LAGO QUANTITATIVE 3D OPTICAL IMAGING SOLUTION

Powered by INVIVO ANALYTICS

spectral instruments imaging

Enables quantitative analysis of bioluminescent reporter distributions across different animals, entire cohorts and study time points.

Organ Probability Map (OPM) for automated organ biodistribution analysis. The OPM is a statistical anatomical atlas that takes biological variability into account. The OPM also powers the reconstruction algorithm and permits real quantitation by taking the various optical properties of tissue and partial blood volume into account.

Provides Spatial Data Point Congruency between animals of different size & position

Body-Conforming Animal Mold (BCAM) enables data congruence between animals of different size, shape and position.

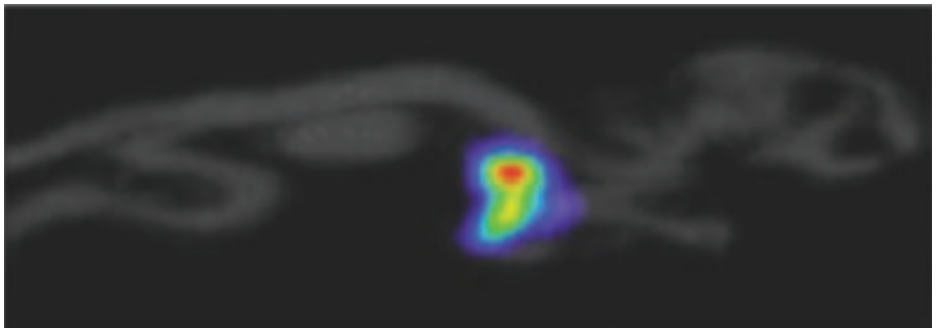
Eliminates Operator Bias does not require manual organ ROI delineation

Automated Cloud Based image reconstruction, data processing & analysis

Enables Co-Registration between imaging modalities

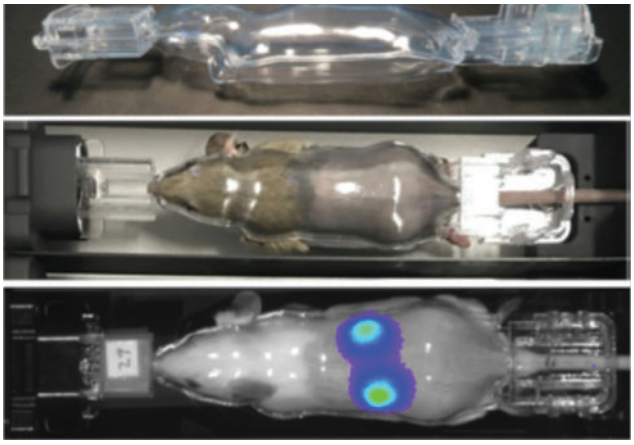
LAGO & IN VIVO ANALYTICS Solution	Leading Market Competitor
Quantitative	Semi-quantitative
Accounts for biological variability, using statistical representation of organs. Factors differences in light transmission across different tissue types	Homogeneous model does not consider variations in light absorption and attenuation in different tissue types
Mirror gantry permits multi-view (360 degrees) simultaneous imaging	Only 1 view is used for reconstructions
Body-Conforming Animal Mold (BCAM) enables data congruence by providing a uniform spatial framework for co-registration across different animals	Data accuracy is negatively impacted by animal shape, size and position as inherent data point relation between animals is missing
Cloud based, automated image reconstruction, data processing & analysis is accessible anywhere	Desktop software requires multiple manual steps - both time consuming and prone to bias
Automated Analysis with sophisticated algorithms and machine learning	Manual Analysis: requires manual ROI's; highly operator dependent
Enables Co-Registration between multiple imaging modalities, across platforms	Limits co-registration to integrated systems (Optical & micro-CT)

1



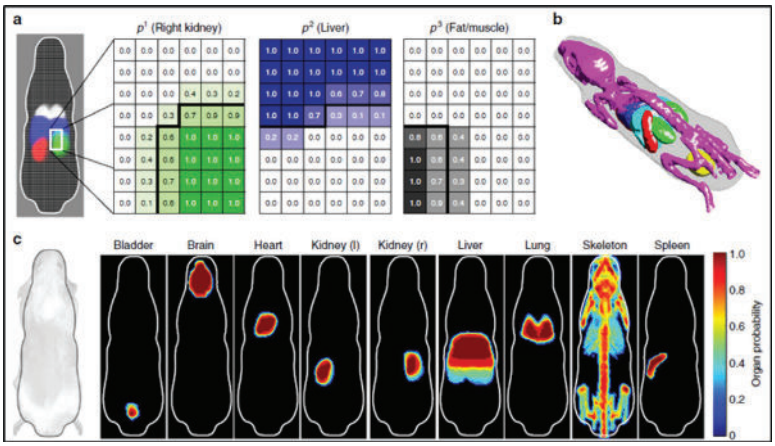
1. Side view of 3D lung cancer model

2



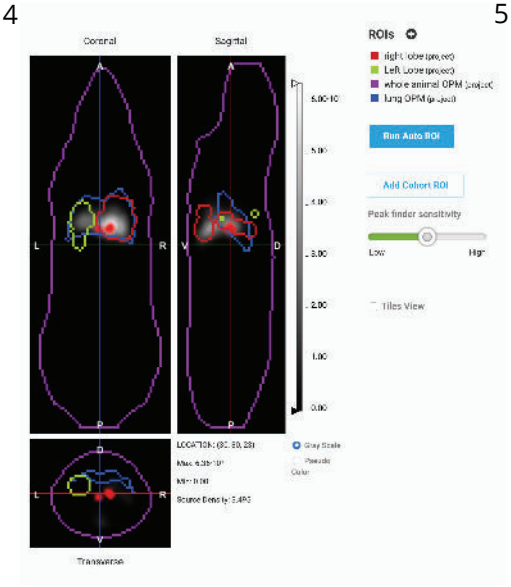
2. Body-Conforming Animal Mold (BCAM)

3



3. Organ Probability Map: A digital, statistical mouse atlas allowing automated organ ROIs
Klose and Paragas, Nature Communications, 2018

4



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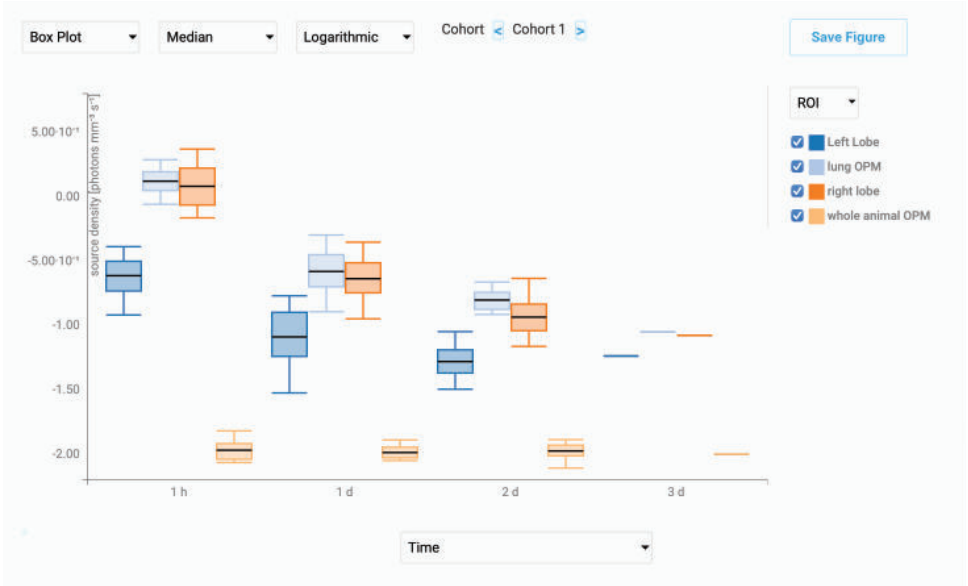

4. OPM ROI selection: ROI selection of average 3D signal (n=16) using predefined lung OPM and manual lung ROI. Greyscale image with red dots indicating peaks location from each subject.
5. Realtime charting: Dynamic charting of 16 subjects, 4 ROIs, and 4 times-points