Required from customer

- Study design.
- Compound to be tested or labeled. This can be as either the parent compound or a suitable precursor for labeling (e.g. the desmethyl compound). Typically, a minimum of 1 mg (small molecules) or 300 µg (proteins) is required.
- If applicable, tissues shipped frozen on dry ice.

Deliverables

- Radiochomatograms and QC on the labeled compound (if applicable).
- High resolution tiff files of all images.
- Excel spreadsheet of raw and analyzed R.O.I values (DLU/mm^2 or CPM/mm^2).
- Description of methods employed.

Typical study designs

Study designs are often phased, especially if there is little prior literature. Where a pilot study has been undertaken, the main study is initiated after a discussion of the results and with client approval.

In vitro autoradiography and ex vivo receptor occupancy

- Phase 0: Compound labeling with ^{3}H, ^{125}I or other isotope.
- Phase 1: Pilot study on a limited number of sections (approximately 10 - 20) to replicate a literature study and optimize the conditions for receptor labeling, especially with respect to radioligand concentration, incubation time and wash times.
- Phase 2: Larger study on more sections and/or tissues. Goals are varied and can include measuring the inhibition of binding (receptor occupancy) by a test drug given to the animal, determine the IC_{50} of test drugs to compete with radioligand binding or to compare the receptor density (B_{max}) between different tissues.