

**Supplemental Table 1.** Mean values (+ SEM) of total home-cage activity. p values from the t-test with Bonferroni correction and Z scores estimated by using equation (3) from Belknap (2003) for comparison between B6 and consomic mouse strains.

	Total activity			Active time			Average activity		
		p	Z		p	Z		p	Z
1	9516 ± 1278			452 ± 23			20.0 ± 1.8		
2C	9124 ± 850			463 ± 20		2.58	19.3 ± 1.3		
2T	12306 ± 1172	0.025	<b>5.17</b>	466 ± 17		2.80	25.7 ± 1.6		<b>4.73</b>
3	13305 ± 1238	0.004	<b>6.60</b>	570 ± 21	<0.001	<b>10.54</b>	22.6 ± 1.6		2.02
4	13879 ± 1631	0.004	<b>7.41</b>	521 ± 23	0.015	<b>6.92</b>	25.5 ± 2.4		<b>4.54</b>
6C	4242 ± 447	<0.001	<b>6.31</b>	362 ± 16		<b>4.89</b>	11.3 ± 0.8	<0.001	<b>7.96</b>
7T	5657 ± 661	0.010	<b>4.30</b>	377 ± 19		<b>3.74</b>	14.3 ± 1.3	0.011	<b>5.31</b>
8	8213 ± 953			423 ± 16			18.8 ± 1.6		
9	5806 ± 621	0.015	<b>4.09</b>	353 ± 16	0.027	<b>5.57</b>	16.1 ± 1.2		<b>3.73</b>
11	4956 ± 419	<0.001	<b>5.30</b>	321 ± 14	<0.001	<b>7.92</b>	15.1 ± 0.9	0.038	<b>4.57</b>
12C	8145 ± 805			428 ± 21			18.4 ± 1.2		
12T	10753 ± 836		<b>2.96</b>	520 ± 14	0.004	<b>6.80</b>	20.8 ± 1.6		
13A	17067 ± 1657	<0.001	<b>11.95</b>	546 ± 18	<0.001	<b>8.79</b>	31.0 ± 2.8	<0.001	<b>9.37</b>
14	12536 ± 1142	0.011	<b>5.50</b>	465 ± 15		<b>5.00</b>	24.9 ± 1.9		<b>4.04</b>
15	4100 ± 581	<0.001	<b>6.52</b>	316 ± 20	<0.001	<b>8.28</b>	12.0 ± 1.0	<0.001	<b>7.32</b>
16	6770 ± 985		2.71	361 ± 13		<b>4.92</b>	18.0 ± 2.1		2.05
17	9429 ± 463			421 ± 19			22.5 ± 0.7		
19	8603 ± 877			475 ± 15		<b>3.46</b>	17.7 ± 1.3		2.35
Y	7152 ± 736		2.17	431 ± 13			16.3 ± 1.3		<b>3.57</b>
B6	8675 ± 481			428 ± 14			20.3 ± 1.0		
MSM	11791 ± 2435			384 ± 36			27.1 ± 2.9		

p value: t-test after the Bonferroni correction; Z value: Belknap's equation 3.

Z scores, presented as absolute values, are considered to be significant when greater than 2.9.

**Supplemental Table 2.** Mean values (+SEM) of temporal components of home-cage activity. p values from the t-test with Bonferroni correction and Z scores estimated by using equation (3) from Belknap (2003) for comparison between B6 and consomic mouse strains.

	Anticipation			1st phase			2nd phase			3rd phase			Resting phase		
		p	Z		p	Z		p	Z		p	Z		p	Z
1	819 ± 135	<0.001	<b>8.86</b>	4150 ± 670			1134 ± 148			1230 ± 151		<b>4.37</b>	2184 ± 339	<0.001	<b>12.17</b>
2C	339 ± 71			4721 ± 471			1618 ± 159			1787 ± 190			659 ± 132		
2T	396 ± 83		2.39	7654 ± 666	<0.001	<b>8.19</b>	1557 ± 202			2066 ± 251			633 ± 94		
3	567 ± 74	<0.001	<b>4.93</b>	6135 ± 604		<b>4.37</b>	3313 ± 391	<0.001	<b>11.65</b>	2272 ± 240		<b>3.34</b>	1019 ± 134		
4	250 ± 77			7123 ± 851	0.006	<b>6.85</b>	3396 ± 569	<0.001	<b>12.15</b>	2130 ± 271		2.29	979 ± 208		
6C	55 ± 9	0.036	2.65	2099 ± 222	<0.001	<b>5.78</b>	841 ± 67	0.002	<b>3.46</b>	907 ± 117	<0.001	<b>6.76</b>	341 ± 68	0.008	<b>4.21</b>
7T	269 ± 36			2719 ± 355	0.011	<b>4.22</b>	894 ± 97	0.013	<b>3.14</b>	883 ± 128	<0.001	<b>6.93</b>	892 ± 131		
8	431 ± 113		<b>2.92</b>	4459 ± 523			1571 ± 226			1033 ± 92	0.004	<b>5.82</b>	718 ± 114		
9	193 ± 48			2559 ± 297	0.002	<b>4.63</b>	864 ± 110	0.013	<b>3.32</b>	1514 ± 166		2.27	675 ± 100		
11	124 ± 25			2520 ± 277	0.004	<b>4.73</b>	918 ± 91	0.042	<b>2.99</b>	1087 ± 123	0.015	<b>5.43</b>	308 ± 42	0.006	<b>4.50</b>
12C	230 ± 46			4335 ± 446			1584 ± 207			1303 ± 170		<b>3.83</b>	693 ± 76		
12T	309 ± 91			5677 ± 476		<b>3.21</b>	1986 ± 179	0.046	<b>3.54</b>	1795 ± 133			986 ± 214		
13A	1067 ± 289	0.004	<b>12.33</b>	9214 ± 1128	<0.001	<b>12.11</b>	2856 ± 291	<0.001	<b>8.86</b>	2177 ± 221		2.64	1752 ± 274	0.002	<b>8.34</b>
14	528 ± 105	0.044	<b>4.35</b>	6128 ± 641		<b>4.35</b>	2221 ± 257	0.011	<b>4.98</b>	2468 ± 276		<b>4.79</b>	1191 ± 160		<b>3.35</b>
15	252 ± 35			1936 ± 279	<0.001	<b>6.19</b>	654 ± 97	<0.001	<b>4.60</b>	956 ± 179	0.004	<b>6.40</b>	301 ± 60	<0.001	<b>4.56</b>
16	79 ± 16		2.31	3415 ± 633		2.48	1436 ± 225			1229 ± 122		<b>4.38</b>	612 ± 126		
17	332 ± 77			5568 ± 306		<b>2.94</b>	1693 ± 197			1413 ± 150		<b>3.01</b>	422 ± 58		<b>3.49</b>
19	303 ± 60			3886 ± 518			1180 ± 151			2177 ± 209		2.64	1057 ± 214		2.16
Y	327 ± 65			3884 ± 445			1221 ± 135			1187 ± 113	0.027	<b>4.69</b>	533 ± 71		2.50
B6	234 ± 39			4399 ± 281			1407 ± 92			1821 ± 125			814 ± 83		
MSM	443 ± 95			5501 ± 965			3805 ± 853			1689 ± 612			353 ± 65		

p value: t-test after the Bonferroni correction; Z value: Belknap's equation 3.

Z scores, presented as absolute values, are considered to be significant when greater than 2.9.