

β adrenergic signaling regulates hematopoietic stem and progenitor cell commitment and therapy sensitivity in multiple myeloma

Remya Nair,^{1*} Vimal Subramaniam,^{2*} Benjamin G. Barwick,¹ Vikas A. Gupta,¹ Shannon M. Matulis,¹ Sagar Lonial,¹ Lawrence H. Boise,¹ Ajay K. Nooka,¹ Kuzhali Muthumalaiappan^{2#} and Mala Shanmugam^{1#}

¹Department of Hematology and Medical Oncology, Winship Cancer Institute, School of Medicine, Emory University, Atlanta, GA and

²Department of Surgery, Loyola University Medical Center, Maywood, Illinois and Burn and Shock Trauma Research Institute, Loyola University Chicago, Chicago, IL, USA

**RN and VS contributed equally as co-first authors.*

#KM and MS contributed equally as co-senior authors.

Correspondence:

M. SHANMUGAM - mala.shan@emory.edu

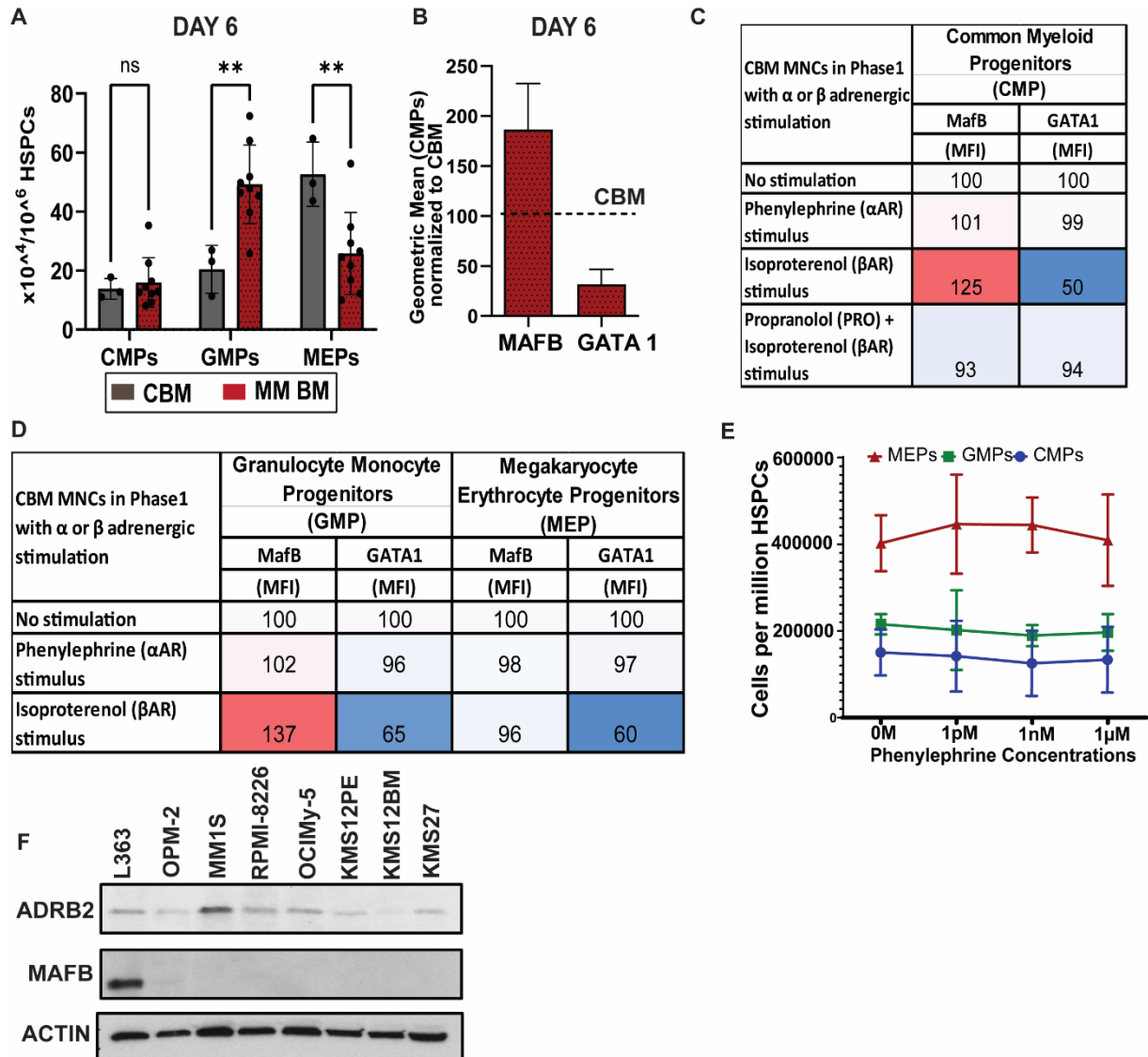
<https://doi.org/10.3324/haematol.2022.280907>

Supplementary information

Table 1: Patient sample details

	ID	Plasma cell (%) morphology	P.C%(Flow)	Hgb(g/dL) at biopsy	Disease stage	Cytogenetics
1	PS10002013	30-40	10.3	14.2	Relapsed	t(11;14), del(13q)
2	PS10002029	15	3	13.4	Newly diagnosed	t(11;14), +1p, +1q, -13-
3	PS10001653	15-20	12	11.5	Relapsed	-1p, +3, +7, +9, +11, +14, -17
4	PS10001891	20	6	11.6	Relapsed	t(14;16), -1p, +1q, -13, del(17p)
5	PS10002039	70	33.2	11.2	Relapsed	. +7, +9, +11-
6	PS10001774	60	13.9	11.5	Progressive	t14;16), +1q, +3, +7, +9, +11, +17
7	PS10002019		0.2	10.9	Progressive	Not available
8	PS10002001	60	2.2	10.9	Newly diagnosed	+1q, +3, +7, +9, +11, -13, +14, +16
9	PS10001844	80	Not available	7.9	Newly diagnosed	t(11;14), +1q, -13, del(17p)
10	PS10001922	5	Not available	11.4	Newly diagnosed	t(11;14) +1q
11	PS10001702	80	Not available	9.3	Progressive	t(4;14), -1p, +1q, +3, +7, +11
12	PS10001562	70	5.50	10.7	Relapsed on Ven	t(11;14), -1q, -13
13	PS10002043	30	8	8.7	Newly diagnosed	+1q, +11, +14q, +9

Supplementary Figure 1



Supplementary Figure 1: **A.** Day 6 expanded CBM and MM BM evaluated for CMP/GMP/MEP frequencies (n=10); **B.** MFI of MAFB and GATA1 expression in CMPs from 10 MM patients at Day 6, evaluated by flow cytometry; **C.** MAFB and GATA1 quantification of samples from panel E (1 representative data set shown, n=4); Geometric mean intensities were measured for MAFB and GATA1 in CMPs and normalized to the no stimulation condition that was arbitrarily defined as 100; **D.** Geometric mean intensities were measured for MAFB and GATA1 in GMPs and MEPS normalized to no stimulation condition which was arbitrarily defined as 100; **E.** MEP, GMP and CMP quantified in HSPCs in Phase 1 cultures treated with increasing doses of phenylephrine; **F.** Expression of ADRB2 and MAFB in indicated MM lines with actin evaluated as loading control.