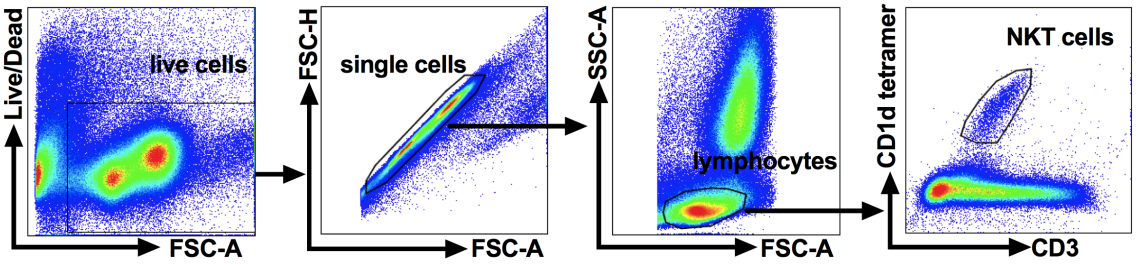
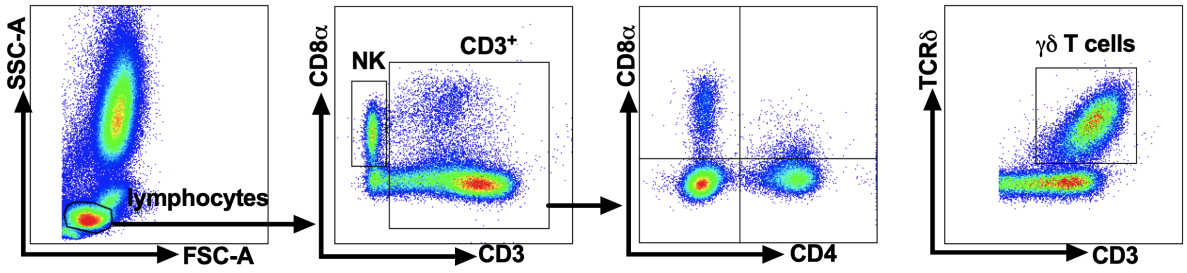
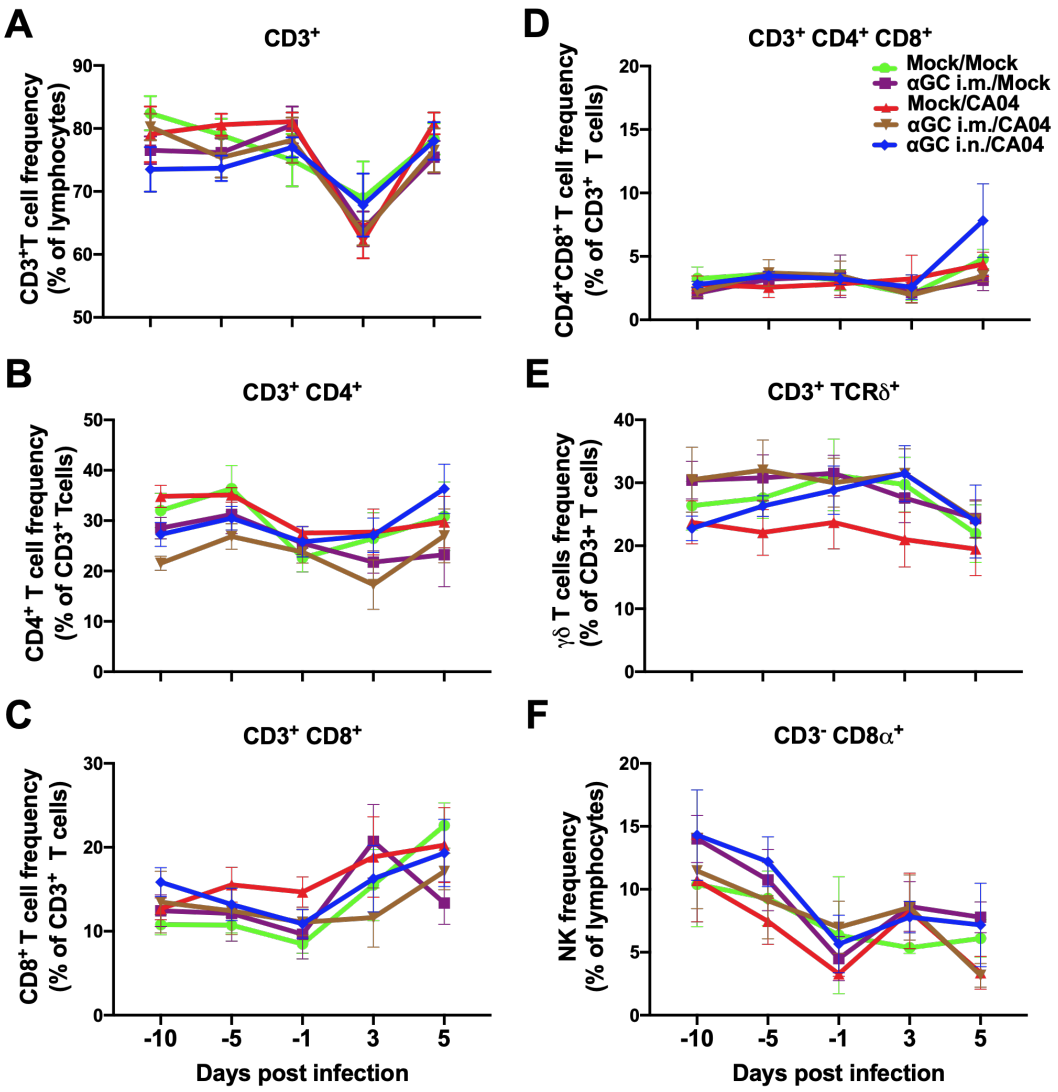
Supplementary Material



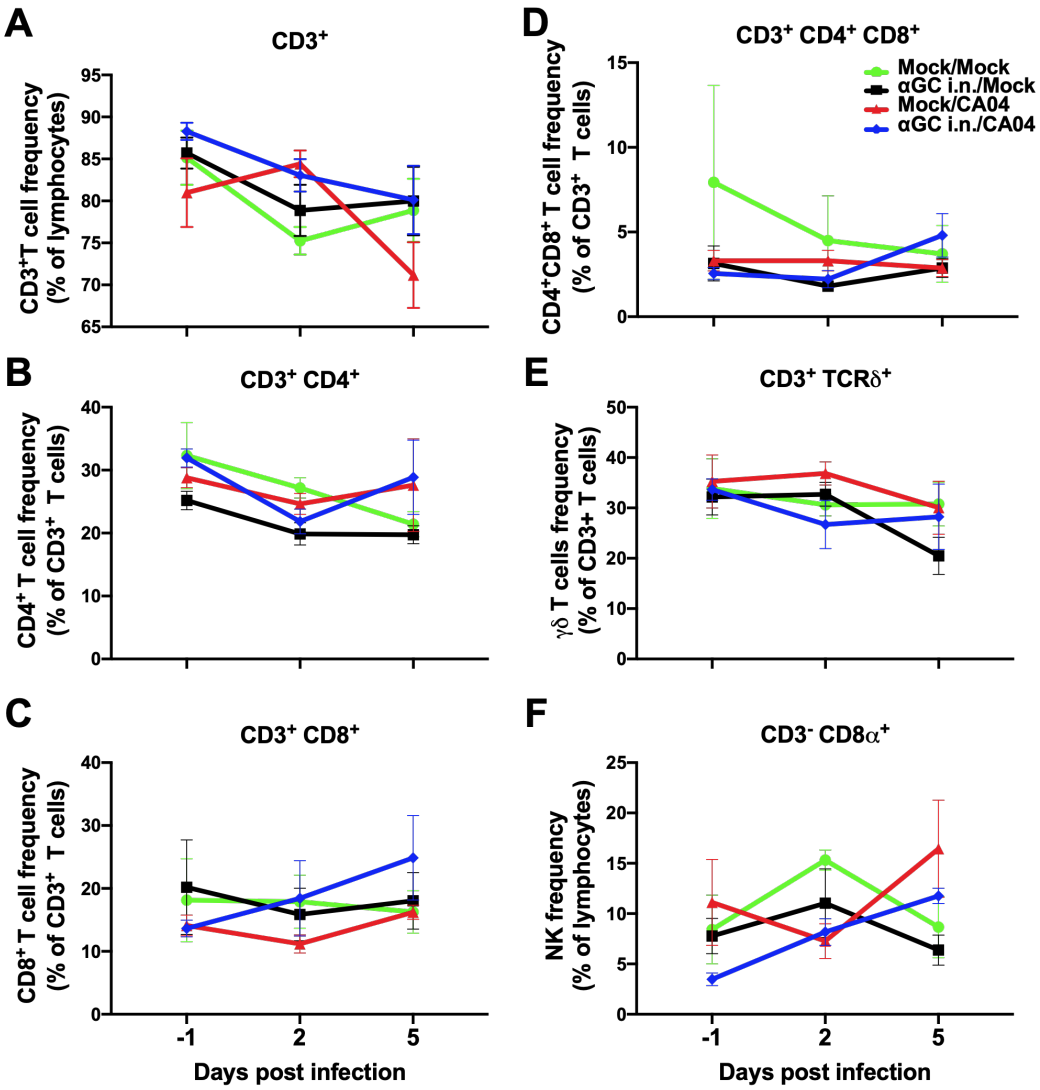
Supplemental Figure 1. Representative blood sample showing gating strategy used to identify iNKT cells. iNKT cells were identified by sequentially gating on Live/Dead negative cells, the lymphocyte singlet population, and then $CD3^+$ and CD1d $tetramer^+$ cells. FSC, forward scatter; SSC, side scatter; A, signal area; H, signal height.



Supplemental Figure 2. Representative blood sample showing gating strategy to identify immune cells. T cells were identified as $CD3^+$ cells after first gating on live single-celled, lymphocytes. NK cells were identified as $CD8\alpha^+$ $CD3^-$ cells after gating single live lymphocytes. T cell subsets were distinguished according to surface expression of CD4, CD8α. γδ T cells were identified as TCRδ $^+$ after gating on $CD3^+$ T cells.



Supplemental Figure 3. Frequencies of immune cell populations in peripheral blood during Experiment 1 (**A-F**). (**A**) $CD3^+$ cells as a proportion of lymphocytes, (**B**) $CD4^+$ single positive T cells as a proportion of $CD3^+$ lymphocytes, (**C**) $CD8\alpha^+$ single positive T cells as a proportion of $CD3^+$ lymphocytes, (**D**) double positive $CD4^+$ $CD8\alpha^+$ T cells as a proportion of $CD3^+$ lymphocytes, (**E**) γδ T cells as a proportion of $CD3^+$ lymphocytes, (**F**) NK cells ($CD3^-CD8\alpha^+$) as a proportion of lymphocytes. Data are presented as mean ± SEM. $CD3^+$, $CD4^+$, and γδ T cell frequencies were analyzed using a two-way ANOVA. Other cell types were compared at each time point using the non-parametric Kruskal-Wallis test. No statistical differences were identified.



Supplemental Figure 4. Frequencies of immune cell populations in peripheral blood during Experiment 2 (**A**-**F**). (**A**) $CD3^+$ cells as a proportion of lymphocytes, (**B**) $CD4^+$ single positive T cells as a proportion of $CD3^+$ lymphocytes, (**C**) $CD8\alpha^+$ single positive T cells as a proportion of $CD3^+$ lymphocytes, (**D**) double positive $CD4^+$ $CD8\alpha^+$ T cells as a proportion of $CD3^+$ lymphocytes, (**E**) γδ T cells as a proportion of $CD3^+$ lymphocytes, (**F**) NK cells ($CD3^-CD8\alpha^+$) as a proportion of lymphocytes. Data are presented as mean ± SEM. $CD3^+$ and γδ T cell frequencies were analyzed using a two-way ANOVA. Other cell types were compared at each time point using the non-parametric Kruskal-Wallis test. No statistical differences were identified.

Supplemental Table 1. Reagents used for flow cytometric analysis

Antigen	Clone	Isotype	Conjugation	Source
Live/Dead	N/A	N/A	APC-Cy7	Invitrogen
mCD1d tetramer	N/A	N/A	PE	NIH Tetramer Core
Anti-CD3ε	BB23-8E6-8C8	Mouse IgG2a κ	PE-Cy7	BD Biosciences
Anti-CD8α	76-2-11	Mouse IgG2a κ	Alexa488	Southern Biotech
Anti-CD4	74-12-4	Mouse IgG2b κ	PE	Southern Biotech
Anti-TCRδ	PGBL22A	Mouse IgG1	Alexa647	WSU mAb Center
Anti-CD14	MIL2	Mouse IgG2b	Alexa488	Bio-Rad
Anti-CD172α	74-22-15A	Mouse IgG2b κ	PerCP	BD Biosciences
Anti-MHC class II	H42A	Mouse IgG2a κ	Alexa647	WSU mAb Center
Anti-CD11b	M1/70	Rat IgG2b κ	BV421	Biolegend

Supplemental Table 2. Frequency of leukocyte populations in BALF in pigs administered α-GalCer 9 days before infection.

Cell type	Mock/ Mock	αGC i.m./ Mock	Mock/ CA04	αGC i.m./ CA04	αGC i.n./ CA04
$CD3^+$T cells	75.9±4.3	78.2±1.4	68.8±4.9	70.1±4.5	74.7±5.8
$CD4^+$ T cells	13.4±1.2	8.4±0.9	8.9±1.8	3.0±5.9	9.0±1.4
$CD8^+$ T cells	58.1±4.5	41.0±6.8	48.1±3.5	54.2±4.5	48.1±6.1
$CD4^+$ $CD8^+$ T cells	4.1±0.9	0.8±0.1	1.4±0.3	3.2±0.8	2.8±0.5
γδ T cells	10.8±1.5	17.9±2.9	12.3±2.1	12.9±0.9	13.1±0.6
NK cells	2.9±0.9	0.7±0.1	1.4±0.4	3.6±2.6	2.4±1.6

Supplemental Table 3. Frequency of leukocyte populations in lung in pigs administered α-GalCer 9 days before infection.

Cell type	Mock/ Mock	αGC i.m/ Mock	Mock/ CA04	αGC i.m./ CA04	αGC i.n./ CA04
$CD3^{+}$T cells	69.2±1.6	65.5±1.9	67.5±1.7	69.0±2.1	66.0±3.3
$CD4^{+}$ T cells	13.7±2.4	10.9±1.5	15.9±1.8	16.3±2.0	16.3±2.7
$CD8^{+}$ T cells	68.0±5.1	65.2±4.7	55.1±4.3	58.7±2.3	58.9±6.1
$CD4^{+}$ $CD8^{+}$ T cells	7.2±1.2	5.6±1.7	8.1±2.3	10.2±1.4	7.6±1.0
γδ T cells	11.7±1.0	14.4±1.9	15.0±3.0	16.0±1.6	19.1±4.7
NK cells	10.6±2.2	8.3±2.2	7.2±1.7	10.2±0.8	10.9±2.6

Supplemental Table 4. Frequency of leukocyte populations in spleen in pigs administered α-GalCer 9 days before infection.

Cell type	Mock/ Mock	αGC i.m./ Mock	Mock/ CA04	αGC i.m./ CA04	αGC i.n./ CA04
$CD3^+$T cells	74.4±1.6	71.9±2.5	75.2±1.5	74.6±3.6	75.6±4.1
$CD4^+$ T cells	13.7±2.4	10.9±1.5	15.9±1.8	16.3±2.0	16.3±2.7
$CD8^+$ T cells	25.7±2.5	27.7±3.6	18.5±3.4	20.2±2.3	23.4±5.2
$CD4^+$ $CD8^+$ T cells	0.9±0.1	1.0±0.2	1.9±0.6	1.8±0.2	1.6±0.2
γδ T cells	15.3±2.2	15.7±1.4	17.7±0.8	22.1±4.2	21.5±3.5
NK cells	1.7±0.2	2.7±0.5	1.3±0.5	1.1±0.3	1.7±0.4

Supplemental Table 5. Frequency of leukocyte populations in TBLN in pigs administered α-GalCer 9 days before infection.

Cell type	Mock/ Mock	αGC i.m./ Mock	Mock/ CA04	αGC i.m./ CA04	αGC i.n./ CA04
$CD3^+$T cells	86.4±1.8	82.2±3.8	75.0±2.2	79.7±2.2	73.5±2.5
$CD4^+$ T cells	45.0±1.3	52.4±4.6	53.4±2.2	51.4±3.3	54.4±2.5
$CD8^+$ T cells	25.4±2.3	24.9±1.6	21.6±1.0	21.3±1.3	19.9±1.9
$CD4^+$ $CD8^+$ T cells	4.1±1.0	2.9±0.4	1.5±0.2	3.1±0.8	2.1±0.2
γδ T cells	3.8±0.8	5.0±1.3	2.1±0.3	5.1±1.2	2.9±0.6
NK cells	1.5±0.2	1.4±0.2	0.8±0.2	1.0±0.2	0.7±0.1

Supplemental Table 6. Frequency of leukocyte populations in BALF in pigs administered α-GalCer 2 days before infection.

Cell type	Mock/ Mock	αGC i.n./ Mock	Mock/ CA04	αGC i.n./ CA04
$CD3^+$T cells	60.5±3.1	51.1±6.5	54.9±2.4	67.2±4.5
$CD4^+$ T cells	19.5±4.5	15.2±3.5	18.2±2.3	19.9±2.9
$CD8^+$ T cells	29.3±6.4	33.1±7.6	37.8±4.0	41.9±5.5
$CD4^+$ $CD8^+$ T cells	3.0±1.4	2.2±0.5	3.3±0.4	3.7±0.7
NK cells	9.4±2.4	6.5±0.9	10.5±2.2	5.9±1.1

Supplemental Table 7. Frequency of leukocyte populations in lung in pigs administered α-GalCer 2 days before infection.

Cell type	Mock/ Mock	αGC i.n./ Mock	Mock/ CA04	αGC i.n./ CA04
$CD3^+$T cells	55.5±2.8	54.2±4.3	46.7±1.9	57.6±3.9
$CD4^+$ T cells	23.3±2.2	22.0±2.8	24.5±1.7	22.2±2.5
$CD8^+$ T cells	42.8±10.6	42.0±6.6	41.6±5.2	51.2±8.1
$CD4^+$ $CD8^+$ T cells	8.6±3.8	7.7±2.1	7.8±1.5	8.5±1.7
γδ T cells	38.7±8.4	40.0±4.0	40.0±2.5	33.0±5.7
NK cells	23.2±1.3	22.3±3.0	30.4±1.4	23.4±1.7

Supplemental Table 8. Frequency of leukocyte populations in spleen in pigs administered α-GalCer 2 days before infection.

Cell type	Mock/ Mock	αGC i.n./ Mock	Mock/ CA04	αGC i.n./ CA04
$CD3^+$T cells	68.0±1.4	66.2±2.0	65.1±3.0	67.5±2.6
$CD4^+$ T cells	23.3±4.7	15.5±3.0	20.6±2.3	20.5±1.4
$CD8^+$ T cells	18.1±5.2	14.3±3.7	15.4±1.5	22.7±5.3
$CD4^+$ $CD8^+$ T cells	2.0±1.1	1.0±0.4	1.1±0.2	1.7±0.5
γδ T cells	34.9±6.7	35.0±3.1	33.0±3.6	33.0±4.5
NK cells	4.2±0.8	2.2±0.6	5.3±1.1	3.4±0.8

Supplemental Table 9. Frequency of leukocyte populations in TBLN in pigs administered α-GalCer 2 days before infection.

Cell type	Mock/ Mock	αGC i.n./ Mock	Mock/ CA04	αGC i.n./ CA04
$CD3^+$T cells	91.4±1.8	94.0±0.4	89.3±2.7	87.6±3.8
$CD4^+$ T cells	60.0±5.1	48.9±10.4	51.4±6.6	50.7±5.4
$CD8^+$ T cells	21.0±4.0	24.7±3.0	30.0±2.2	28.8±1.4
$CD4^+$ $CD8^+$ T cells	3.6±0.9	3.3±0.6	3.1±0.4	3.3±0.5
γδ T cells	7.1±0.2	8.5±1.2	5.2±1.1	4.5±0.7
NK cells	1.4±0.4	1.5±0.3	1.0±0.4	1.0±0.1