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Odor representation and coding by the mitral/tufted cells in the olfactory bulb

Key words: Olfactory bulb; Mitral/tufted cells; Odor identity; Neural representation; Information encoding

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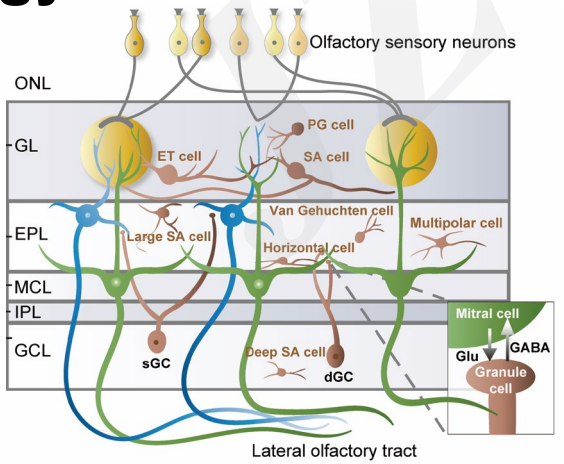
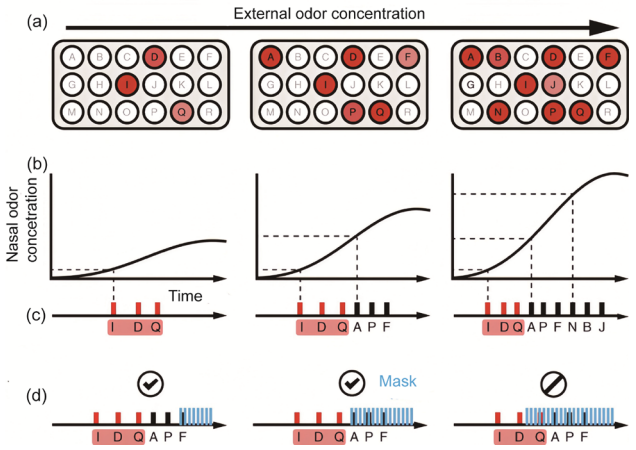
Research Summary

This review focused how the neurons and circuits in the OB represent odor information, and summarized the key features of different coding strategies, including:

- **Neuronal and circuit bases for odor representation in the OB.**
- **How the spatial coding strategy represents odor information.**
- **The advantages and application of temporal coding strategy.**





Innovation points

● **Introduction** **of the importance of the OB as a crucial center for odor representation and coding in the olfactory system.**

● **Summary** **of the neuronal and circuit bases for odor representation in the OB.**

● **Emphasis** **of details of how spatial and temporal coding strategies represent odor information in the OB.**

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Figure 1

Innovation points

A series of comprehensive figures were generated to summarize the neural bases and odor representation strategies in the OB.

Figure 1 | Illustration of anatomical basis for spatial coding in the OB

Figure 2 | Schema of OB circuit modulation by cortical feedback and centrifugal neuromodulators.

Figure 3 | Diagram showing the electrophysiological signals recorded in the OB.

Figure 4 | Example of how temporal information from OB represents odors.

Figure 5 | A schematic diagram illustrating primacy coding of odor identity.

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