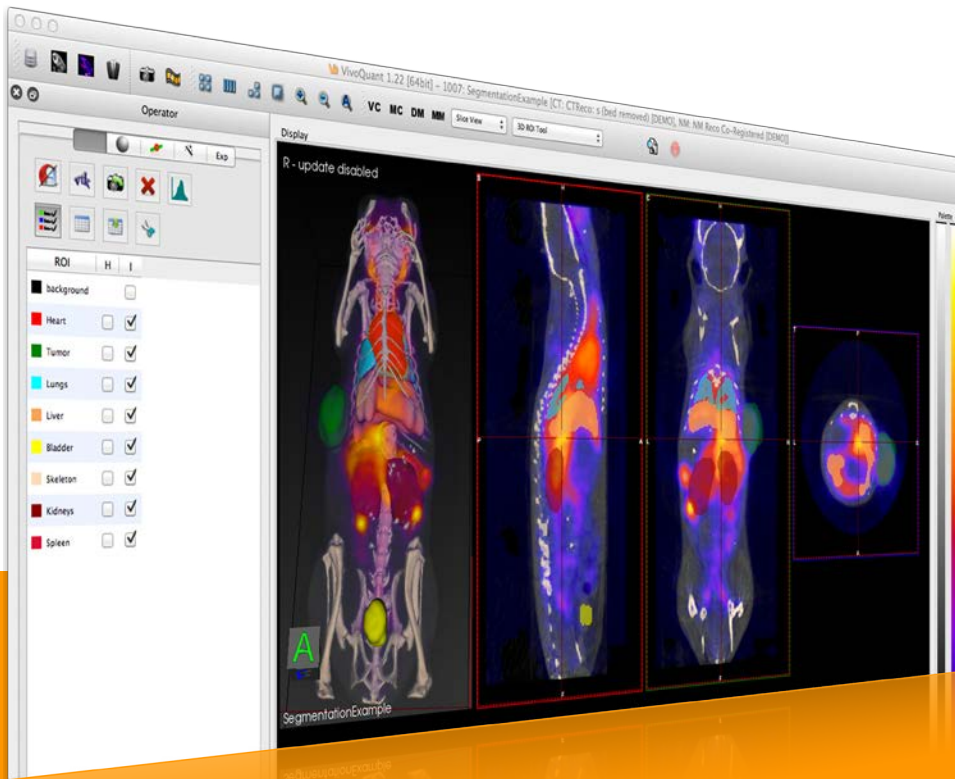# VivoQuant™

A Multi-Modal Image Processing &
Analysis Software Suite

VivoQuant™ supports the processing and analysis of image data across multiple modalities, including PET, SPECT, CT, MR, and Optical.

Up to 3 modalities can be displayed simultaneously, and any number can be co-registered. DICOM, NifTi, and 20+ native data formats (Bruker, Inveon/Siemens, etc.) can be imported for processing. Images and quantification results can be easily exported in a variety of formats (image, movie, spreadsheet). Communicate with any DICOM client. Includes seamless integration with inviCRO's iPACS® data management platform for bi-directional data transfers.
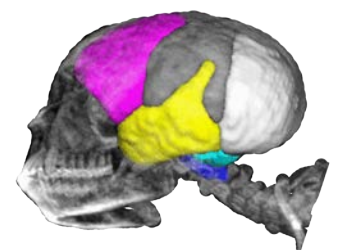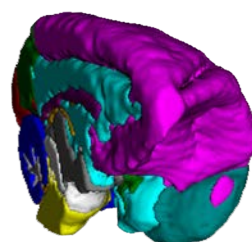
Powerful 3D ROI Segmentation Tool

One of the powerful image quantification tools included with VivoQuant, the 3D ROI tool classifies each voxel of a three-dimensional volumetric dataset.

- Manual, semi-automatic, or automatic tools with simple one-click spreadsheet export of ROI values (uptake, concentration, etc.).
- Various thresholding methods can be applied to individual, multi-modal, and dynamic data sets.
- Batch segmentation routines supported through VQ's VivoScript platform.
- ROIs stored under version control in the iPACS.

High throughput modules

High throughput modules are available as optional plug-ins for VivoQuant™ and automate frequently used routines, thus saving pre-clinical imaging researchers significant amounts of time and energy. For instance, brain atlases from rodents to NHP are available in addition to whole body atlases.

INVICRO
Imaging Services and Software

VivoQuant™
Complete Viewing, Analysis, and Presentation Tools

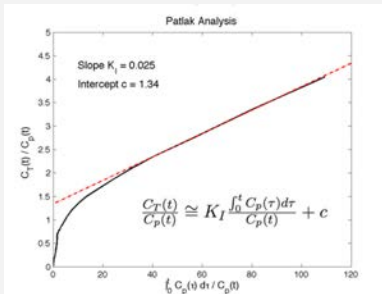MR-SPECT-CT co-registration (top left) with slice views

VivoScript - Scripting Platform

Javascript based language allows users to batch through VivoQuant functions and tools to streamline workflows and increase productivity.

Image Quantification, Distance Measure and Annotation Tool

Tracer and PK Modeling Package

Fit dynamic image data to tracer-kinetic models using image-derived or user-provided input functions with any ROI generated from VivoQuant's 3D ROI tool or Brain Atlas Segmentation tools. Generates region-specific graphical and tabular output.

Patlak Analysis

Slope K_I = 0.025
Intercept c = 1.34

$$\frac{C_T(t)}{C_p(t)} \cong K_I \frac{\int_0^t C_p(\tau)d\tau}{C_p(t)} + c$$

Viewing Features

View in traditional slice view, multiple planar reconstruction, or tile view for dynamic MR data sets. View anisotropic data sets as interpolated isoptropic volume images for easy multi-modal registration. Analysis of 4D data is supported for viewing longitudinal studies within one instance of VivoQuant.

Pre-processing Tools

Co-registration - Landmark -based and several mutual information-based algorithms for co-registration (affine and deformable). Manually apply translation, rotation, and flipping transformations to select images for improved co-registrations. Cropping, resampling, unit conversion, filtering tools..

MR Estimation Tool

Generate, view, and quantify T1, T2, and DWI maps.

Dosimetry Tool

From the 3D ROI tool, calculate the input parameters required in the OLINDA | EXM® software (510k compliant) for dosimetry estimations.

Presentation Tools

Volume rendering, rotating MIPs, and fly-through slice movies. Accurately depict images across time and over multiple subjects.

Share data, share ROI, Collaborate on image segmentation analysis work through inviCRO iPACS and get efficient results

Download and try VivoQuant today at:
https://www.invicro.com/vivoquant-home/download/

inviCRO is dedicated to improving the role of imaging in drug discovery and development. We provide a full range of services and software solutions for pre-clinical imaging and novel translational work, including contract research, custom data analysis, and software programs for image analysis, data management, and high-throughput image processing.

Contract Research   Image Analysis   Software Solutions

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