Supplementary Table 1. Markers commonly used to define myeloid cell subtypes.

	Markers commonly used to define myeloid cell subtypes by FACS		
Cell type	**Mice**	**Human without gradient**	**Human with gradient**
Neutrophil (PMN)	$CD11b^{+}LY6G^{+}Ly6C^{low}$	$CD11b^{+}CD14^{-}CD15^{+}/CD66b^{+}$	$CD11b^{+}CD14^{-}CD15^{+}/CD66b^{+}$ High density cells
PMN-MDSC	$CD11b^{+}Ly6G^{+}Ly6C^{low}CD14^{+}$ Requires functional, transcription or biochemical confirmation	$CD15^{+}/CD66b^{+}CD14^{-}LOX1^{+}$; $CD15^{+}/CD66b^{+}CD14^{-}CD84^{+}$ Requires functional, transcription or biochemical confirmation	$CD11b^{+}CD14^{-}CD15^{+}/CD66b^{+}$ Low density cells Requires functional, transcription or biochemical confirmation
Monocyte	CD11b+Ly6G-$Ly6C^{hi}$	$CD14^{+}CD15^{-}$ HLA-DR^{hi}	$CD14^{+}CD15^{-}$ HLA-DR^{hi}
M-MDSC	$CD11b^{+}Ly6G^{-}Ly6C^{hi}$ Requires functional, transcription or biochemical confirmation	$CD14^{+}/CD66b^{-}CXCR1^{+}$; $CD14^{+}/CD66b^{-}CD84^{+}$ Requires functional, transcription or biochemical confirmation	$CD14^{+}CD15^{-}$ HLA-$DR^{lo/-}$ Requires functional, transcription or biochemical confirmation
Macrophage	$Ly6C^{low}Ly6G^{-}F4/80^{hi}$ with subdivision to tissue resident and bone marrow derived macrophages using multiple markers,e.g. CD11b, Siglec F. Subdivision of polarized macrophages based on multiple markers.	$CD68^{+}CD66b^{-}$ then multiple markers to determine functional state	N/A
Dendritic cells	CD11c+$Ly6C^{lo}$MHC-1^{hi} with subdivision to $CD11b^{+}$ $CD103^{-}$ (DC2) and $CD11b^{-}CD103^{+}$ (DC1) Further subdivision based on CD207 expression	CD141/BDCA-3^{+} and CD1c/BDCA1^{+}	NA

Supplementary Table 1. Clinical trials with myeloid cell modulators targeting CSF1R, CCR2, CXCR2 and PI3Kγ

Drug	Dosing Strategy	Phase	Combination Partner	Disease	Trial Identifer	Outcome
CSF1R antagonists						
Turalio /pexidartinib/PLX3397 (Daiichi Sankyo/Plexxicon) (inhibits CSF1R, Kit, Flt3) (SM)	Continuous	PhII	Monotherapy	Melanoma (Kit mutated tumour)	NCT02071940, NCT02975700	No results reported
	Continuous	PhII	Monotherapy	Advanced Prostate cancer	NCT01499043	Discontinued only safety data reported*
	Continuous	PhII	Monotherapy	Recurrent GMB	NCT01349036	Terminated. Safety, PK and efficacy data reported*
	Continuous	PhII	Monotherapy	cHL	NCT01217229	Complete. Safety and efficacy reported*
	Continuous	PhII	Monotherapy	Flt3 ITD mutated AML	NCT01349049	Safety and efficacy data reported*
	Continuous	PhII	Monotherapy	Solid tumours with CSF1R, Flt3, Kit mutations	NCT01004861	Safety and efficacy data reported*
	Continuous	Phl	Sirolimus	Peripheral nerve sheath tumours, sarcoma	NCT02584647	Tolerated dose established and PD demonstrated (a)
	Continuous	Phlb	Paclitaxel	Ovarian, peritoneal or fallopian tube cancer	NCT01525602	Well tolerated and biomarker changes demonstrated (b)
	Continuous	Phl	Radiation and anti-androgen	Prostate	NCT02472275	No results reported
	Continuous	Phl	Radiation and Temozolamide	recurrent GBM	NCT01790503	No efficacy reported in unselected trial*
	Continuous	Phl	Durvalumab	CRC, Pancreatic, Metastatic Cancer Advanced cancer	NCT02777710	No results reported
	Continuous	Phl	Pembrolizumab	Melanoma and other solid tumours	NCT02452424	Terminated no efficacy*
	Continuous	Phlb / II	Ebirubulin	Metastatic Breast Cancer	NCT01596751	Safety and efficacy data reported*
JNJ 40346527 (J&J) selective CSF1R inhibtor (SM)	Continuous	Discont. post Ph Ib/II	Monotherapy	Relapsed or Refractory Hodgkin Lymphoma	NCT01572519	Dose finding study no results reported
	Continuous	Phl	Monotherapy	Relapsed or Refractory AML	NCT03557970	Terminated no efficacy*
	Continuous for 4/ 5 weeks	Phl	Monotherapy + surgery	Advanced Prostate Cancer	NCT03177460	No results reported
ARRY 382 (Array/Pfizer) (selective CSF1R) (SM)	21-day treatment cycles continuous ARRY-382	Phl/II	Pembrolizumab	PD1/PDL1 resistant patients, Platinum resistant ovarian , pancreatic cancer	NCT02880371	Combination tolerated but limited efficacy signal (c)
	Continuous	Phl	Monotherapy	Solid tumours	NCT01316822	Dose finding no results reported
DCC3014 (Deciphera) selective CSF1R (SM)	Continuous	Phlb	Avelumab	Mixed Sarcoma	NCT04242238	Tolerated dose, PD and toxicity reported (d)
BLZ945 (Novartis) (SM)	Continuous	Phl (ongoing)	PDR001 (anti-PD-1)	Advanced Solid Tumors	NCT02829723/ NCT02404441	No results reported
RG7155/ emactuzumab (Roche) (Ab)	IV every 3 weeks	PhII	Atezolizumab (anti-PDL1 mAb)	Advanced Solid Tumors	NCT02323191	Combination dose established with possible efficacy reported (e)
	IV every 3 weeks	Phl	Selicrelumab (anti-CD40)	Advanced Solid Tumors	NCT02760797	No efficacy (f)
	IV every 3 weeks	PhII	Paclitaxel and Bevacizumab (anti-VEGFA)	Platinum-Resistant Ovarian	NCT02923739	No results reported
AMG 820 (Amgen) (Ab)	IV weekly	Phl/II	Pembrolizumab (anti-PD1 mAb)	Advanced Solid Tumors	NCT02713529/NCT01444404	No efficacy (g)
LY3022855 (Lilly) (Ab)	IV every 4 weeks	Phl	Durvalumab (anti-PDL1) or Tremelimumab (anti-CTLA4)	Advanced Solid Tumors	NCT02718911	No efficacy (h)
	IV every 4 weeks	Phl	Monotherapy	Breast and Prostate cancer	NCT02265536	Immune PD reported, no effiacy (i)
	IV every 4 weeks	Phl	Cyclophosphamide GVAX Pembrolizumab	Pancreatic cancer	NCT03153410	No results reported
	IV every 4 weeks	Phl/II	Cobemetinib, vemurafanib	Melanoma	NCT03101254	No results reported
Cabiralizumab, FPA-008, BMS936558 (Five Prime/BMS) (Ab)	IV every 2 weeks	PhII	Nivolumab	HCC	NCT04050462	No results reported
	IV every 2 weeks	Phl/II	Nivolumab	Solid tumours	NCT03335540	No results reported
	IV every 2 weeks	PhII	SOC chemotherapy	Pancreatic cancer	NCT03336216	No results reported
	IV every 2 weeks	PhII	nivolumab + gemcitabine	Pancreatic cancer	NCT03697564	No results reported
	IV every 2 weeks	PhII	Nivolumab	Biliary Tract Cancer	NCT03768531	Withdrawn
	IV every 2 weeks	PhII	Nivolumab	Relapsed Refractory T cell lymphoma	NCT03927105	Safety reorted*
	IV every 2 weeks	Phl	Nivolumab + radiation	Advanced metastatic cancers	NCT03431948	No results reported
CSF1 antagonist						
PD-0360324 (Pfizer) (Ab)	IV	Phl	Avelumab	Solid tumours	NCT02554812	No results reported
Lacnotuzumab, MCS-110 (Novartis) (Ab)	IV every 3 weeks	Phl/II	PDR001 (anti-PD-1)	Solid tumours	NCT02807844	Safety reported*
	IV every 3 weeks	Phl	Carboplatin, gemcitabine	TNBC	NCT02435680	Safety reported, no efficacy*
	IV every 3 weeks	Phl/II	Spartalizumab + LAG525	TNBC	NCT03742349	No results reported
CCR2/MCP-1						
PF-04136309 (Pfizer) (SM)	Continuous	Discont Phlb/II	FOLFIRINOX	PDAC	NCT01413022	Encouraging efficacy signal (k)
	Continuous	Discont Phlb	Nab-paclitaxel	PDAC	NCT02732938	Safety concerns, no efficacy (l)
BMS813160 (BMS) (CCR2/5 inhibitor) (SM)	Continuous neoadjuvant pre-surgery	PhII	Nivolumab	HCC/NSCLC	NCT04123379	No results reported, compares CCR2/5i and IL8 blockade
	Continuous	Phl/II	GVAX, radiation, Nivolumab	PDAC	NCT03767582	No results reported
	Continuous	Phl/II	Gemcitabine, Paclitaxel, Nivolumab	PDAC	NCT03496662	No results reported
MLN1202 (Millenium) (Ab)	IV week 1, 3, 5, 9, 13 etc	Terminated Phl	Nivolumab, Ipilumimab	Melanoma	NCT02723006	Safety data reported*
CXCR2/IL8						
AZD5069 (AstraZeneca) (SM)	Continuous + PDL1	Phi/II	Durvalumab (anti-PDL1 mAb)	HNSCC	NCT02499328	Safety data reported, no efficacy*
	Continuous	Phi/II	Durvalumab	Pancreatic cancer	NCT02583477	No results reported
	Continuous	Phi/II	Enzalutamide	mCRPC	NCT03177187	No results reported
HuMax-IL8/BMS-986253 (BMS) (Ab)	IV every 2 weeks	Phi/II	Nivolumab+Degarelix	Hormone-Sensitive Prostate Cancer	NCT03689699	No results reported
	IV every 2 weeks	Phi/II	Nivolumab	HCC	NCT04050462	No results reported
	Once IV neoadjuvant pre-surgery	Phl	Nivolumab	HCC, NSCLC	NCT04123379	No results reported, compares CCR2/5i and IL8 blockade
	IV every 2 weeks	Phl/II	Nivolumab or Nivolumab + Ipilimumab	metastatic or unresectable solid tumors	NCT03400332	No results reported
	IV every 2 weeks	Phl	SBRT (radiaotherapy) + Nivolumab	metastatic solid tumors	NCT04572451	No results reported
Navarixin/MK-7123 (Merck) (SM)	IV infusion on Day 1 of each 3-week cycle	Phl	Pembrolizumab	Advanced/Metastatic Solid Tumors	NCT03473925	Safety and efficacy data reported*
SX-682 (Syntrix Pharmaceuticals) (SM)	SX-682 monotherapy for 21 days, 90days pembro	Phl	Pembrolizumab	Metastatic Melanoma	NCT03161431	No results reported
Reparaxin (IL8) (Dompe) (SM)		Discont PhII	Paclitaxel	HER2- Breast cancer	NCT02001974	Safety data reported*
PI3Kγ						
Eganelisib (IPI-549) (infinity Pharmaceuticals) (SM)	Continuous	Phl	Nivolumab	Advanced solid tumors	NCT02637531	Early data reported encouraging efficacy (m)
	Continuous	PhII	Nivolumab	Advanced Urothelial Carcinoma	NCT03980041	No results reported
	Continuous	PhII	Tecentriq and Abraxane (TNBC)/ bevacizumab (RCC)	TNBC and RCC	NCT03961698	No results reported
	Continuous 3 weeks	PhII	monotherapy prior to surgery	Head and neck cancer (HPV+ and HPV-)	NCT03795610	No results reported
	Continuous	Phl	Etrumadenant + Pegylated liposomal doxorubicin (PLD) or nanoparticle albumin-bound paclitaxel (NP)	TNBC and ovarian cancer	NCT03719326	No results reported

***** Results posted on ClinicalTrials.gov; **(a)** Manji et al (2021) CCR, **27**, 5519-5527; **(b)** Wesolowski et al (2019) Ther Adv Med Oncol, **11**, 1758835919854238; **(c)** Johnson et al (2022) CCR, **28**, 2517-2526; **(d)** Rosenbaum (2021) JCO, **39**:15suppl, 11549-11549; **(e)** Gomez-Roca et al (2022) JITC, **10**, e004076; **(f)** Machiels et al (2020) JITC, **8**, e001153; **(g)** Razak et al (2020) JITC, **8**, e001006; **(h)** Falchook et al (2021) Invest New Drugs, **39**, 1284-1297; **(i)** Autio et al (2020) CCR, **26**, 5609-5620; **(k)** Nywening et al (2016) Lancet Oncol, **17**, 651-662; **(l)** Noel et al (2020) Invest New Drugs, **38**, 800-811; **(m)** Sullivan et al (2018), JCO, **36:**15supp, 3013-3013. (SM-Small molecule, Ab-Antibody).