

The same but different: impact of animal facility sanitary status on a transgenic mouse model of Alzheimer's disease

Caroline Ismeurt-Walmsley^{a,1}, Patrizia Giannoni^{a,2}, Florence Servant^b, Linda-Nora Mekki^a, Kevin Baranger^{c,3}, Santiago Rivera^c, Philippe Marin^a, Benjamin Lelouvier^b, Sylvie Claeyssen^a

^a IGF, Univ. Montpellier, CNRS, INSERM, Montpellier, France

^b VAIOMER, Labège, France

^c Aix-Marseille Univ, CNRS, INP, Inst Neurophysiopathol, Marseille, France

¹ Present address: IGMM, Université de Montpellier, CNRS, F-34293, Montpellier, France

² Present address: Equipe Chrome, EA7352, Université de Nîmes, F-30000 Nîmes, France

³ Present address: LIENSs UMRi 7266 CNRS/La Rochelle Université, F-17000 La Rochelle, France

Correspondence to:

Sylvie Claeyssen

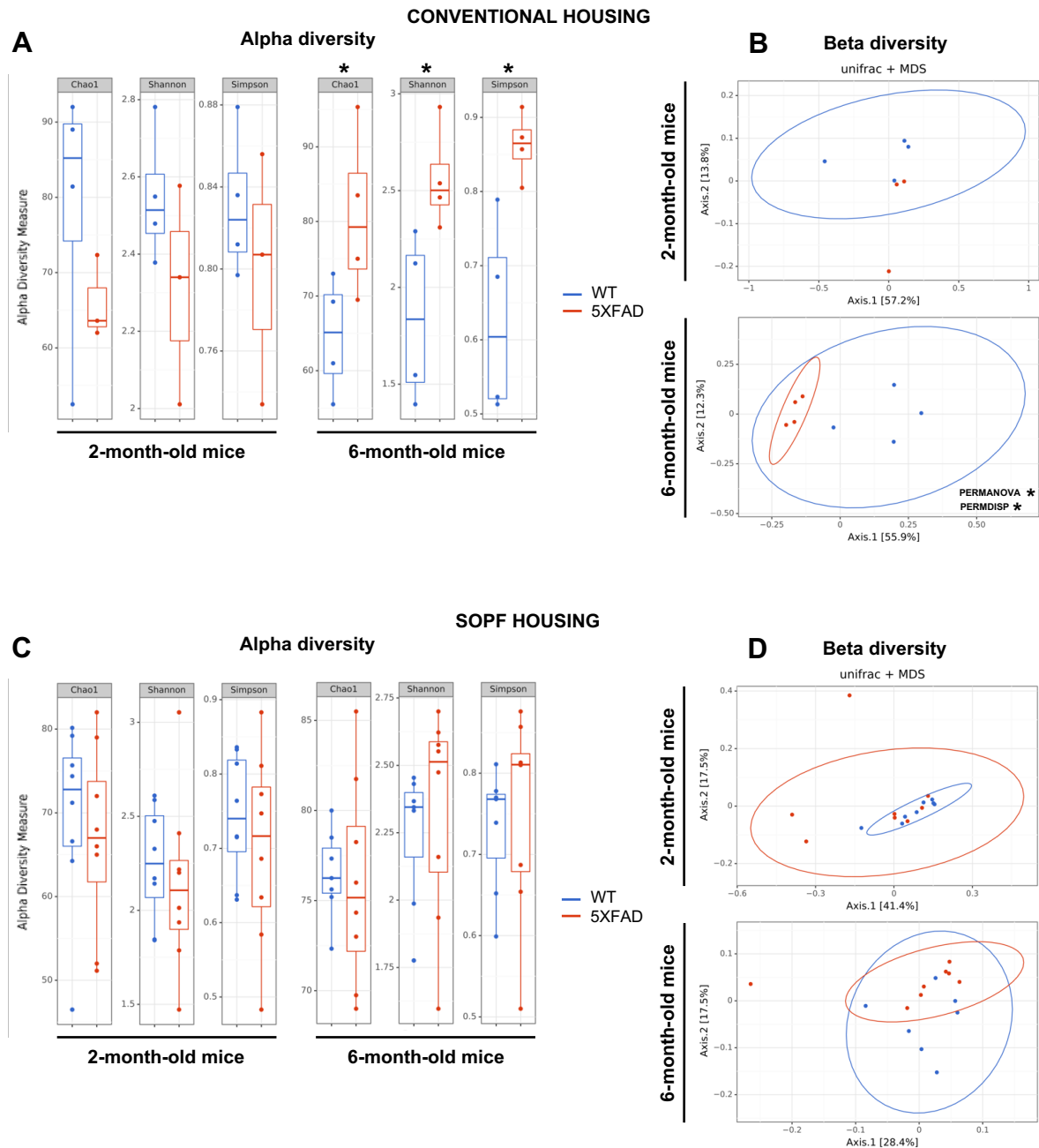
IGF - CNRS UMR5203 - INSERM U1191 - Univ. Montpellier

141 rue de la Cardonille, 34094 Montpellier, France

Email: sylvie.claeyssen@igf.cnrs.fr

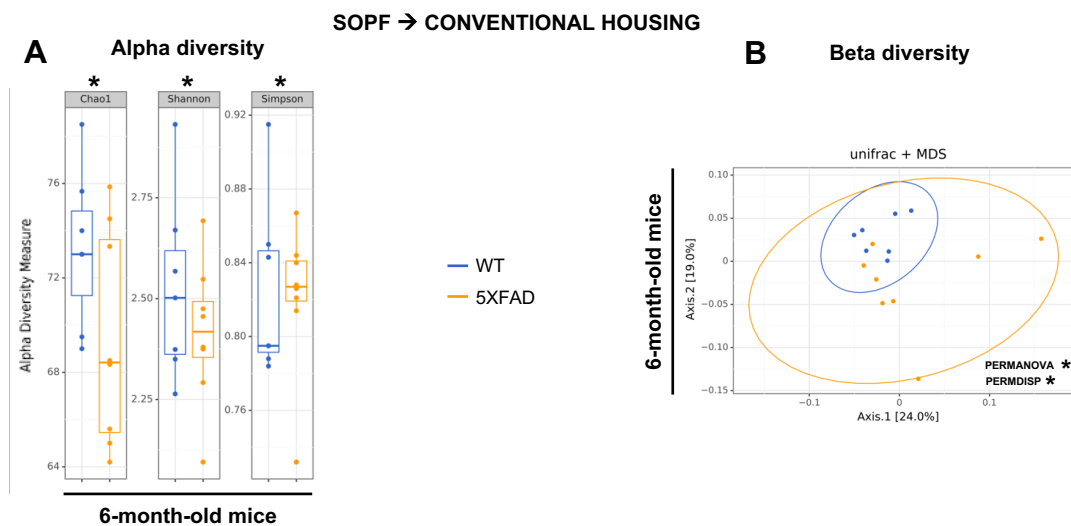
Supplemental material

- **Supplementary figure 1.** Fecal microbiota composition of 5XFAD and WT littermates in conventional and SOPF housing.
- **Supplementary figure 2.** Fecal microbiota composition of SOPF-born 5XFAD and WT littermates after 18 weeks in a conventional environment.
- **Supplementary Table 1.** Exclusion list of the Plateau Central d'Elevage et d'Archivage, CNRS, Montpellier (SOPF animal facility).



Supplementary figure 1. Fecal microbiota composition of 5XFAD and WT littermates in conventional (A, B) and SOPF (C, D) housing.

(A, C) Alpha diversity indexes at the genus level. Data are presented as 25-75% interquartile range and median. Each dot represents a mouse. * $p < 0.05$ versus WT (Kruskal-Wallis) (B, D) Beta diversity assessed by principal coordinates analysis using Unifrac index. * $p < 0.05$ versus WT (PERMANOVA or PERMDISP).



Supplementary figure 2. Fecal microbiota composition of SOPF-born 5XFAD and WT littermates after 18 weeks in a conventional environment.

(A) Alpha diversity indexes at the genus level. Data are presented as 25-75% interquartile range and median. Each dot represents a mouse. * $p < 0.05$ versus WT (Kruskal-Wallis) **(B)** Beta diversity assessed by principal coordinates analysis using Unifrac index. * $p < 0.05$ versus WT (PERMANOVA or PERMDISP).

Bacteria	Endo and ectoparasites	Viruses
<i>Bordetella bronchiseptica</i>	<i>Aspicularis tetraptera</i>	Hantavirus
Cilia-associated respiratory bacillus	<i>Chilomastix</i>	K virus
<i>Citrobacter rodentium</i>	<i>Cryptosporidium muris</i>	Lactate dehydrogenase elevating virus
<i>Clostridium piliforme</i>	<i>Cryptosporidium parvum</i>	Lymphocytic choriomeningitis virus
<i>Corynebacterium bovis</i>	<i>Demodex</i>	MKPV
<i>Corynebacterium kutscheri</i>	Dermatophytes	Mouse adenovirus type 1 (FL)
<i>Helicobacter spp</i>	<i>Eimeria sp</i>	Mouse adenovirus type 2 (K87)
<i>Klebsiella pneumoniae/oxytoca</i>	<i>Encephalitozoon cuniculi</i>	Mouse cytomegalovirus
<i>Mycoplasma pulmonis</i>	<i>Entamoeba muris</i>	Mouse hepatitis virus
<i>Pasteurella spp</i>	<i>Giardia muris</i>	Mouse polyomavirus
<i>Proteus mirabilis</i>	<i>Hymenolepis diminuta</i>	Mouse rotavirus
<i>Pseudomonas aeruginosa</i>	<i>Hymenolepis nana</i>	Mouse thymic virus
<i>Salmonella spp</i>	<i>Myobia musculi</i>	Mousepox (<i>Ectromelia</i>) virus
<i>Staphylococcus aureus</i>	<i>Myocoptes musculinus</i>	Murine norovirus
<i>Streptobacillus moniliformis</i>	Non-pathogenic protozoa (such as <i>Hexamastix</i> , <i>Tritrichomonas</i> , etc.)	Parvovirus: Minute virus of mice Mouse parvovirus
Streptococci β -hemolytic (not group D)	<i>Pneumocystis murina</i>	Pneumonia virus of mice
<i>Streptococcus pneumoniae</i>	<i>Polyplax species</i>	Reovirus type 3
	<i>Radfordia spp</i>	Sendai virus
	<i>Spironucleus muris</i>	Theiler's murine encephalomyelitis virus
	<i>Syphacia sp</i>	
	<i>Trichomonas spp</i>	

Supplementary Table 1. Exclusion list of the Plateau Central d'Elevage et d'Archivage, CNRS, Montpellier (SOPF animal facility). Detection tests include RT-PCR, ELISA or Multiplexed Fluorometric ImmunoAssay (Bead).