

PATCH-CLAMP RECORDINGS OF STRIATAL SLICES

INTRODUCTION

- In Huntington's Disease (HD), one of the most important and early neuropathologies is a massive loss of medium-sized spiny neurons (MSNs) in the striatum. Electrophysiological characterization of MSNs has shown drastic changes in their **intrinsic membrane properties** and **synaptic connectivity** using a wide variety of HD mouse models.
- NEUROSERVICE has strong experience in characterizing electrophysiological properties of MSNs in HD mouse models (including R6/2 and zQ175) with or without **chronic dosing treatments** or **acute compound exposure**.
- The assays we would recommend and which provide the most robust readouts are **MSN membrane properties** and/or **miniature excitatory postsynaptic currents (mEPSC)** (see next slides for details). These assays deliver a broad spectrum of parameters which are impacted by HD, particularly MSN hyperexcitability.

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R6/2 HD MICE MODEL

■ mEPSC

Miniature EPSC experiments are one of the main readout of HD physiopathology, showing the alteration of the network, i.e. the input of striatal MSNs. Despite a tendency of decreased **amplitude** on HD models is often seen, the **frequency** of events is always drastically impaired during HD along the disease.

