Clinical Research Services Turku CRST – partnering with Turku PET Centre

- Private CRO that conducts clinical studies for the pharmaceutical industry and for other customers
- Experienced in demanding phase 0-2 clinical trials and proof-of-concept studies
- Employing Positron Emission Tomography (PET) to assess efficacy and pharmacokinetics

CRST

- Scientific and regulatory consultancy
- Medical writing, regulatory submissions
- Subject recruitment
- Investigators, study nurses and clinical wards with 24/7 safety monitoring
- In-house bioanalytical laboratory for analysis of PK and biomarker samples
- Clinical study monitoring
- Project management

Turku PET Centre

- State-of-the-art PET imaging facilities
- MRI, CT and ultrasound imaging
- PET radiochemistry expertise with cyclotrons and GMP radiopharmaceutical laboratories
- Extensive track record in pharma trials from preclinical to clinical

www.pet.fi
Focus on PET and cardiovascular and metabolic imaging

Profound expertise and modern imaging facilities

**Expertise**
Turku PET Centre is a Finnish Centre of Excellence in Molecular Imaging in Cardiovascular and Metabolic Research

**Cardiovascular research focus on**
- coronary artery disease
- congestive heart failure

**Metabolic research focus on**
- insulin resistance in diabetes
- muscular, visceral and hepatic metabolism
- obesity and adipose tissue
- hyperlipidemia
- various cardiovascular consequences related to metabolic disorders

**State-of-the-art imaging techniques**
- CT coronary angiography
- Ultrasound
- MRI
- PET, PET/CT and PET/MRI imaging
- Numerous metabolic and receptor tracers for cardiac and metabolic targets
- Cardiac hybrid PET perfusion imaging and CT coronary angiography
- Multi-organ multi-tracer protocols for diagnosis and therapy monitoring
- Animal models for human diseases from small to large animals
Focus on PET and cardiovascular and metabolic imaging

Useful biological surrogate markers
- Detection of early signs of treatment efficacy
- Prove of novel metabolic actions of the drug molecule
- Potentially useful information for improved clinical positioning of the drug, for example, in combination treatment

Examples of established surrogates
- Absolute quantification of myocardial perfusion using PET imaging for detection of early coronary dysfunction and monitoring the efficacy of therapies
- Hybrid PET/CT imaging of coronary angiography and perfusion imaging for coronary artery disease
- Detection and characterization vulnerable atherosclerotic plaques in aorta, carotid and coronary arteries using dual-gated PET/CT and PET/MRI. Useful for the investigation of plaque stabilizing drugs.
- Characterization of metabolic phenotype in various metabolic disorders (abnormalities in perfusion, substrate metabolism, energy metabolism and fat accumulation in various organs) and using these parameters to monitor drug therapies

Unique benefits for clinical drug development programs
Success stories – PET imaging in the testing of cardiovascular and metabolic drugs

Studies investigating the effects of drug treatments on myocardial perfusion

- Estradiol-drospirenone hormone treatment in postmenopausal women with angina pectoris
  Link to MEDLINE: http://www.ncbi.nlm.nih.gov/pubmed/17560868

- Enzyme replacement therapy in patients with Fabry disease
  Link to MEDLINE: http://www.ncbi.nlm.nih.gov/pubmed/16601877

Studies investigating the effects of drug treatments in myocardial glucose uptake

- Rosiglitazone treatment in patients with type 2 diabetes and coronary artery disease
  Link to MEDLINE: http://www.ncbi.nlm.nih.gov/pubmed/16123370

- Insulin stimulation in patients with Type 2 diabetes treated with rosiglitazone

A study investigating the effect of drug of Lipid-lowering Therapy With Pravastatin on Myocardial Blood Flow in Young Mildly Hypercholesterolemic Adults

Link to MEDLINE: http://www.ncbi.nlm.nih.gov/pubmed/11588526