

Table 1 *Ex-vivo* methods used to induce and expand polyclonal Treg cells

Protocol	Species	Stimulation/APC	Co-stimulatory requirements	Cytokines/growth factors	References	Patent number
anti-CD3/CD28 microbeads + rapamycin	mouse, human	anti-CD3/CD28 microbeads, K652 (chronic myelogenous leukaemia cell line)	CD28/CD86	high dose IL-2, rapamycin	30-38	US20107651855
Treg expansion based on synergy between IL-2 & 4-1BB	mouse, human	anti-CD3, K652 (chronic myelogenous leukaemia cell line)	4-1BB/4-1BBL	high dose IL-2	41, 43	US20070172947
Ex-vivo expansion of CD4⁺CD25⁺CD62L⁺ Treg cells	mouse	allogeneic T cells, irradiated splenocytes	-	high dose IL-2, TGF- β_1	86	-
IFN-γ/TGF-β_1-treated BM-DC-induced Treg cells	mouse	allogeneic T cells, BM DC	-	CM-CSF, TGF- β_1 , IFN- γ	49, 50	US20090162334
IL-2/ TGF-β_1-induced Treg cell	rat, mouse	anti-CD3/CD28 microbeads	CD28/CD86	IL-2, TGF- β_1	52, 53	US20016759035
Retinoic acid/ TGF-β_1-induced Treg cells	mouse	anti-CD3, MLN DC, splenocytes	-	retinoic acid, IL-2, TGF- β_1	60-62	US20090136470

Table 2 *Ex-vivo* methods used to induce and expand antigen-specific Treg cells

Protocol	Species	Stimulation/APC	Co-stimulatory requirements	Cytokines/growth factors	References	Patent number
Tr1 cell induction and expansion	mouse, human	anti-CD3, ovalbumin, allogeneic T cells, Schneider Drosophila cell	CD58/CD80	IL-2, IL-4, IL-10, rapamycin	67, 68	WO/2009/050282
TCR/Foxp3-transduced Treg & naive CD4⁺ T cells	mouse	anti-CD3/D28 microbeads, Ova-pulsed DC	-	IL-2	69	-
iDC-induced Treg cells	human	allogeneic T cells, immature BM DC	-	GM-CSF, IL-4, high dose IL-2	70-72	US20090175890
CD40-B-induced Treg cells	human	allogeneic T cells, CD40 ⁺ N1H3T3 cells, B cells	CD40/CD40L	Cyclosporine, IL-4, IL-2	73-75	US20090324557
anti-CD52-induced Treg cells	human	anti-CD3 or allogeneic T cells plus DC	CD52	IL-2	77, 80	US20060228351
α-MSH/ TGF-β1-induced Treg cells	human	purified retinal antigens, splenocytes	-	α -MSH/ TGF- β 1	83, 84	US20020090724