BD LSR Fortessa ™ III Akış Sitometri ile Analiz

BD LSR Fortessa™, 5 lazerli ve 18 kanallı konfigürasyonu ile yüksek hassasiyetli, çok parametreli flow sitometri analizleri sunar. Periyodik bakımları yapılan ve lazer stabilitesi CST (Cytometer Setup & Tracking) ile takip edilen LSR Fortessa temel araştırmalardan klinik, translasyonel ve ileri immünoloji çalışmalarına kadar geniş bir uygulama yelpazesi sunar. Analizler, uzman ve deneyimli araştırmacılar tarafından gerçekleştirilir. Kullanıcıların tek yapması gereken, örneklerini tüpler halinde getirmektir. Cihaz ayarları, kalite kontrolleri ve veri toplama süreci profesyonel ekip tarafından yönetilir. Elde edilen ham veriler, güvenli ve eksiksiz şekilde araştırmacıya teslim edilir.

Neden LSR Fortessa?

- ✔ Beş lazer, 18 kanal yüksek parametreli analiz
- ✔ CST ile lazer ve performans takibi
- ✔ Periyodik teknik bakım ve kalite kontrol
- ✔ Uzman desteği
- ✔ Güvenli veri teslimi
- ✔ Panel tasarımında maksimum esneklik

Hizmetlerimiz

- ✔ Çok renkli flow sitometri analizleri
- ✔ İmmünfenotipleme
- ✔ Hücre canlılığı, apoptoz ve proliferasyon analizleri
- ✔ Aktivasyon belirteçleri ve oksidatif stres değerlendirmeleri

- ✔ Hücre içi kalsiyum akışı, mitokondriyal membran potansiyeli vb, fonksiyonel analizler
- ✔ CBA (cytometric bead array)
- ✔ Hücre döngüsü, poliploidi bulgulama ve hücresel anomali değerlendirmeleri
- ✔ Gen ifadesi ve gen transferi verimliliği ölçümleri(transfeksiyon, transdüksiyon sonrası gen ifadesi ölçümleri)
- ✔ Patojen olmayan bakteriler ve mayalarda: canlılık ve apoptoz ve protein ifadesi analizleri

LSR Fortessa ™ III Optik Konfigürasyon

BD LSR FORTESSA Optic Configuration

Laser	Det.	Dic.flt.	Eff.flt.	List of fluorochrome
UV Laser (355 nm)	A	410 LP	450/50	Ghost UV, DAPI, Hoechst, Alexa Fluor® 350, Indo-1 (violet)
	B		379/28	BUV395
Blue Laser (488 nm)	C		488/10	SSC
	B	505 LP	525/50	FITC, GFP, A488, CFSE, BB515
	A	685 LP	695/40	PerCP-Cy5.5, PI, PerCP, PerCP-eF710, 7AAD
Violet Laser (405 nm)	H		420/20	BV421, V450, e450
	G	445 LP	465/29	Pacific Blue
	F	505 LP	515/20	BV510, V500, Aqua, Pacific Orange, QD525, AmCyan
	E	535 LP	585/42	BV570, Qdot 585, Qdot 565, BV570, Pacific Orange
	D	595 LP	605/12	BV605, Qdot 605, eF605, QD625
	C	630 LP	660/20	BV650, Qdot 655, eVolve655, eF650NC
	B	685 LP	710/50	BV711, Qdot 705, Qdot 700
	A	750 LP	800/30	BV785, Qdot 800
Yellow-Green (561 nm)	D		586/15	PE, AF546, RFP, DS-Red, dTomato
	C	600 LP	620/10	PE-CF594, PE-CF594, PE-TexRed, A594, mCherry, PI
	A	750 LP	780/60	PE-Cy7, PE-AF750, PE-Vio770, QD800
Red Laser (640 nm)	C		670/30	APC, Alexa Fluor 647, eF660, AF633/635, AF660, APC-Cy5, Cy5, DRAQ5, DRAQ7, Cy5.5, DyL647, DyL650, DyL633, DyL649, TOPRO-3
	B	690 LP	730/45	AF 700, APC-R700, PC-Cy5.5,AF680,QD705,DyL680,DyL750,APC-AF750,APC-AF680,APC-AF700, DRAQ7, Zombie NIR
	A	750 LP	780/60	APC-Cy7, APC-H7, APC-eF780, APC-AF750, APC-Vio770, Cy7, AF750, DyL750/755, Zombie NIR, L/D-Near-IR Red

Hizmet İş Akışımız

1. **Danışmanlık** – Deneysel hedeflerinizi ve panel tasarımınızı görüşülür
2. **Numune Hazırlama Rehberliği** – Kompenzasyon hazırlama ve boyamalarda titrasyon desteği
3. **Kalite Kontrolü** – Performans doğrulaması

4. Veri Teslimi – Ham data teslim edilir talep doğrultusunda kapılama stratejileri görüşülür

Katkı Sağladığımız Yayınlar

1. Sag, D., Özkan, M., Kronenberg, M. et al. **Improved Detection of Cytokines Produced by Invariant NKT Cells.** *Sci Rep* 7, 16607 (2017). https://doi.org/10.1038/s41598-017-16832-1

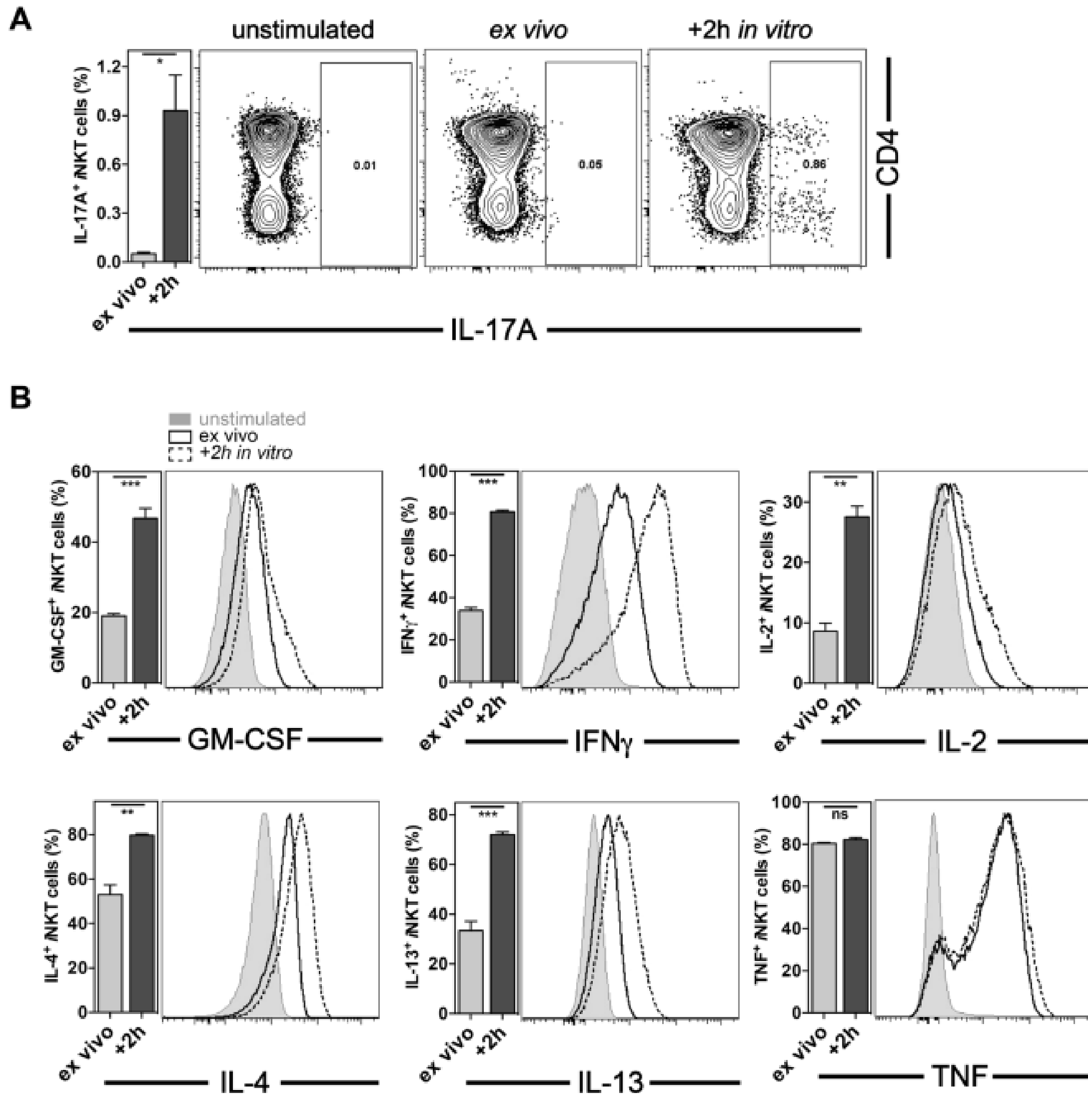


Figure 2. Effective detection of iNKT cell IL-17A ex vivo required cytokine accumulation in vitro. C57BL/6 mice were either mock treated or injected i.v. with 1μg αGalCer and 90min later expression of the indicated cytokines by splenic iNKT cells was analyzed by ICCS. Cells were either stained directly ex vivo (ex vivo) or after a 2h in vitro incubation at 37 °C in the presence of the Golgi-transport inhibitors Brefeldin A and monensin (+2h). (A) Intracellular IL-17A

produced by gated iNKT cells is depicted against CD4 for representative data, and as a summary graph (left panels). (B) Production of indicated cytokines by iNKT cells is depicted as a summary graph (left panels) and representative data (right panels). ns=not statistically significant. Representative data from one of at least three independent experiments are shown.

2. Korkmaz, A, Ünüvar, D, Günalp, S, Helvacı, D. G, & Sağ, D (2025). **Kabasura Kudineer Choornam, a medicinal polyherbal formulation, modulates human macrophage polarization and phagocytic function.** *Turkish Journal of Biology* 49 (4): 348-366. https://doi.org/10.55730/1300-0152.2752

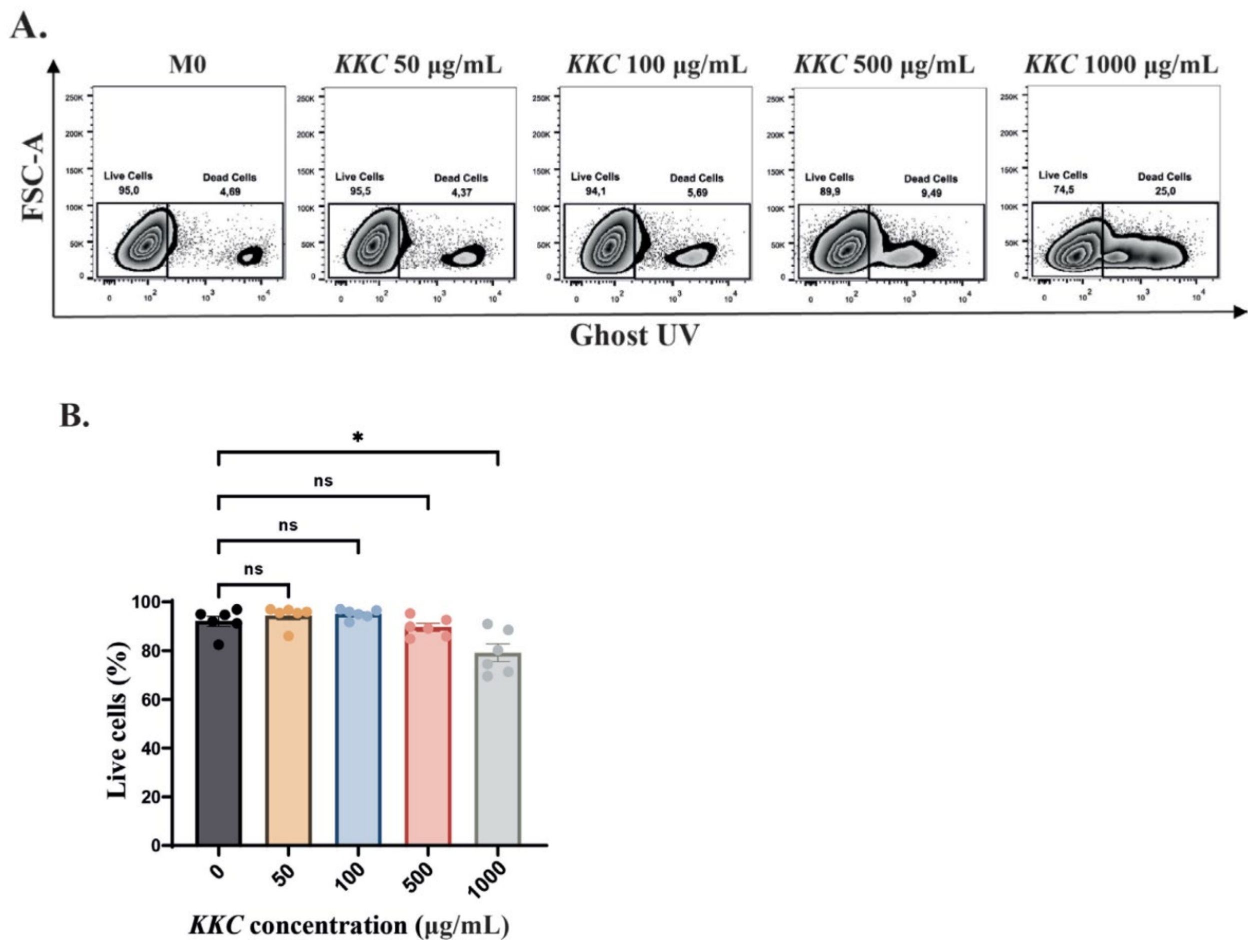


Figure 1. The effect of KKC extract on the viability of human MDMs. Unpolarized primary human MDMs (M0) were incubated for 24 h either without treatment (control) or with KKC extract at concentrations of 50, 100, 500, or 1000 µg/mL. Macrophages were stained with a Zombie UV fixable viability kit (Biolegend) and analyzed by flow cytometry. A) Representative dot blots, B) bar graphs showing the percentages of live cells. Data are shown in mean ± SEM of biological

replicates of 6 donors (n = 6) pooled from 3 independent experiments. One-way ANOVA followed by Dunnet's posthoc test was performed for the statistical analyses. *p < 0.05, ns = not significant.

3. Özkan M, Eskiocak YC, Wingender G. **The IL-10GFP (VeRT-X) mouse strain is not suitable for the detection of IL-10 production by granulocytes during lung inflammation**. *PLoS One*. 2021 May 12;16(5):e0247895. doi: 10.1371/journal.pone.0247895. PMID: 33979348; PMCID: PMC8115804.

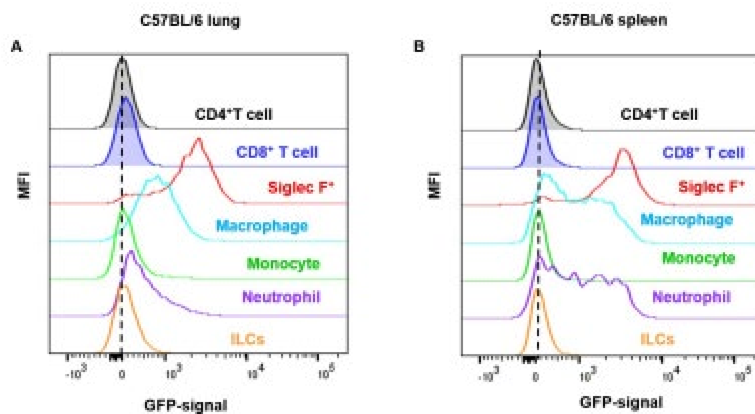
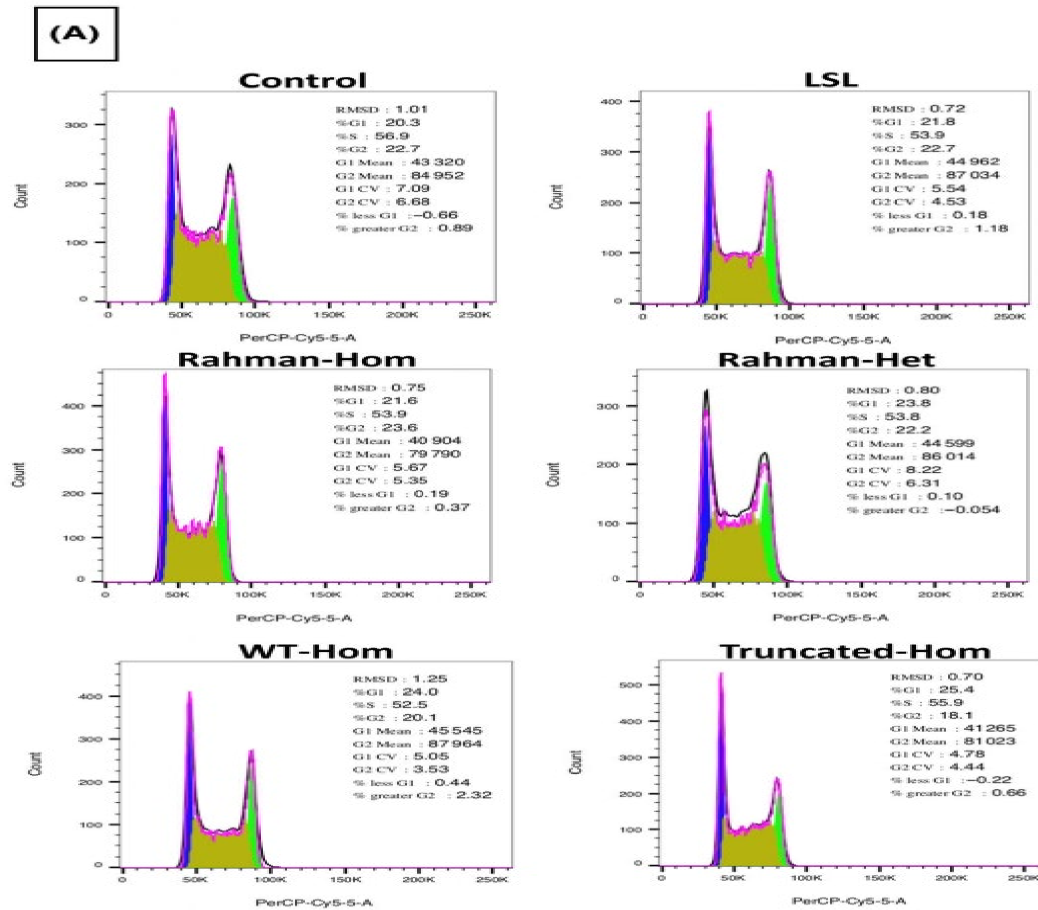
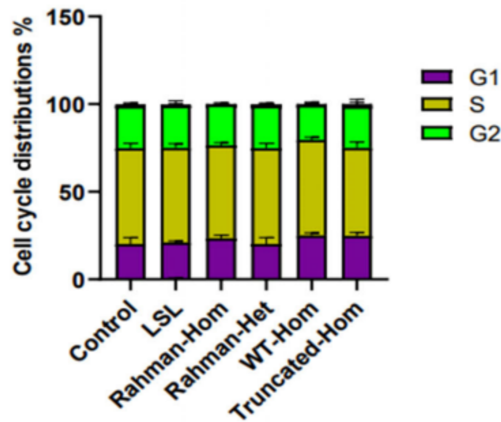


Fig 3. The cell-type-specific autofluorescence in C57BL/6 mice in control conditions. Representative histograms from the (A) lung and the (B) spleen of PBS challenged C57BL/6 mice, demonstrating the increase in autofluorescence in the GFP-channel for myeloid cells. The graphs show representative data from three independent experiments (PBS: n = 9 mice/group, LPS: n = 13–15 mice/group in total).

4. Abu Alhaija AA, Lone IN, Sekeroglu EO, Batur T, Angelov D, Dimitrov S, Hamiche A, Firat Karalar EN, Ercan ME, Yagci T, Alotaibi H, Diril MK. **Development of a mouse embryonic stem cell model for investigating the functions of the linker histone H1-4**. *FEBS Open Bio*. 2024 Feb;14(2):309-321. doi: 10.1002/2211-5463.13750. Epub 2024 Jan 11. PMID: 38098212; PMCID: PMC10839353.



(B)



(C)

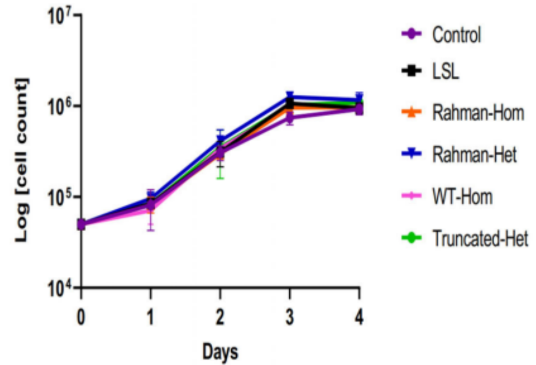


Fig. 3. Cell cycle and growth curve analysis. (A) Individual FACS profiles from representative experiments are shown. Analysis of DNA content was performed using the Per-CP Cy5.5 channel by flow cytometry. Cell cycle analysis was performed by FLOWJO v10 (FlowJo) with the Watson Pragmatic algorithm. (B) The percentage of cell cycle distribution is presented as determined by FACS. The results represent the average of three independent experiments (n = 3). Analysis was performed using GRAPHPAD PRISM, (San Diego, CA, USA) and the error bars represent SD. (C) Growth curve analysis displaying the cell count numbers of different clones over 4 days. The results represent the average of three independent experiments (n = 3; error bars represent SEM).

5. Gunalp S, Helvaci DG, Oner A, Bursalı A, Conforte A, Güner H, Karakülah G, Szegezdi E and Sag D (2023) **TRAIL promotes the polarization of human macrophages toward a proinflammatory M1 phenotype and is associated with increased survival in cancer patients with high tumor macrophage content**. *Front. Immunol.* 14:1209249. doi: 10.3389/fimmu.2023.1209249

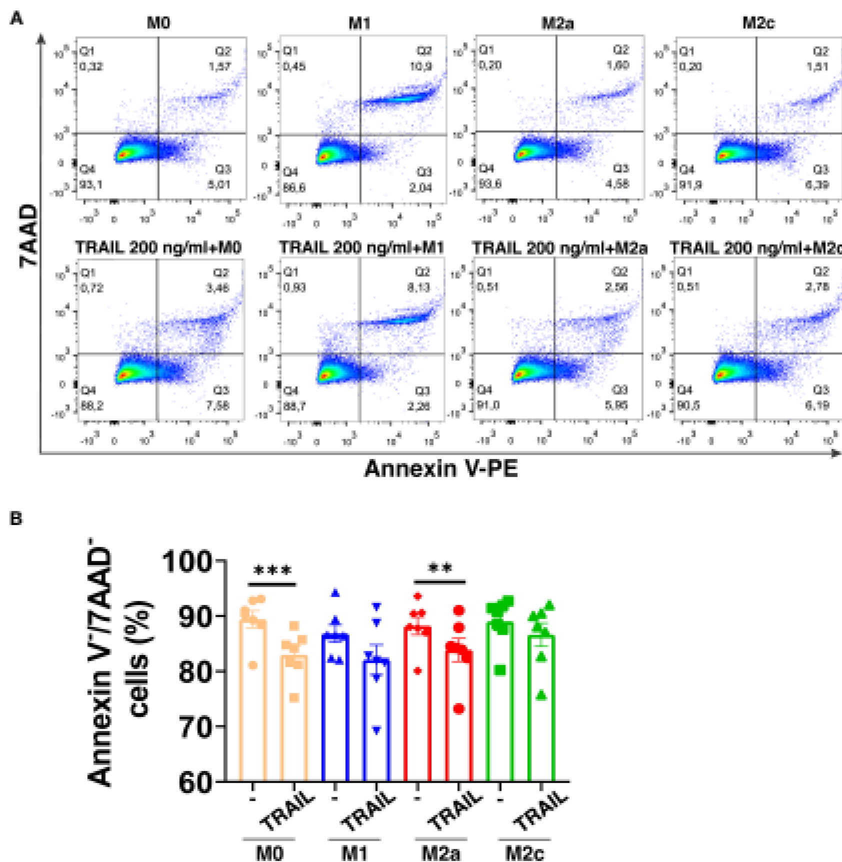


FIGURE 1 TRAIL does not majorly affect the viability of primary human macrophage subtypes. M0 macrophages were stimulated with 200 ng/ml TRAIL for 18 hours. For polarization, macrophages were pre-stimulated with TRAIL for 6 hours and then polarized into M1 (100 ng/ml LPS and 20 ng/ml IFNg), M2a (20 ng/ml IL-4), or M2c (10 ng/ml IL-10) for 12 hours. Control groups were left unstimulated or stimulated with only M1, M2a, or M2c polarization factors for 12 hours. Cell viability was analyzed with Annexin V/7-AAD staining by flow cytometry. (A) Representative dot plots and (B) Bar graphs show the percentage of live macrophages (AnnexinV7AAD-). Data shown are mean ± SEM pooled from two independent experiments (n=7). Statistical analyses were performed with a One-way ANOVA with Sidak's multiple comparisons post-hoc test between untreated and TRAIL-treated macrophages, polarized and TRAIL-treated polarized macrophages, **P<0.01 and ***P<0.001.