Neurons perfusion

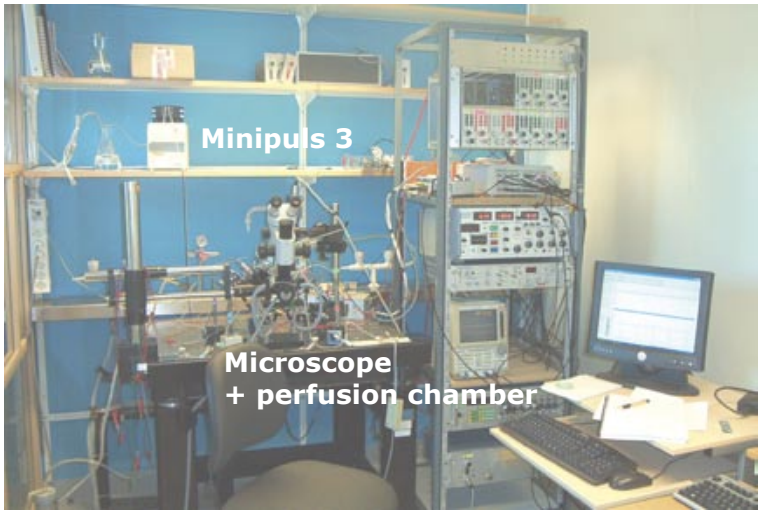
Rhythmic motor behaviours, such as swimming, walking, and respiration, are generated by Central Pattern Generators or CPGs. The Kiehn laboratory from the department of Neuroscience in the Karolinska Institute, Sweden, studies cellular and network properties of the locomotor CPG on neonatal rats. The spinal cord of neonatal rat is a robust in vitro preparation for combined electrophysiological recording and experimental manipulation of rhythmic locomotors activity.

The lab team uses the **Minipuls 3** for 2 steps of their protocol:

- Electro physiology: intracellular and extra cellular recordings on in vitro spinal cord preparations + intracellular recordings on in vitro spinal cord slice preparations.
- Calcium imaging (on in vitro spinal cord preparations).

The **Minipuls 3** perfuses the preparation chambers with a physiological solution or drugs mixed in a physiological solution at a low adjustable flow rate from 2 to 10 mL/min, via one or 2 channels: with such variable parameters, the **Minipuls 3** proves to be a perfect solution for it is extremely easy to swap tubes. Furthermore, the pump can be set up in no time and remotely controlled.

The liquids pathway is a silicone tubing that provides the best biocompatibility. Engineered with a 10-roller rotor, the **Minipuls 3** produces smooth pulse-free flows with a high accuracy which are critical factors when running a perfusion process.



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Application field	Required Minipuls 3 products	Reference
Neuroscience Animal Physiology	Minipuls 3 control module	F155001
	R2 2-channel head	F117800
	Peristaltic tubing silicone, 2.0mm ID	F1825113
Typical customers		
Research laboratories		

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