

Supplement 2: Detailed information on nest building behavior.

Material supporting Figure 3 in the main manuscript:

Nest building behaviour comparison for C57BL/6J mice. Friedmann Test revealed significant global differences ($p < 0.001$). A Wilcoxon Test with correction for multiple testing was used for group comparison.

	Nestlet	Wooden wool	Cocoon	Crinklet	Compact
Nestlet	-	<i><0.001</i>	<i><0.001</i>	<i><0.001</i>	<i><0.001</i>
Wooden wool	<i><0.001</i>	-	1.0	1.0	1.0
Cocoon	<i><0.001</i>	1.0	-	1.0	1.0
Crinklet	<i><0.001</i>	1.0	1.0	-	1.0
Compact	<i><0.001</i>	1.0	1.0	1.0	-

Nest building behaviour comparison for BALB/c mice. Friedmann Test revealed significant global differences ($p < 0.001$). A Wilcoxon Test with correction for multiple testing was used for group comparison.

	Nestlet	Wooden wool	Cocoon	Crinklet	Compact
Nestlet	-	<i><0.001</i>	<i>0.010</i>	0.345	<i>0.005</i>
Wooden wool	<i><0.001</i>	-	0.905	<i>0.041</i>	1.0
Cocoon	<i>0.010</i>	0.905	-	1.0	1.0
Crinklet	0.354	<i>0.041</i>	1.0	-	1.0
Compact	<i>0.005</i>	1.0	1.0	1.0	-

Nest building behavior in regard to mouse strain. Data displayed as median (interquartile range). A Mann-Whitney-U-Test was used for group comparison.

Material	C57BL/6J	BALB/c	p-value
Nestlet	9.0 (3.0)	9.0 (3.0)	0.589
Wooden wool	3.0 (3.0)	3.5 (3.5)	0.195
Cocoon	3.5 (5.5)	7.0 (7.0)	0.257
Crinklet	4.5 (6.0)	7.0 (4.5)	<i>0.028</i>
Compact	4.5 (3.0)	4.5 (6.0)	0.747

Data supporting Figure 4 in the main manuscript:

Sex specific nest building behavior in C57BL/6J mice. Group comparison with Mann-Whitney-U-Test. Data displayed as median (interquartile range).

Material	female	male	p-value
Nestlet	9.0 (3.0)	9.0 (3.6)	0.589
Wooden wool	3.0 (3.8)	3.0 (1.6)	0.195
Cocoon	3.0 (5.8)	4.0 (5.8)	0.257
Crinklet	7.0 (6.3)	2.5 (5.5)	<i>0.028</i>
Compact	5.0 (3.0)	4.3 (4.0)	0.747

Sex specific nest building behavior in BALB/c mice. Group comparison with Mann-Whitney-U-Test. Data displayed as median (interquartile range).

Material	female	male	p-value
Nestlet	9.0 (3.0)	9.0 (2.0)	0.320
Wooden wool	3.5 (3.5)	2.5 (1.5)	<i>0.034</i>
Cocoon	7.0 (7.0)	2.0 (2.0)	<i>0.003</i>
Crinklet	7.0 (4.5)	5.5 (2.9)	0.090
Compact	4.5 (6.0)	3.5 (2.1)	<i>0.029</i>

Data supporting Figure 5 in the main manuscript:

Housing specific nest building behavior in C57BL/6J mice. Group comparison with Mann-Whitney-U-Test. Data displayed as median (interquartile range).

Material	single	pair	p-value
Nestlet	7.0 (3.3)	10.0 (1.0)	<i>0.001</i>
Wooden wool	2.8 (1.5)	4.5 (4.0)	<i>0.013</i>
Cocoon	3.0 (5.6)	4.0 (6.8)	0.054
Crinklet	3.0 (3.8)	7.0 (7.0)	<i>0.047</i>
Compact	3.0 (3.1)	5.0 (3.0)	<i>0.039</i>

Housing specific nest building behavior in BALB/c mice. Group comparison with Mann-Whitney-U-Test. Data displayed as median (interquartile range).

Material	single	pair	p-value
Nestlet	9.0 (3.0)	9.0 (3.0)	0.743
Wooden wool	2.5 (2.8)	2.5 (2.5)	0.472
Cocoon	3.0 (4.5)	2.5 (5.0)	0.905
Crinklet	6.0 (2.5)	6.3 (4.9)	0.783
Compact	3.5 (3.5)	4.0 (3.1)	0.265

Data supporting Figure 6 in the main manuscript:

Housing and sex specific nest building behavior in C57BL/6J mice. Data displayed as median (interquartile range): a Kruskal-Wallis-Test for global differences (p-values given in table) was followed by pairwise comparison with a Mann-Whitney-U-Test adjusted for multiple testing. *...p<0.05 vs. single male and pair-housing male; #...p<0.05 vs. single female housing; \$...p<0.05 vs. single male housing.

Material	female		male		p-value
	single	pair	single	pair	
Nestlet	7.0 (2.5)	10.0 (1.0)*	9.0 (4.5)	9.0 (2.0)	0.007
Wooden wool	2.0 (1.5)	5.3 (4.3)	3.0 (0.5)	3.5 (4.0)	0.067
Cocoon	2.5 (2.0)	7.8 (6.8)#	5.5 (6.5)	4.0 (5.5)	0.046
Crinklet	4.5 (6.0)	8.5 (4.3)\$	2.5 (2.5)	5.5 (6.5)	0.018
Compact	3.0 (3.5)	5.5 (3.4)	3.0 (3.0)	5.0 (3.5)	0.181

Housing and sex specific nest building behavior in BALB/c mice. Data displayed as median (interquartile range): a Kruskal-Wallis-Test for global differences (p-values given in table) was followed by pairwise comparison with a Mann-Whitney-U-Test adjusted for multiple testing. §...p<0.05 vs. all other housing groups; %...p<0.05 vs. pair-housed male mice.

Material	female		male		p-value
	single	pair	single	pair	
Nestlet	10.0 (2.5)	8.0 (3.5)	8.5 (3.8)	9.0 (1.0)	0.511
Wooden wool	4.5 (3.8)§	2.0 (3.5)	2.0 (1.0)	2.5 (1.0)	0.002
Cocoon	5.0 (1.8)	8.5 (8.1)%	2.5 (3.8)	1.5 (3.8)	0.017
Crinklet	7.0 (3.0)	5.8 (5.9)	5.3 (3.6)	6.3 (4.4)	0.064
Compact	5.5 (6.0)	4.0 (5.9)	3.0 (2.3)	3.8 (2.5)	0.080