

Supplementary Table 1. Frequency of iNKT cells among CD3⁺ peripheral blood mononuclear cells cultured for 7 days with 1 µg/ml α-GalCer or vehicle (DMSO)

| Pig ID | iNKT cell frequency (% of CD3 ⁺ cells) | | Fold change |
|--------|---|----------|-------------|
| | DMSO | α-GalCer | |
| Pig 1 | 0.021 | 8.00 | 381 |
| Pig 2 | 0.120 | 6.00 | 50 |
| Pig 3 | 0.130 | 7.85 | 60 |
| Pig 4 | 0.011 | 1.24 | 113 |
| Pig 5 | 0.035 | 8.40 | 240 |
| Pig 6 | 0.420 | 15.40 | 37 |
| Pig 7 | 0.085 | 10.20 | 120 |
| Pig 8 | 0.015 | 3.56 | 273 |

Supplementary Table 3. Interface surface areas (\AA^2) between components of the modeled porcine CD1d- *pTRAV10-pTRBV25*- α -GalCer complex

| | CD1d | Vα | Vβ | α-GalCer |
|-----------------------------------|-------------|-----------------------------|----------------------------|-----------------------------------|
| Human | | | | |
| CD1d | - | 400 | 310 | 1040 |
| Vα | 400 | - | 830 | 140 |
| Vβ | 310 | 830 | - | 0 |
| α-GalCer | 1040 | 140 | 0 | - |
| Pig | | | | |
| CD1d | - | 400 | 250 | 970 |
| Vα | 400 | - | 530 | 160 |
| Vβ | 250 | 530 | - | 0 |
| α-GalCer | 970 | 160 | 0 | - |
| Mouse | | | | |
| CD1d | - | 460 | 200 | 1030 |
| Vα | 460 | - | 680 | 140 |
| Vβ | 200 | 680 | - | 0 |
| α-GalCer | 1030 | 140 | 0 | - |

Supplementary Table 4. Contact residues for the mouse, human and pig iNKT cell receptor-CD1d interface

| Contact sites in: | Human | Mouse | Pig |
|-------------------|---------------|---------------|---------------|
| CD1d | Arg79 | Arg79 | Arg106 |
| | Asp80 | Asp80 | Asp107 |
| | Glu83 | Glu83 | Glu110 |
| | Asp151 | Asp151 | Asp178 |
| | Phe84 | Leu84 | Phe111 |
| | Arg89 | Ser89 | Gly116 |
| | Gln150 | Ala150 | Glu177 |
| CDR1 α | Pro28 | Pro28 | Pro28 |
| | Phe29 | Asp29 | Phe29 |
| | Ser30 | Asn30 | Asn30 |
| CDR2 β | Tyr48 | Tyr48 | Tyr48 |
| | Tyr50 | Tyr50 | Tyr50 |
| | Glu56 | Glu56 | Glu56 |
| CDR3 α | Thr98 | Ala98 | Arg98 |

Bold font indicates a residue that is non-conserved compared to the other two species