

**Supplementary Figure 1.** Hematoxylin and eosin (H&E) stain and trichrome stain of representative 7-week-old *KIC* tumor.



**Supplementary Figure 2.** Axl gene expression in pancreatic cancer patient-derived xenografts (PDX). RNA isolated from baseline (untreated) tumors was profiled using Affymetrix U133 Plus 2.0 gene arrays.



**Supplementary Figure 3.** Pan02 tumor tissue from mice treated as described in Figure 2 was evaluated by immunofluorescence for cleaved-caspase 3, phospho-histone-3, endomucin, E-cadherin, and vimentin. Images were analyzed using Elements software; quantification of % area fraction is shown. Data are displayed as mean  $\pm$  SD and represent 5 images per tumor with 4 animals per group analyzed. \**P* < 0.05; \*\*\**P* < 0.005; \*\*\*\**P* < 0.001; by ANOVA with Tukey's MCT.



**Supplementary Figure 4.** Tumor lysates from *KIC* animals with 2-week treatment of BGB324 (50 mg/kg PO BID, or vehicle (Cntl) were probed for the level of active TBK1 and NF-kB by Western blotting for the indicated targets.



**Supplementary Figure 5.** Pan02 pancreatic tissue was stained for F4/80. Images were analyzed using Elements software; quantification of % area fraction is shown. Data are displayed as mean  $\pm$  SD and represent 5 images per tumor with 4 animals per group analyzed. \**P* < 0.05; \*\*\*\**P* < 0.001; by ANOVA with Tukey's MCT.



**Supplementary Figure 6.** The mRNA expression level of Arginase 1 was determined by q-PCR in control, IL-4, and IL-4 + BGB324-treated bone marrow-derived macrophages. Bone marrow-derived macrophages were isolated from C57BL/6J mice and stimulated with control (0.02% DMSO in media), IL-4 (40 ng/ml), or IL-4 (40 ng/ml) + BGB324 (2  $\mu$ M) for 18 hours.



**Supplementary Figure 7.** Flow cytometry of KPC-M09 subcutaneous tumors treated with vehicle (control) or BGB324 (50 mg/kg, PO, BID) for two weeks as described in the supplementary methods. BGB324 didn't alter CD11b+ cells PMN-MDSCs (CD11b<sup>+</sup> Ly6G<sup>+</sup> Ly6C<sup>+</sup>), and PD-L1<sup>+</sup> PMN-MDSCs,

	Cntl	Gem	BGB	Combo
G-CSF	394	196.68	167	298.5
GM-CSF	261.5	330	232.5	273.5
IFNγ	61.025	69.78	47.655	43.615
IL-1α	289.5	309	228.5	217.5
IL-2	20.98	21.035	17.345	25.145
IL-3	3.85	2.46	1.58	1.375
IL-4	3.565	1.84	1.725	1.655
IL-5	8.515	5.66	4.945	2.23
IL-9	1361	579	880.5	1314
IL-10	29.44	12.68	28.84	13.055
IL-12_p40	203.5	158	145	141
IL-12_p70	20.345	0	3.96	1.995
IL-13	15.1	3.48	0	0
IL-15	50.91	21.29	18.12	20.835
IL-17	14.42	7.02	6.555	9.03
IP-10	48.005	105.06	32.36	30.88
KC	270	283	131.93	228.5
LIF	182	285	150.5	133.5
LIX	34.815	1.74	0	0
MCP-1	319.5	257	185.29	135.5
M-CSF	25.37	10.97	12.275	8.225
MIG	66.38	60.73	13.85	27.085
MIP-1α	45.825	26.54	15.55	12.22
ΜΙΡ-1β	12.43	33.27	3.49	0
MIP-2	309.5	89.44	120.16	30.625
RANTES	7.72	6.99	1.915	2.465
TNF-α	11.135	5.835	7.855	4.945
VEGF	13.015	85.99	9.8	265.5

Supplementary Table 1: Cytokine/Chemokine Concentration (pg/ml) in *KIC* tumor lysates from different treatment groups

**Supplementary Table 1.** The concentration of cytokines and chemokines in *KIC* tumor lysates were tested by MILLIPLEX (Immunology Multiplex Assay, Millipore).