

Supplementary material

Supplementary Table 1. Determination of the actual gas concentrations.

	<i>Expected</i>	<i>Before</i>	<i>After</i>	<i>Mean</i>
Exposure #1	1500	1518	1544	1531
Exposure #2	800	835	819	827
Exposure #3	1500	1555	1546	1550

Gas concentrations were determined by Fourier Transform InfraRed Spectroscopy, using an $\lambda = 1263.133 \text{ cm}^{-1}$ IR band.

Supplementary Table 2. Commercial ELISA kits used in the study.

<i>Marker</i>	<i>Supplier</i>	<i>Reference</i>	<i>Batch</i>	<i>nbr</i>
TNF α	Cloud-Clone Corp	SEA133MU	L200923046	
IL-6	Cloud-Clone Corp	SEA079MU	L201112013	
Iba-1 (AIF1)	Cloud-Clone Corp	SEC288MU	L201113117	
Bax	Cloud-Clone Corp	SEB343MU	L201113140	
Bcl-2	Cloud-Clone Corp	SEA778MU	L201113139	

Supplementary Table 3. Detailed analyses of variances (ANOVAs).

Figure 1

- 1a two-way ANOVA: $F_{(1,60)} = 65.60, p < 0.0001$ for the gas concentration
 $F_{(2,60)} = 4.485, p = 0.0153$ for the day
 $F_{(2,60)} = 2.160, p = 0.1242$ for the interaction
- 1b two-way ANOVA: $F_{(2,171)} = 75.60, p < 0.0001$ for the gas concentration
 $F_{(2,171)} = 9.218, p = 0.0002$ for the day
 $F_{(4,171)} = 3.413, p = 0.0103$ for the interaction

Figure 2

- 2a one-way ANOVA: $F_{(5,56)} = 0.854, p > 0.05$
- 2b one-way ANOVA: $F_{(5,56)} = 3.039, p < 0.05$
- 2d one-way ANOVA: $F_{(8,118)} = 1.057, p > 0.05$
- 2e one-way ANOVA: $F_{(8,118)} = 12.250, p < 0.05$

Figure 3

- 3a two-way ANOVA: $F_{(1,64)} = 28.05, p < 0.0001$ for the gas concentration
 $F_{(2,64)} = 0.7727, p > 0.05$ for the day
 $F_{(2,64)} = 3.362, p < 0.05$ for the interaction
- 3b two-way ANOVA: $F_{(1,64)} = 14.93, p < 0.001$ for the gas concentration
 $F_{(2,64)} = 0.1651, p > 0.05$ for the day
 $F_{(2,64)} = 2.080, p < 0.05$ for the interaction
- 3c two-way ANOVA: $F_{(1,64)} = 0.4487, p > 0.005$ for the gas concentration
 $F_{(2,64)} = 6.644, p < 0.01$ for the day
 $F_{(2,64)} = 1.168, p > 0.05$ for the interaction

3d	two-way ANOVA:	$F_{(1,64)} = 6.071, p < 0.05$ for the gas concentration $F_{(2,64)} = 3.544, p < 0.05$ for the day $F_{(2,64)} = 2.344, p > 0.05$ for the interaction
3e	two-way ANOVA:	$F_{(2,135)} = 2.096, p > 0.05$ for the gas concentration $F_{(2,135)} = 3.085, p < 0.05$ for the day $F_{(4,135)} = 2.064, p > 0.05$ for the interaction
3f	two-way ANOVA:	$F_{(2,135)} = 6.996, p < 0.01$ for the gas concentration $F_{(2,135)} = 3.308, p < 0.05$ for the day $F_{(4,135)} = 2.052, p > 0.05$ for the interaction
3g	two-way ANOVA:	$F_{(2,135)} = 0.958, p > 0.05$ for the gas concentration $F_{(2,135)} = 1.491, p > 0.05$ for the day $F_{(4,135)} = 3.872, p < 0.01$ for the interaction
3h	two-way ANOVA:	$F_{(2,135)} = 1.988, p > 0.05$ for the gas concentration $F_{(2,135)} = 4.432, p < 0.05$ for the day $F_{(4,135)} = 2.696, p < 0.05$ for the interaction

Figure 7

7b	one-way ANOVA:	$F_{(2,15)} = 19.61, p < 0.0001$
7d	one-way ANOVA:	$F_{(2,15)} = 99.08, p < 0.0001$
7f	one-way ANOVA:	$F_{(2,15)} = 20.67, p < 0.0001$

Figure 8

8b	one-way ANOVA:	$F_{(2,15)} = 8.598, p = 0.0033$
8d	one-way ANOVA:	$F_{(2,15)} = 8.344, p < 0.0037$
8f	one-way ANOVA:	$F_{(2,15)} = 6.721, p < 0.0082$

Figure 10.

10b	two-way ANOVA:	$F_{(1,119)} = 59.58, p < 0.0001$ for the gas concentration $F_{(6,119)} = 0.8608, p = 0.5260$ for the time $F_{(6,119)} = 1.532, p = 0.1735$ for the interaction
10d	two-way ANOVA:	$F_{(1,1100)} = 95.16, p < 0.0001$ for the gas concentration $F_{(99,1100)} = 0.4914, p > 0.9999$ for the time $F_{(99,1100)} = 0.2698, p > 0.9999$ for the interaction

Supplementary Figure 2.

S2b	one-way ANOVA:	$F_{(2,15)} = 23.25, p < 0.0001$
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Legends for the Supplementary Figures

Supplementary Figure 1. Session 2 of the novel object test: interaction with the 2 similar objects. (a-c) Male and (d-f) female mice; (a, d) number of contacts with the objects and (b, e) preference for the object in position #2, calculated in number of contacts or (c, f) in duration of contact. The data shows the mean \pm SEM. ** $p < 0.01$ vs. control on the same day in (a); Dunnett's test in (a, b). ^o $p < 0.05$ vs. 50%; one-column t -test in (c, f).

Supplementary Figure 2. Effects of exposure to C₄F₇N gas on the microglial reaction in the mouse cortex by immunohistofluorescent labeling of the Iba-1 protein: (a) layer of the lateral parietal associative cortex with typical immunofluorescence images (blue: DAPI, red: Iba-1) and (b) quantifications. Coronal sections 25 μ m thick were labeled with antibodies and the LPtA area of the cortex was analyzed. Scale = 50 μ m. *** $p < 0.001$, Dunnett test.

Supplementary Figure 3. Original blots presented in figures 6b and 9g: markers lanes used in the figures are outlined in red. The stain-free blots used for normalization are shown below.