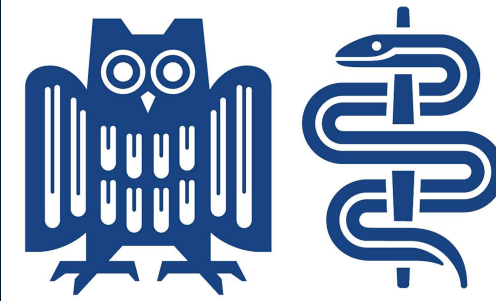


# Characterization of human monocyte subsets in transplantation

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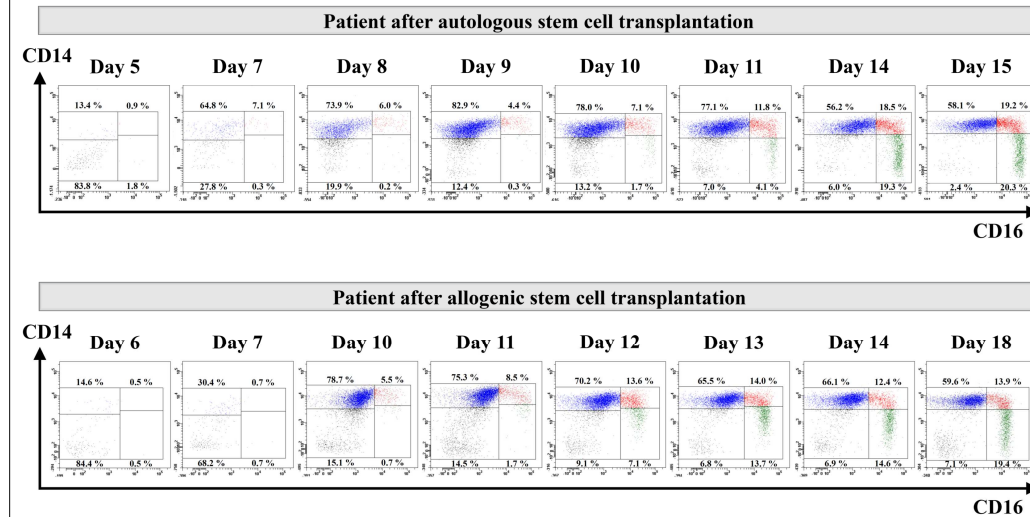
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## Introduction

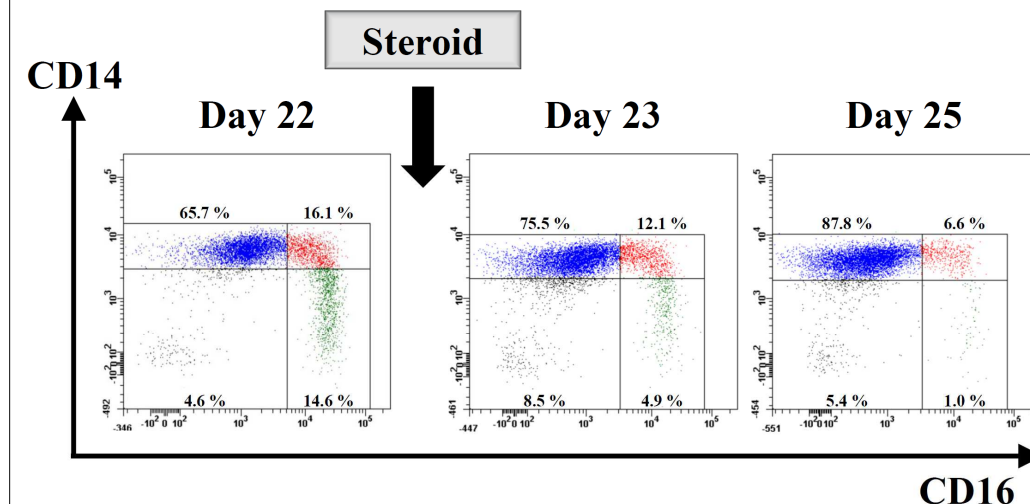
Monocytes are critical in innate immunity and transplantation. Three monocyte subsets exist, CD14<sup>++</sup>CD16<sup>-</sup>, CD14<sup>++</sup>CD16<sup>+</sup> and CD14<sup>+</sup>CD16<sup>++</sup> monocytes; cell counts of CD14<sup>++</sup>CD16<sup>-</sup> and CD14<sup>+</sup>CD16<sup>++</sup> monocytes are increased in pre-transplant CKD. Interestingly, the effect of immunosuppressants on monocyte heterogeneity has not been well studied.

## Results

### 1. Differentiation of monocytes in patients after autologous and allogenic stem cell transplantation

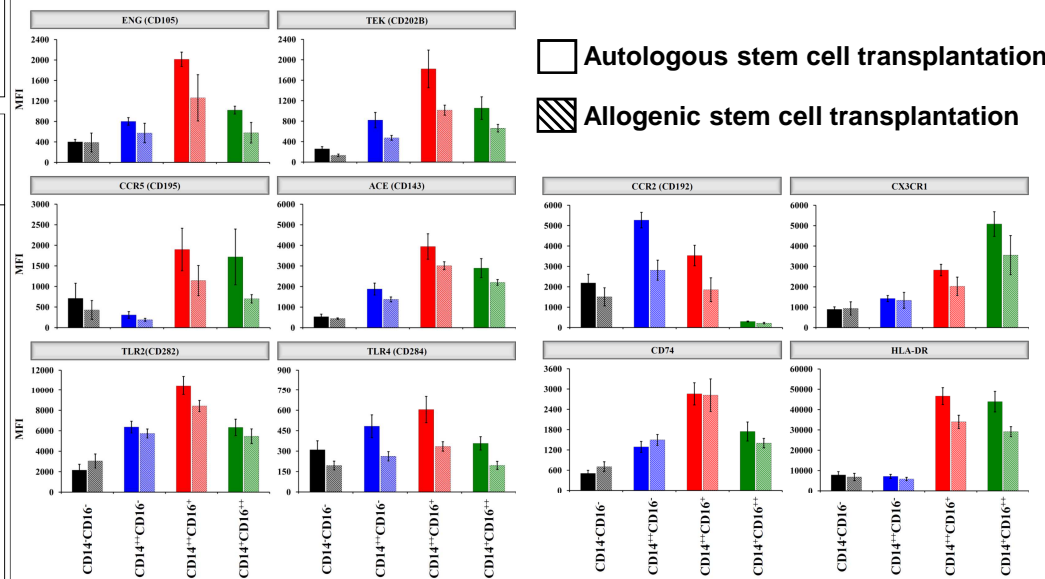


### 2. Impact of immunosuppressants on human monocyte subsets *in vivo*

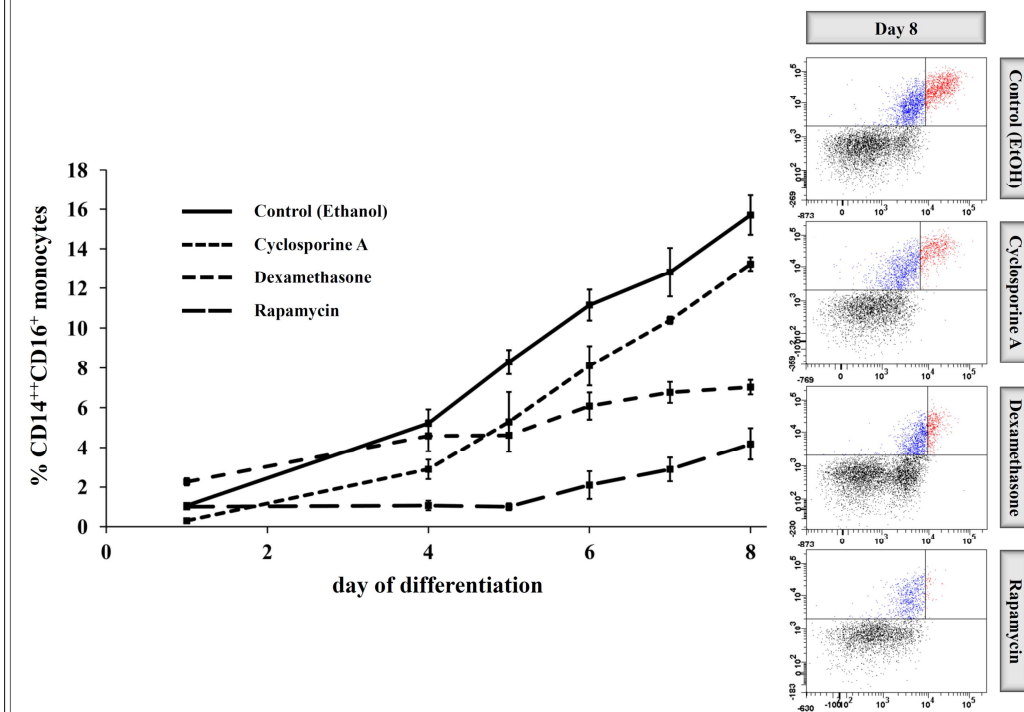


## Results

### 3. Expression of surface markers on differentiating monocytes in patients after autologous and allogenic stem cell transplantation



### 4. Impact of immunosuppressants on *in vitro* differentiation of human monocyte subsets

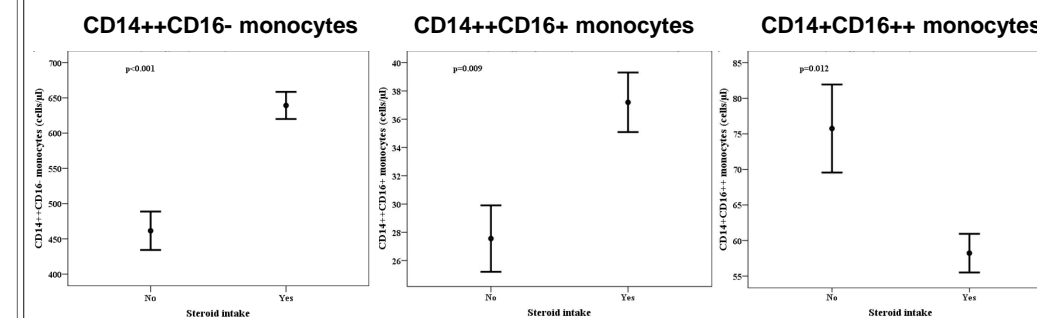


## Results

### 5. Monocyte subsets in patients after kidney transplantation

Baseline characteristics

	Total cohort (n = 154)	Steroid (N) (n = 44)	Steroid (Y) (n = 110)	P-Value
Age (years)	56.1 ± 12.1	56.4 ± 12.1	56.0 ± 12.2	0.870
Sex (male)	98 (64%)	25 (57%)	73 (66%)	0.273
Diabetes mellitus (Y)	47 (31%)	13 (30%)	34 (31%)	1.000
Smoking (Y)	16 (10%)	2 (4%)	14 (13%)	0.156
Time since Tx (years)	5.7 [2.3-9.4]	6.7 [5.3-8.6]	4.7 [1.8-9.7]	0.018
BMI (kg/m <sup>2</sup> )	27.4±5.8	29.1±4.8	26.7±6.0	0.018
BP systolic (mmHg)	146±21	146±21	146±21	0.991
BP diastolic (mmHg)	85±10	84±9	86±11	0.385
GFR (ml/min/1.73m <sup>2</sup> )	46.7±17.1	48.5±14.0	46.0±18.2	0.362
CRP (mg/l)	2.4 [1.1-5.9]	2.6 [1.3-6.6]	2.3 [0.9-5.9]	0.892
Total cholesterol (mg/dl)	198±38	187±36	202±38	0.024
LDL-C (mg/dl)	113±32	109±31	115±32	0.291
HDL-C (mg/dl)	58±18	52±17	60±18	0.012
Triglycerides (mg/dl)	141 [98-199]	135 [97-199]	144 [108-198]	0.561



## Conclusions

Monocytes are critical in innate immunity and vascular disease. Three monocyte subsets exist: CD14<sup>++</sup>CD16<sup>-</sup>, CD14<sup>++</sup>CD16<sup>+</sup> and CD14<sup>+</sup>CD16<sup>++</sup> monocytes. Most standard immunosuppressants do not influence monocyte subsets; however, chronic low dose steroids are associated with shifts in monocyte subset distribution towards proinflammatory CD14<sup>++</sup>CD16<sup>+</sup> monocytes.