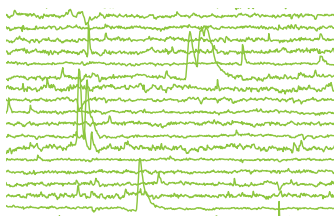
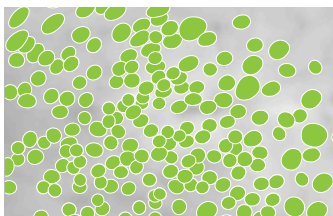
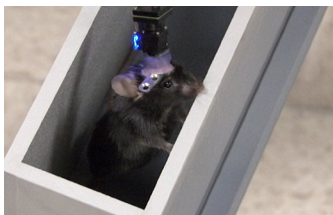
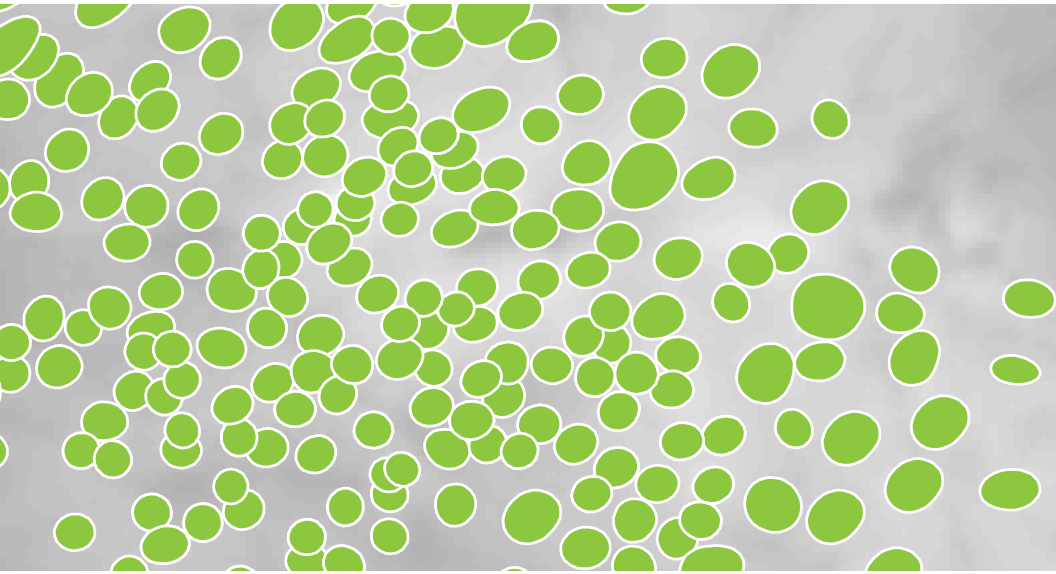


nVista™ HD

SEE THE BRAIN IN A NEW LIGHT



Visualize brain circuits during natural behavior



LARGE FIELD OF VIEW

Visualize brain circuits in action. Image activity in more than 1,000 neurons concurrently.

SINGLE-CELL RESOLUTION

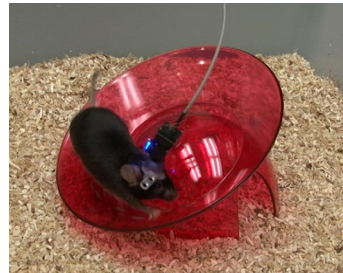
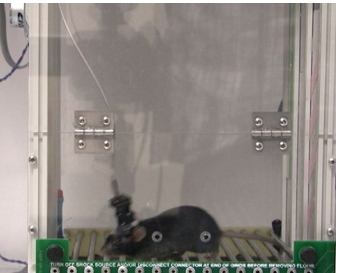
Record spiking activity from individual neurons in real-time.

NATURAL ANIMAL BEHAVIOR

Perform brain imaging in freely behaving animals.

EXPERIMENTAL FLEXIBILITY

- Easily target deep brain regions with customized capillary implants.
- Leverage standard behavioral assays.
- Image common fluorescence labels and genetically-encoded Calcium indicators.



nVista *HD*: Hardware

Miniature Microscope

All specifications are approximate

MASS	2 g
DIMENSIONS	11 mm x 14 mm x 20 mm
MODALITY	Single-channel epifluorescence
EXCITATION	475/10 nm (blue)
COLLECTION	535/50 nm (green)
CABLE LENGTH	2.5 m



actual size

Integrated HD Camera

MAXIMUM FIELD OF VIEW	1440 px x 1080 px <i>900 μm x 650 μm nominal</i>
TEMPORAL RESOLUTION	25 fps at full field of view <i>computer dependent</i>

1cm

DAQ Box

The data acquisition hardware is built to seamlessly integrate with current behavioral assays. With a size and weight equivalent to two decks of cards, it is easy to set up in any laboratory environment.

- Stream HD videos in real time.
- Sync and trigger functionality to pair with external behavioral recording.
- Compact, durable, and portable.

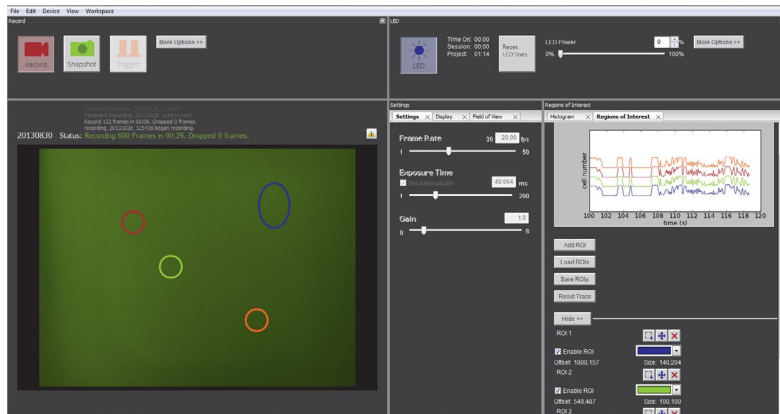


actual size

nVista HD: Software

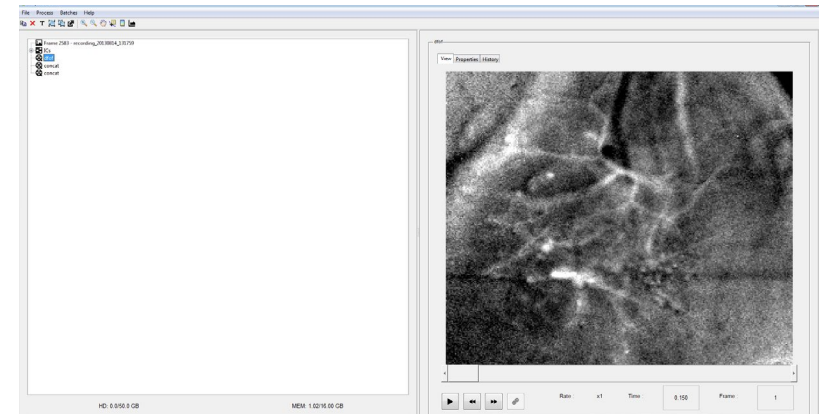
We have been focused on user experience from the beginning, especially when designing our software. The first version of the acquisition software was built with simplicity in mind. In the updated V2.0, we are keeping that simplicity and adding powerful features that can reduce experiment set-up and screening times. We are also starting work on Mosaic analysis software, so you can get meaningful results faster.

Data Acquisition



- Easily set up and control the nVista HD.
- Pre-screen your animals with streaming $\Delta F/F$ and live time-traces of select regions of interest.
- Automate experiments with custom recording schedules.
- Keep track of everything in your experiment with automated system logs and timestamped note taking.

Mosaic Lite



- Watch and edit your recordings.
- Apply motion correction tailored to nVista HD data.
- Downsample in space and/or time to speed up analysis.

nVista HD: Accessories



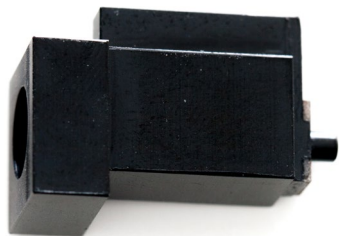
MICROSCOPE BASEPLATE
BPL-1



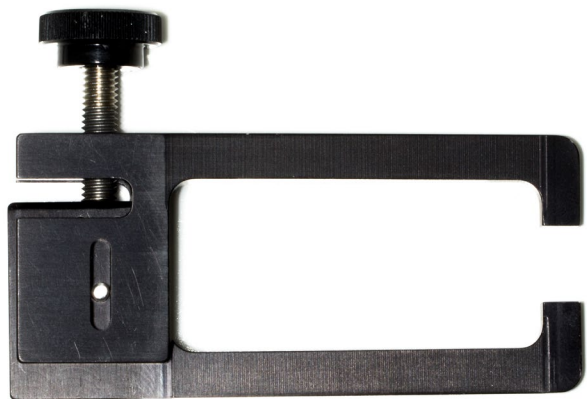
MICROSCOPE BASEPLATE COVER
BPC-1



GUIDE CANNULA
CAN-3918, CAN-3618, CAN-3118



DUMMY MICROSCOPE
DMS-1



GRIPPER
GRP-1

1cm

*actual Size

Microendoscopes

Inscopix provides an assortment of microendoscope options to best suit your deep brain imaging application. If you need a configuration other than those listed here, please contact our Sales team with your desired specifications. The following configurations are currently available:

	Diameter	Length (approximate)
GLP-1042	1.0 mm	4.2 mm
GLP-0670	0.6 mm	7.2 mm
GLP-0560	0.5 mm	6.1 mm
GLP-0580	0.5 mm	8.0 mm

In Vivo Brain Imaging Starter Kit

Included with each nVista HD system. The *In Vivo* Brain Imaging Starter Kit comprises:

- (3) GLP-1042 Microendoscopes
- (3) Guide Cannulae
- (3) Cannula Lens Sleeves
- (3) Microscope Baseplates
- (3) Microscope Baseplate Covers
- (1) Dummy Microscope
- (1) Gripper
- (1) Adjustment Tool / Wrench



nVista *HD*: Support

Our clients are pushing the boundaries of neuroscience, performing important research that advances our collective understanding of the inner workings of the brain. At Inscopix, we are dedicated to supporting our clients, answering their questions, and preparing materials that will accelerate their discoveries.

nVista HD Support Program

- Priority technical and scientific support via phone and email
- Access to Online Support Center for technical and application support resources

ONE-YEAR MANUFACTURING WARRANTY

- Covering all parts and labor for any manufacturing-related defect
- Rapid turnaround on repairs
- Free shipping to and from Inscopix



INSCOPIX EXTENDED CARE PROGRAM

- Inscopix nVista HD Support Program
- Standard Manufacturing Warranty, including all parts & labor
- Free, next-day shipping to and from Inscopix facilities

INSCOPIX PEACE OF MIND PROGRAM

- Whether damage is incurred by user, animal, or unknown, Inscopix will rapidly repair and/or replace system
- Free, next-day shipping to and from Inscopix facilities
- Eligibility for substantial discounts on hardware upgrades

Online Support Center

As part of our aim to provide the best customer service possible to our user community, we have prepared an online repository of documents, application notes, and video tutorials focused on the nVista HD system, analysis software, and applications. Here you will find comprehensive user guides, application notes on system operations and maintenance, detailed protocols outlining experimental techniques, (e.g. installation of the cannula lens, and setting up the system in vivo). This online repository is ever growing as we improve and expand software and application techniques and receive feedback from our users.

Sample Experiment Workflow

TIME TO IMAGING: 3—5 Weeks

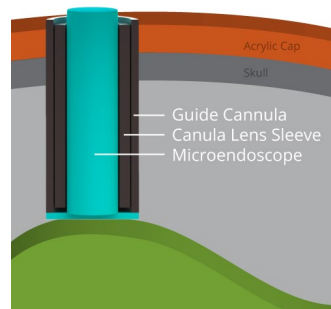
1 INTRODUCE INDICATOR

Use viral and/or transgenic technologies to introduce activity indicators to cell populations of interest.



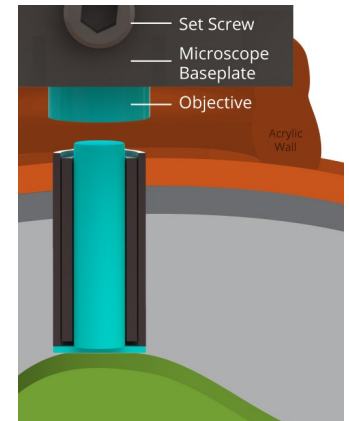
2 ENABLE OPTICAL ACCESS

Surgically position endoscope directly above labeled cells.



3 INSTALL NVISTA HD

Position the nVista system microscope above the endoscope. Fine-tune the alignment to optimize image quality and preserve it by affixing the system baseplate to the skull.



4 PERFORM IMAGING EXPERIMENTS

Acquire real-time functional imaging data in freely moving animals.



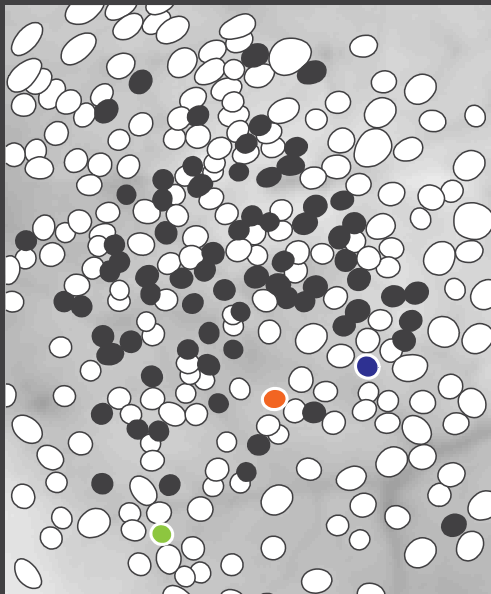
Breakthrough Data Sets

This is the first time that hundreds of neurons can be chronically studied in freely behaving rodents.

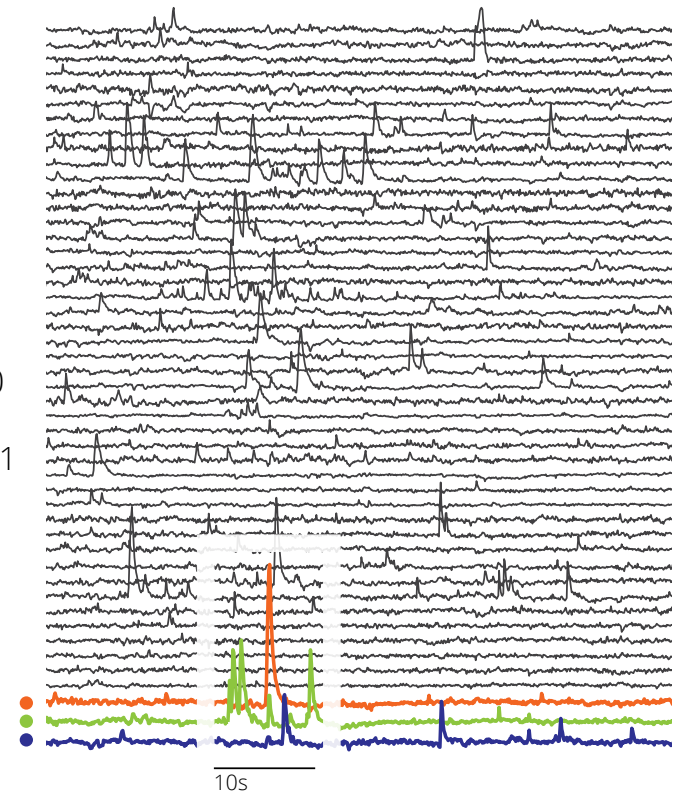
The data coming from the nVista HD system allows for new insights into neural circuits and their correlation with natural animal behavior. Neural events can easily be extracted using Mosaic analysis software.

- Neuron A
- Neuron B
- Neuron C

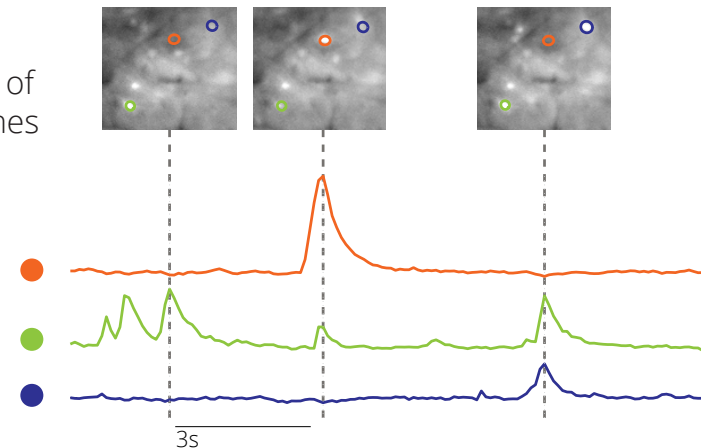
1 Independent component analysis (ICs)



2 Calcium dynamics 50 ICs selected from Figure 1



3 Raw signal of select frames



Designed and built in California.
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www.inscopix.com