• Customized for in-vivo imaging
• Bioluminescence and fluorescence
• High sensitivity from 300-900 nm
• Large dynamic range
Lumina II Bioluminescent Components

CCD Array

Heated Sample Stage

Electronics Tray

Light-tight Enclosure

f/1 Lens & Aperture

Shutter
Lumina II Fluorescent Components

- Fully computer controlled
- Emission filter wheel (user changeable)
- Twelve position Excitation filter wheel
- Low Auto-Fluorescence optics and fibers
- 150 Watt Tungsten/Halogen lamp with computer controlled intensity
Living Image Software

- Controls all settings in the IVIS® system
- Setup wizards assist in option selections
- Provides analysis tools for quantification

Region of Interest (ROI)
ROI 4 = 2.344 x 10^5

Absolute Calibrated Data in: photons s^{-1} cm^{-2} sr^{-1}
## Bioluminescent and Fluorescent Comparison

<table>
<thead>
<tr>
<th>Bioluminescence</th>
<th>Fluorescence</th>
</tr>
</thead>
<tbody>
<tr>
<td>High sensitivity and contrast</td>
<td>Brighter signal but autofluorescence limits sensitivity</td>
</tr>
<tr>
<td>Low signal requires sensitive CCDs</td>
<td>Multiple wavelength reporters available</td>
</tr>
<tr>
<td>Requires luciferin injection</td>
<td>Dyes and imaging agents extend into the NIR</td>
</tr>
<tr>
<td>Useful for tumor labeling and studying gene expression in transgenic animals</td>
<td>Potential uses include tracking antibody and drug distributions</td>
</tr>
</tbody>
</table>
IVIS Preclinical Imaging

- All therapeutic areas
- Mode of action
- Efficacy studies
- PK/PD Readouts
- Dosing and treatment

IVIS imaging performance is measured by your results:

- 1000+ systems in laboratories worldwide
- Thousands of peer-reviewed publications
- 14 drugs in clinical trials (published)
Traditional Methodology versus IVIS Methodology

Traditional Methodology = **24 animals**
4 cohorts, 6 animals per cohort, 4 treatment points

IVIS Methodology = **6 animals**
1 cohort of the same 6 animals, 4 treatment points

Better Data • Faster Data • Lower Cost
Sample Imaging Applications in Some Key Therapeutic Areas


Sample Imaging Applications in Some Key Therapeutic Areas
