

*Olfactory sensitivity in CD-1 mice for six L- and D- amino acids*

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**Abstract**

The olfactory sensitivity of five male CD-1 mice (*Mus musculus*) for six amino acids was determined using an operant conditioning paradigm. All animals significantly distinguished dilutions as low as 0.01 mM L-cysteine, 3.3 mM L-methionine, 10 mM L-proline, 0.03 mM D-cysteine, 0.3 mM D-methionine and 10 mM D-proline from the odorless solvent, with individual animals displaying even lower detection thresholds. Among the three different L-forms of the amino acids the mice were most sensitive for cysteine and least sensitive for proline and among the three D-forms the animals displayed a lower sensitivity for D-proline, compared to D-cysteine and D-methionine. A comparison between the present data and results obtained with other species showed that the CD-1 mice displayed a higher sensitivity than human subjects and spider monkeys with three (L-Cysteine, D-cysteine and L-proline) of the six amino acids. Results from this report support the idea that the number of functional olfactory receptor genes is not suitable to predict a species' olfactory sensitivity.

Keyword: Amino acid, Olfaction, CD-1 mice, olfactory receptor genes and sulphur- containing group.