

Biomarkers

Broadest definition: Biomarkers are tools or traits that detect and/or measure biological conditions or events.

Imaging ...

... provides spatially- and/or temporally localized information about some property of matter with which the energy has interacted.

In the era of molecular medicine, the property of matter with which we are most interested is chemical.

Imaging as an In Vivo Assay

Definition of Assay: An assay is an analysis done to determine the presence of a substance and the amount of that substance.

Webster's Medical Dictionary

Can Imaging methods be effective predictive or response biomarkers?

- **Imaging methods typically provide less molecular information than in vitro methods.**
- **However, imaging methods usually provide more context for spatial and/or temporal localization and distribution of molecular or physiological processes.**
- **Imaging methods may reflect biochemical or physiological information that is lost in sample preparation.**
- **Imaging methods may be non-invasive or minimally invasive compared with in vitro methods.**

Imaging Modalities

