



Supplementary Figure 1. IFN γ does not significantly induce NO production in horse BMDM. Horse BMDM were stimulated with LPS at 0, 7, and 24 hr with or without IFN γ treatment. Nitrite concentration was measured by Griess assay. T-test was performed between LPS and LPS + IFN γ treatment at each timepoint, however differences were not statistically significant. Error bars represent the SD of the mean of triplicates.

Human SLC7A2 GA---AAATTAACAGGCTTTTACATTTGTGACTT-AATCTTATCAGAGACTCCTAAAGTAAACAATAGCGCAGTAGGAGAA
Rat Slc7a2 TAGAAAAATAAA--GAGTTTTCACATTTGTGACTTTAATCTTATCAGAGACTCCAAAAGCAAGCAATAGCACAGAACGAGAA
Mouse Slc7a2 TA---AAATCAA--GAGTTTTCACATTTGTGACTTTAATCTTATCAGAGACTTCTAAAGCAA---ATAGCACAGATGAAAA
Pig SLC7A2 TA---AAATTAACAGAGTTTTCATATTTGTGTCTTTAATCTTATCAGAGACTCCTAAAGTAAACAATAGCGCAGTATGAGAA
* **** * * ***** * * * * * * * * * * * * * * * * * *

Human SLC7A2 ACCCTGATTGTGTAACCTTCTGCTCTTGCTCCCTGGAATA---ATGTCATTTCCCTA--TAAACCCACCCCAACAAT
Rat Slc7a2 AGCTCGATTGTGTAACCTTCTGTTTTTGTGCTGGCTAGGAAATACCAAGTATCCTTTTCTT-AAAAACCCACCTCCAATAAC
Mouse Slc7a2 ACCTCGATTGTGTAACCTTCTGTTTTTGTGCTGGCTATGAAATACCAAGTATCCTGTTCTTTAAAAACCCACTTCCAATAAC
Pig SLC7A2 AACTTGGTTGTGTAACCTTTG-----GAAATAGCAAATGTCGCTTTCTT--ATAGCTCGCCTTAAGTCAT
* * * ***** * * * * * * * * * * * * * * * *

Human SLC7A2 CGTGACTACGTATTTCATACCCTGGAGTCTTCCAAAATAGCAACTGCACATTA-----TTTATCAA
Rat Slc7a2 CGTGACTGCCTGCCTGCTTATTCACAAGTCT-----GAAGTCTCGAGTTTTGCTTTTCACTAT-----GATTTTCATTAC
Mouse Slc7a2 CATGACTATG-ACCTGCCTATTCACAGTCT-----GGAATCTTCAAGTTTG-----ATTTTCATTAC
Pig SLC7A2 CAGGTCTACCTGTTCACTTCACTGGGACTTTCCAA-ATAGCAACTAAATATTGCAATAAACGGTTTACAGGTTTATTATGG
* *

Human SLC7A2 CGTTTAGTTTGCATTT-GACAAAGCACATCCACCTGGGCTTCCATTTATCATTTGCTATTATATATATTTATATATTTT
Rat Slc7a2 AGAAGTGATACTTTT-GACAAAGCACATCTATCTAGGCTTCT-----AGTTTTATATAATCATATACACTACTATTTT
Mouse Slc7a2 AGAAGTGATACTTTTAAACAAGCATCATCTATCTGGGCTTCT-----AGTTTTATATATATATACTACTACTATTTT
Pig SLC7A2 TGAAA-TAATACTATTGACAAAGCACTCCCATCTGGGTTCTTTTATCAGAGGTCGTTGTTATATTTTACATATATTTT
* *

Human SLC7A2 CTTATTTCCAAAATCT--TTGTAGAATGGAAGTAAACGGGGGAC-----CAAACCCCACTT
Rat Slc7a2 TATGTTCCCAATCTCAATGAGAGAGT-----GAGGGAAAGAGGGAGGGAGAGGAAACAAAATCTTGCTT
Mouse Slc7a2 TATGTTCCCAATCTCAATGAGAGAGGGAGAGAAAGAGGGAGGGAGAGGAAAGAGAAAGAAATCCTGCTT
Pig SLC7A2 CTTATTTACAAAATCC--TCGCAGACTAAAACCTAAATCAAGTCAG-----GGACAAAATCCCACCT
* *

Human SLC7A2 A---GAACTCTGCTTAGAAGATTCGGAATGCCCTTG-----AGGTTTGGTCTCCAGGAGAGCAGCAA
Rat Slc7a2 AGAAGAAACCT-CAGAAATGCCCTGCCCCACCCCCACACACACATTGAGATTGGGTTCTGCCAAGAGA----GC
Mouse Slc7a2 AGAAGAAACCT-CAGAAATGCCCCACCCACCCCC-----AGATTGGGTTCTGCCAAGGAAAAGGGGC
Pig SLC7A2 GAAGGAACCTCTGCTTAGAAGCCTCGGAGATGGCCCTG-----AGTTTGGGTCCT-CATGGAAGGCAAGA
* *

Human SLC7A2 GTTTATCTCGCGCGCAG-----CCTCTCTTCCCGCGCCCGCGCCACCG-----GCCTAGCCCGGGG
Rat Slc7a2 GTTTTCCCTCTGCCAAG-----CCCTGCGTCTCGGACCCAGCCCAACC-----ACCTACCCACCCAGC---GAG
Mouse Slc7a2 ATTTCCCTCTGCCAAA-----CCCTGCGTCTCGGACCCAGCCCAACC-----ACC-----CCAGC---GGG
Pig SLC7A2 ATTCACCTCGGCTGGGTGTGCCCTCTCCCGCCCGACCTGCCCCACTGCTCTCGGAGCCACCCGCCAGCCCAAGG
* *

Human SLC7A2 CTAGCGCCCGC-CCACGTGTGCTCGGCTCCAGGCA--AACCCG-----CTGAGCAGCGCGCCGACACCCGCCACC
Rat Slc7a2 CAAGCTTGTA-CCACGTGTGCTTACACCTGGCCCTGACCCTA-----CAGAGGCGCGGAG-CTAGACACCCGCTTCC
Mouse Slc7a2 CAAGCGTGAATCCACGTGCGCGCGCCCTGATCTGACCTGACCTTTTTCAGAAGCTTGGAG-TTAGACACCCGCTTCC
Pig SLC7A2 CAAGCGCACGC-CCACGTGTGCTCACCGCTCGGGAGGGAGACTGAAC---TAGCGGCGTTGCGACCGGACCCGCTTACC
* *

Human SLC7A2 CCGGGGATTGGTTCAGCGCGGCGG--GGCCCGCGGGGAGGCGGGCTC-GGGGTCGCGTTCCGGGAGCGCGGAGGAGGGC
Rat Slc7a2 T-GGAATCT---CAGCGTGCCTG-----GAGGGGACGAGCGCTCCAGGAGGGGTCGCGAGCCGAGGGAGGGGCGG
Mouse Slc7a2 T-GGAGTCT---CTGCGCGCCCGCCCGGAGCCGTGACAAAGCTCCAGGCGAGGGTTCGCGAGCACGAGGGAGGGGCGG
Pig SLC7A2 C-CAGGATTGCGCGCGCGGTGG-----GGCGGAGGCGGGCTCGGGTGGGGGGTCTGAGAGCGCGGAGAGAGAA
* *

Human SLC7A2 TGCCGCC-----GGCCCGC-GCCCGCC-----CCGCCCGG-GTGGCTACACAGAGG-----
Rat Slc7a2 AACGCCCTGCCCTCAGGCCCGCCCTCGCGGCCCGCC---TTGCCCCGCCCTCCGCTTCTACTCAGAGGGTTGC
Mouse Slc7a2 GACGGCC-----CCGCCCTCGCTGCCCGCCCACTCCGCCCGCCCTCCGCTTCTACTCAGAGG-----
Pig SLC7A2 GGGGGCG-----GTTCCACCCGGGACGCCCGCC-----CCGGCGCGGTACACCAGCT-----
* *

Human SLC7A2 ---GCGCCACGTGCCAGCCC
Rat Slc7a2 CCACGTGCCACGTGCCAGCCC
Mouse Slc7a2 ---GTGCCACGTGCCAGCCC
Pig SLC7A2 ---GCGCCACGTGCCAGTCC
* ***** *

Supplementary Figure 2. Alignment of proximal promoters of SLC7A2 in multiple species. Promoter sequences were downloaded from ENSEMBL. The last base corresponds to the peak of transcription initiation for the gene in mouse and human based upon the data from the FANTOM Consortium (Ref 10) on the Zenbu browser (<http://fantom.gsc.riken.jp/zenbu/>). Red highlight indicates the purine-rich element highlighted in Ref 31, which is not conserved in rat. However, note that both species have at least two candidate PU.1 sites containing the GGAA core (underlined).

Supplementary Table 1. Source of reference transcripts for RNA-seq processing.

Species	Genome version	Source	URLs	No. of transcripts used as input for the first pass kallisto index	No. of transcripts not detected in any round after the first round of quantification with kallisto *	Avg. no. of protein-coding genes (TPM > 1) in BMDMs 0 hr post-LPS	Avg. no. of protein-coding genes (TPM > 1) in BMDMs 7hr post-LPS	Avg. no. of protein-coding genes (TPM > 1) in BMDMs 7hr post-LPS	% of protein-coding genes (TPM > 1) in BMDMs 7hr post-LPS
Cattle (<i>Bos taurus</i>)	UMD 3.1	Ensembl (version 83)	[1] protein-coding, pseudogene and processed pseudogene transcripts downloaded from: http://ftp.ensembl.org/pub/release-83/ratatosk_taurus/cdna/Bos_taurus.UMD3.1.cdna.all.a.gz ; [2] non-protein coding transcripts obtained from Ensembl Biomat, filtered by type: lncRNA, miRNA, misc. RNA, Mt. RNA, Mt. lRNA, mt. rRNA, snRNA, snoRNA, sRNA	26,740	5,050	11,940	59,72	11,276	56.4
Goat (<i>Capra hircus</i>)	ARSI	NCBI	http://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/001704/415/GCF_001704415.1_ARSI/GOE_001704415.1_ARSI_mrna.gz [1] protein-coding, pseudogene and processed pseudogene transcripts downloaded from: http://ftp.ensembl.org/pub/release-89/ratataequus_caballus/cdna/Equus_caballus.EquCab2.cdna.all.a.gz ; [2] non-protein coding transcripts obtained from Ensembl Biomat, filtered by type: lncRNA, miRNA, misc. RNA, Mt. RNA, Mt. lRNA, mt. rRNA, snRNA, snoRNA, sRNA	47,193	964	11,875	62,96	11,662	61.83
Horse (<i>Equus caballus</i>)	EquCab 2.0	Ensembl (version 85)	[1] protein-coding, pseudogene and processed pseudogene transcripts downloaded from: http://ftp.ensembl.org/pub/release-90/ratataequus_caballus/cdna/Equus_caballus.EquCab2.cdna.all.a.gz ; [2] non-protein coding transcripts obtained from Ensembl Biomat, filtered by type: lncRNA, miRNA, misc. RNA, Mt. RNA, Mt. lRNA, mt. rRNA, snRNA, snoRNA, sRNA	29,196	4,350	11,622	66,83	11,304	55.28
Pig (<i>Sus scrofa</i>)	Sscrofa 11.1	Ensembl (version 90)	[1] protein-coding, pseudogene and processed pseudogene transcripts downloaded from: http://ftp.ensembl.org/pub/release-90/ratataequus_caballus/cdna/Equus_caballus.EquCab2.cdna.all.a.gz ; [2] non-protein coding transcripts obtained from Ensembl Biomat, filtered by type: lncRNA, miRNA, misc. RNA, Mt. RNA, Mt. lRNA, mt. rRNA, snRNA, snoRNA, sRNA	49,436	8,881	12,732	66,99	12,316	55.12
Rat (<i>Rattus norvegicus</i>)	Rnor 6.0	Ensembl (version 88)	[1] protein-coding, pseudogene and processed pseudogene transcripts downloaded from: http://ftp.ensembl.org/pub/release-88/ratataequus_caballus/cdna/Equus_caballus.EquCab2.cdna.all.a.gz ; [2] non-protein coding transcripts obtained from Ensembl Biomat, filtered by type: lncRNA, miRNA, misc. RNA, Mt. RNA, Mt. lRNA, mt. rRNA, snRNA, snoRNA, sRNA	47,106	13,162	11,843	53,23	11,588	51.99
Sheep (<i>Ovis aries</i>)	Oar 3.1	Ensembl	[1] protein-coding, pseudogene and processed pseudogene transcripts downloaded from: http://ftp.ensembl.org/pub/release-83/ratataequus_caballus/cdna/Equus_caballus.EquCab2.cdna.all.a.gz ; [2] non-protein coding transcripts obtained from Ensembl Biomat, filtered by type: lncRNA, miRNA, misc. RNA, Mt. RNA, Mt. lRNA, mt. rRNA, snRNA, snoRNA, sRNA	29,118	193	12,409	69,31	12,222	58.42
Water buffalo (<i>Bubalus bubalis</i>)	UMD_CASPUr_WB 2.0	NCBI	http://ftp.ncbi.nlm.nih.gov/genomes/all/GCF_000471/251/GCF_000471251.1_UMD_CASPUr_WB_2.0_mrna.gz	46,502	99	10,659	63,17	9,879	49.28

* note that ENSEMBL data for the sheep, water buffalo and goat are derived from large-scale expression atlases for each species, each comprising hundreds (goat) or thousands (sheep, water buffalo) of libraries spanning multiple tissues and cell types. For these species, therefore, there are few transcripts undetected in every library of their respective atlas.