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 to be sectioned 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 (PSL/mm^2 or C.P.M./mm^2).
- Description of methods employed.

Typical study designs

Study designs are often phased, especially if there is little prior literature. As each phase is completed an invoice is sent and (with client approval) the next phase is initiated.

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/or optimize the conditions for receptor labeling, especially with respect to buffer conditions 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 previously given to the animal or to compare the distribution and amount of binding (B_{max}) of the radiotracer between different tissues.

Ex vivo autoradiography

- Phase 0: Compound labeling with ^{3}H, ^{125}I or PET isotope.
- Phase 1: Animal dosing with the test article. Sacrifice at one to several time points with 2 – 5 animals at each time point.
- Phase 2: Additional animals and time points depending on the results from phase 1.