treatment for HIV | **Down**  **1.** thymus-derived lymphocyte that are comprised of two different subsets, CD4 and CD8  **3.** cluster of \_\_\_\_\_\_\_, CD, designation for specific cell-surface molecules on immune cells that help to differentiate one immune cell from another  **4.** cell \_\_\_\_ molecule, CAM  **5.** Surface immunoglobulin, an immunoglobulin that is expressed on B cell surface  **6.** Acquired immune deficiency syndrome, the end stage of disease in HIV infection  **7.** IL, general designation of many of the different cytokines, chemical messengers secreted by immune cells that help in their communication with other cells  **8.** or Fc region, Crystallized fragment of antibody, the part of an antibody that consists of the carboxy terminal halves of the two heavy chains disulfide-bonded to each other; the Fc region of an antibody is where Fc receptors bind, and so is responsible for antibody effector function (after antigen binding occurs)  **10.** immunodeficiency: human \_\_\_\_\_ virus, HIV  **11.** Intracellular adhesion molecules, cells surface ligands for the leukocyte integrins; Critical in binding of lymphocytes and other leukocytes to certain cells  **12.** IFN, family name for cytokines that help cells to resist viral infections; type 1 include IFN-alpha and IFN-beta, as distinguished from IFN-gamma  **13.** Antibody dependent cellular cytotoxicity, a mechanism NK cells use to induce apoptosis in virally infected cells or tumor cells  **16.** Immunoreceptor \_\_\_\_\_\_-based activation motifs, ITAMs, amino acid sequence in cytoplasmic domains of membrane receptors involved in signal transduction  **17.** LPS, a cell wall component of gram negative bacteria which can be bound by TLR-4 on macrophages and dendritic cells  **19.** \_\_\_\_\_\_ determining regions, CDR, the regions of the antigen binding loops of Ig molecules, antibodies and T cell receptors that come into contact with antigen  **20.** \_\_\_\_\_\_ leukocytes, PMN, white blood cells with multi-lobed nuclei and cytoplasmic granules  **22.** IR  **23.** \_\_\_\_\_\_\_-activating genes, RAG1, RAG2, the two genes essential for Ig and TCR gene rearrangement; their gene products (RAG-1 & RAG-2) comprise the RAG complex  **26.** Family names of chemokine receptors, the receptors that chemokines bind to all cell attraction to specific areas in the body  **28.** Transcription factor expressed in Treg cells that is needed for Treg cell function  **29.** Ag, a molecule that is recognized in native (original) structure by antibodies or B cell receptor, or a peptide that is presented by MHC molecules to T cell receptor  **32.** T cells that express the co-receptor protein CD8 which upon activation differentiate into cytotoxic T lymphocytes (CTLs)  **34.** \_-\_\_\_\_\_ protein, CRP, acute phase protein that binds to phosphocholine, a constituent of certain bacteria, that can trigger Complement activation and acts as an opsonin  **36.** Ab, immunoglobulin secreted by plasma cells  **37.**  \_\_\_\_ presenting cell, APC, a cell that is able to present antigen via MHC molecules to T cell receptors on T cells  **44.** Pathogen associated molecular patterns, repeating molecular patterns on microbes that are recognized by PRRs on immune cells  **45.** Autoimmune regulator, a transcription factor that causes several hundred tissue-specific genes to be transcribed by a subpopulation of epithelial cells in the thymus  **47.** Member of TNF receptor family expressed on certain cells that makes them susceptible to being killed by cells expressing the ligand |