

Rabies: the dawn of molecular detection

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INTRODUCTION

Rabies is a fatal zoonotic disease that causes acute encephalitis in mammals making the early diagnosis a crucial step of public health concern. Nevertheless, the direct fluorescent antibody (DFA) test, considered the gold standard, combined with the mouse inoculation test (MIT) could take up to 30 days for a final result. Accordingly, molecular techniques such as the real-time polymerase chain reaction (RT-qPCR) have the potential to drop the diagnosis to a single day.

METHODS

The Agência Estadual de Defesa Sanitária Animal e Vegetal do Mato Grosso do Sul (IAGRO-MS), responsible for the diagnosis of rabies in animals in the state, completely replaced MIT for RT-qPCR for rabies diagnosis since February 2024.



RESULTS

RT-qPCR was successfully implemented at the Laboratório de Diagnóstico de Doenças Animais e Análise de Alimentos (LADDAN), IAGRO-MS for rabies diagnosis.

Table 1. Number of samples received and processed by LADDAN.

	SAMPLES	RESULTS
MAY/2024	125	12 Positive 113 Negative

CONCLUSION

- RT-qPCR
 - Accurate result
 - Quick diagnosis
 - Poorly preserved or degraded samples can be used.
 - Surveillance