

EVENT-RELATED POTENTIALS IN AN AUDITORY ODDBALL SITUATION IN THE RAT

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ABSTRACT

The mismatch response, or mismatch negativity (MMN), is a neurophysiological response to stimulus change [1]. In humans and other animals, the MMN may underlie the ability to discriminate acoustic differences, a fundamental aspect of auditory perception. We used a standard ‘oddball’ stimulation paradigm to evoke event-related potentials in both freely moving and anaesthetized rats, in order to study the neural mechanisms underlying the mismatch negativity. Evoked responses were recorded from rats in response to synthesized speech (vowels), sounds which we have shown rats capable of discriminating by behavioral testing. Oddball stimulus sets included deviants (10% probability) and standards (inter-stimulus interval 750 msec). Controls included ‘reference’ responses obtained after each oddball set. We present results of both single unit activities and local field potentials which were recorded simultaneously from multiple sites in the temporal cortex of anesthetized and awaken rats.

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References

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