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Expression and Function of CD40 on Various Cell Types

Cees van Kooten, Simone de Haij, Leendert C. Paul and Mohamed R. Daba

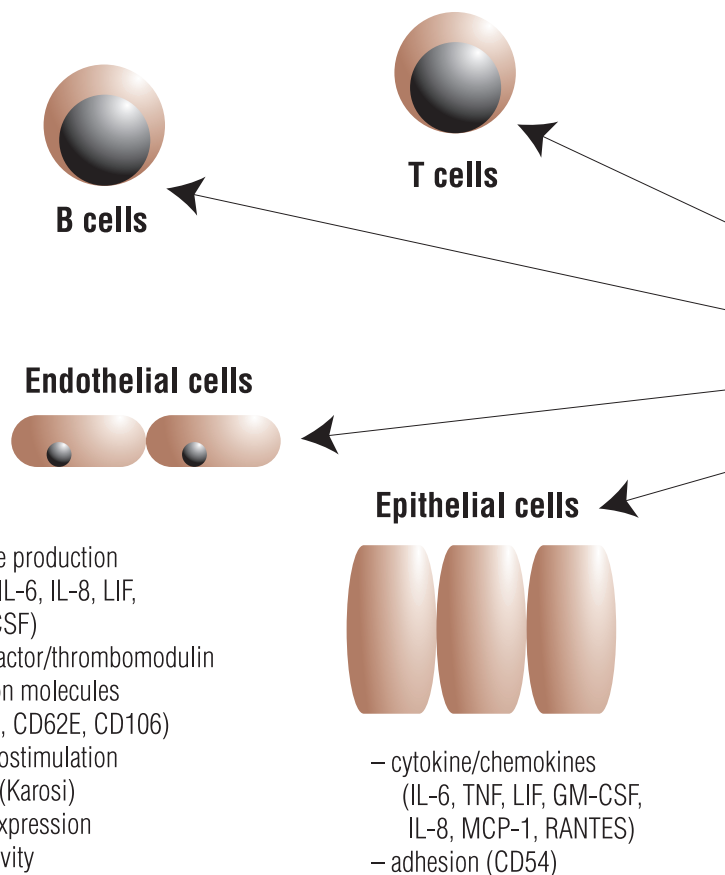
Schematic representation of cells expressing the CD40 receptor and the described functional consequences of CD40 ligation on these cells. For more details and the references for most of these results, readers are referred to the accompanying review. It is thought that activated CD4 positive T lymphocytes are the most important source of CD40 ligand (CD154), although expression on some other cells has been described.

Abbreviations used are:

CDxx	cluster of differentiation
Cox-2	cyclooxygenase-2
DC	dendritic cell
FDC	follicular dendritic cell
GC	germinal center
GM-CSF	granulocyte macrophage-colony stimulating factor
ICE	interleukin-1 converting enzyme
IFN	interferon
IL-x	interleukin
LIF	leukemia inhibitory factor
LT	lymphotoxin
MCP-1	monocyte chemotactic protein
MIP-1	macrophage inflammatory protein
MMP	matrix metalloproteinases
NO	nitric oxide
PGE2	prostaglandin E2
RANTES	regulated upon activation, normal T cell expressed and secreted
SDF	stromal derived factor
TNF	tumor necrosis factor
VEGF	vascular endothelial growth factor
VSMC	vascular smooth muscle cell

- proliferation
- differentiation
- GC formation
- isotype switching
- selection
- cytokine production (IL-6, IL-10, TNF)
- activation markers (Fas, CD23, CD80)

- proliferation
- CD25, CD69, CD40L
- IL-2, TNF, IFN



- cytokine production (IL-1, IL-6, IL-8, LIF, GM-CSF)
- tissue factor/thrombomodulin
- adhesion molecules (CD54, CD62E, CD106)
- T-cell costimulation
- growth (Karsosi)
- MMP expression
- ICE activity

- cytokine/chemokines (IL-6, TNF, LIF, GM-CSF, IL-8, MCP-1, RANTES)
- adhesion (CD54)

Carcinomas

- apoptosis

Expression and Function of the CD40 Receptor

