**Table 2:** A summary of the different Dendritic cell subsets along with their function, markers and mediators.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Subtype:  CD1c+ myeloid | They are induced by LPS, IC, flagellin, R848 | These cells express a diverse range of TLRs and Lectins for antigen uptake, transport and presentation.  Good stimulators of naïve CD4 T cells | They express CD11b, CD11c, CD13, CD33, CD172 (SIRP) and CD45RO; Dectin-1, Dectin-2 | They produce TNF-, IL-8, IL-10, IL-23;  IL-12 is produced in response to activation by R848 when it ligates to the TLR 7/8 receptor. | They produce IFN- inducible protein-10 (IP-10), monokine induced by interferon γ (MIG) and, thymus and activation-regulated chemokine (TARC) | [1],[2],[3],[4],[5] |
| Subtype:  CD141high myeloid | They are induced by ICs, R848 | The cells take up dead cells via CLEC9A. They also cross-present antigen to CD8+ T cell along with sensing viral nucleic acids using TLR3 and TLR8. | Wide expression of CD141 on CD14+ migratory DCs, CD1c+ DCs and monocytes cultured with vitamin D. Therefore, differentiation is based on the lower expression of CD11b and CD11c. | They produce TNF- and lower levels of IL-12 and p70 | They produce CXCL10, IFN- | [6],[7],[1],[8],[9] |
| Subtype:  CD14+ | They are induced by Histamine | They do not stimulate naïve T cells efficiently. They can differentiate into Langerhans cells and mature DCs. Therefore, they are quiescent tissue monocytes. | CD11c is common with monocytes but lack CD1c and CD141, CCR7.  They express: CD209, FXIIIA, CD163, CD141 | They only produce IL-10 |  | [1],[10] |
| They lack myeloid antigens CD11b, CD11c, CD13 and CD33. They are present in Lymph Node in almost 20% MHCII positive cells | On encountering active or inactivated pathogenic viruses, bacteria and parasites. | Formation of Follicular TH Cell. They can instigate T cell response and respond to viral infections by secretion of large amounts of IFN- Fresh pDCs do not prime naïve T cells and hence are immature. They induce Treg cells and can sense DNA released from apoptotic cells. | They express CD45RA with variable CD2 and CD7 expression. They may have TCR; CD123; CD303; CD304; TLR7, TLR9.  CCR5, CCR7, and CXCR3 | They produce type-I IFNs, TNF-α, and IL-6 | They produce IFN-pro-inflammatory chemokine CCL3/macrophage inflammatory protein (MIP)-1α | [1],[11],[12], [13],[14],[15] |
| They mature from CD34+ myeloid cells that are CD14-. They can be found in skin-draining lymph nodes (para cortex region). | They are induced by TNF- from CD34+CD14- T cells myeloid cells | They mature and work in antigen presentation but lack TLRs hence induce Treg cells and produce IL-22 | They express Langerin, CD1a, CD36, ATPase, FCR1 | They produce IL-15, IL-22 | They produce macrophage-derived chemokine/stimulated T cell chemotactic protein (CCL22), Th1/Th2 profile | [1],[16],[17],[18],[19] |
| Derived from CD14+ blood monocytes | They are induced by GM-CSF and IL-4 | Different inflammatory environment generates a diverse range of monocyte derived DCs. They stimulate naïve CD4+ T cell and are involved in antigen presentation to CD8+ T cell. | They express CD1c, CD1a, CD206, FcRI, SIRP and lack CD16 and CD209 | They produce IL-1, TNF-, IL-6 and IL-23 and stimulate Th17 responses; IL-1, IL-6, TNF-a, IL-12 and IL-23 | They produce MCP-1, RANTES, Th1/Th17 profile | [1],[20], [21],[22] |
| A subset of CD16+ monocyte | They are induced by LPS in presence of Histamine | They are reactive to self-RNA-LL37 | They express 6-Sulpho LacNAc (SLAN), H4R | They produce TNF-, IL-1, IL-6 and IL-12 | They produce Th1/Th17 profile | [1],[23],[24] |

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