MOLECULAR DEVICES

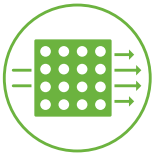
Axon™ Patch-Clamp

The Axon Instruments™ portfolio provides comprehensive solutions for patch-clamping that includes amplifiers, digitizer, software, and accessories. Our best-in-class instruments facilitate the entire range of patch-clamp technique experiments from the smallest single channel to the largest macroscopic recordings. The addition of Axon pCLAMP™ 11 Software Suite creates a streamlined workflow, allowing for sophisticated and efficient experiments, and higher quality data generation.

Axon Instruments

Acquisition—get more flexibility and easier acquisition

- Enhanced protocol editor in pCLAMP 11 Software allows for longer and more sophisticated protocols to be programmed and reduces protocol setup time
- Multiple windows can be simultaneously displayed during a Membrane Test protocol, making it easier to patch multiple cells
- Gap-free mode allows the programming of command and digital outputs in a continuous recording, allowing you to enhance protocol design and trigger actions within the protocol automatically



Amplification—amplify your success

- Control via pCLAMP software maximizes flexibility in setting up and performing different experimental protocols
- A wide range of amplifiers means we can offer the ideal choice for your application, providing the best possible data
- Our lowest-noise amplifier/digitizer instruments provide the highest signal resolution, and eliminate 50 or 60 Hz line-frequency noise contamination

Digitization—get better data, faster

- High rate of sampling (500kHz) means a more faithful digitization process, allowing for precise digital reconstruction of the analogue signal due to minimal information loss
- Eight channels can be sampled and digitized simultaneously, increasing data acquisition speed
- The HumSilencer™ option with the Digidata range eliminates of 50 and 60Hz line-frequency noise, making the biological signal clearer without distorting the data

Analysis—discover more while saving time

- Acquisition and analysis are combined in one package, streamlining the entire process
- Advanced modules allow action potential and population spike measurements to be made automatically
- New Batch Analysis feature allows multiple datasets to be analysed using an identical macro; saving time on data analysis and ensuring the exact same analysis is carried out on each dataset

pCLAMP is the most cited patch-clamp software!

Which amplifier is right for me?

	Axopatch™ 200B Amplifier*	MultiClamp™ 700B Amplifier	Axoclamp™ 900A Amplifier
Single-channel recording	• • •	•	
Whole-cell voltage-clamp	• • •	• • •	
Whole-cell current-clamp	•	• • •	• • •
Bilayer study	• • •	• • •	
Extracellular field-potential recording	•	• • •	• • •
Amperometry/voltammetry study	• •	• • •	
Nanopore study	• • •	•	
Intracellular sharp-electrode recording	•	• • •	• • •
Two-electrode voltage-clamp recording			• • •

Electrophysiology workflow using Axon Instruments

HumSilencer eliminates 50/60 Hz line-frequency noise

1 Prepare solutions

Make internal and external solutions.
Adjust osmolarity and pH values.

2 Prepare cells or brain slices

Prepare cultured cells, isolated neurons, brain slices, or whole animals.

3 Pull and polish the pipette

Prepare the recording electrode.
Pull the glass capillary tube and polish pipette tip.

4 Turn on the instruments and set up the perfusion system

Set up the perfusion system. Open the data acquisition software. Ensure that the system is shielded.

5 Patching a cell

Use the micromanipulator to touch the cell membrane with the pipette. Ensure a high resistance electrical seal is formed.

Axopatch 200B or MultiClamp 700B or Axoclamp 900A

6 Signal acquisition and amplification

The signal will be amplified. For best results, ensure you are using the correct type of amplifier for your research.

Digidata 1550B (with HumSilencer option)

7 Signal digitization

The analog signal is then digitized so that the signal can be analyzed.

pCLAMP 11 acquisition and analysis software

8 Data acquisition

With Clampex 11, longer and more sophisticated protocols can be programmed.

9 Data analysis

With ClampFit 11, more precise measurement and faster data analysis are now possible.

Fast and effective data analysis turns data into actionable insights and publication-ready results.

Applications

Our solutions can be used across almost the entire range of electrophysiology techniques, from single channel to whole cell to extracellular field-potential recording.

Extracellular recording

- Single-unit recording
- Multi-unit recording
- Field-potential recordings
- Amperometry/voltammetry

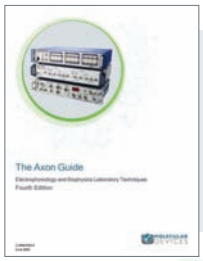
Intracellular recording

- Cell-attached/excised patch-clamp
- Whole-cell voltage-clamp
- Whole-cell current-clamp
- Sharp-electrode

University of Texas uses Axon to evaluate signaling mechanisms in the brain underlying **memory and recall**.

Allegheny College uses Axon to investigate how amyloid beta peptide block ion channels in **Alzheimer's disease**.

University of Michigan uses Axon to investigate **NMDAR receptor blockers**.



Want to learn more about electrophysiology techniques? Download the free Axon Guide.

Contact Us

Phone: +1.800.635.5577
Web: www.moleculardevices.com
Email: info@moldev.com
Check our website for a current listing of worldwide distributors.

Regional Offices

USA and Canada	+1.800.635.5577	Taiwan/Hong Kong	+886.2.2656.7585
United Kingdom	+44.118.944.8000	Japan	+81.3.6362.9109
Europe*	00800.665.32860	South Korea	+82.2.3471.9531
China	+86.4008203586	India	+91.73.8661.1198

Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland and United Kingdom