Asterand
Partners in Human Tissue Research

CORE ASSAY LIST 2008

METABOLIC

REF #	PROJECT TYPE	ASSAY PRINCIPLE	TURNAROUND TIME	MINIMUM COMPOUND REQUIRED	STANDARD FORMAT
PZR1	CustomMapping™	**Test model:** Determination of gene expression in human tissues (tissues selected by client, diseased and non-diseased). Compare gene expression between diseased and non-diseased tissues for target and biomarker validation. **Assay format:** qRT-PCR. **Data format:** Word™ report with data available in an Excel™ file.	6 weeks (assumes no tissue sourcing required)	N/A	Profiling of 1 to 20 genes in up to 182 tissues and includes a final report. COST PER GENE REDUCES SIGNIFICANTLY THE MORE THAT ARE PROFILED.
PZR2	*In situ* hybridization	**Test model:** Determination of gene expression in frozen sections of human tissues (selected by client, diseased and non-diseased).Identify expression patterns of target mRNA at the cellular level to understand potential function of the gene of interest and its possible role in disease. **Assay format:** *In situ* hybridization. **Data format:** Standard ISH report to include detailed description of distribution of mRNA expression on target mRNAs in frozen sections of human tissues.	Stage 1 and Stage 2 in approx. 4-5 weeks	cDNA clones or accession number of mRNA sequence and any information on suitable positive control human tissue	1 target, 1 tissue, 3 donors. Using validated riboprobe pairs.
PZR3	Immunohistochemistry	**Test model:** Determination of protein expression in human tissues (selected by client, diseased and non-diseased). identify the pattern of expression of a target protein at the cellular level to understand potential function of that target and its possible role in disease. **Assay format:** Immunohistochemistry. **Data format:** Standard IHC report to include detailed description of patterns and levels of target protein expression in either FFPE or frozen sections of human met tissues.	Stage 1 and Stage 2 in approx. 4-5 weeks	Proprietry antibodies or nomination of commercially available antibodies	1 target, 1 tissue, 6 donors. Full scale Stage 1 optimization.

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PZR4	FFPE Tissue Arrays	**Test model:** Localization of target proteins in custom made metabolic disease TMAs. Screen and analyze many tissues and disease indications simultaneously. **Assay format:** Tissue microarray. **Data format:** Word™ report with clinical and experimental datasets and JPEG images to illustrate main findings.		N/A	1 target in a 250 core FFPR tissue microarray Full scale Stage1optimization with positive control tissues
PZME - 05	Functional binding	**Test model:** Brain: striatum. [35S]-GTPgS binding in response to standard and test compounds. This test produces suppport for preclinical development by assessing the functional efficacy of a compound via modulation of native receptors. **Assay format:** Functional binding assay. **Data format:** Word™ report with data available in an Excel™ file.	**3 weeks** per donor	5mg	**Standard conditions:** up to 3 test compounds (plus 1 standard compound) per experiment, 9 point concentration effect curves in triplicate Membranes from 1 brain region Maximum 1.5 x 96-well plates per experiment
PZME - 06	Fatty Acid Oxidation	**Test model:** Hepatocytes. Determination of fatty acid oxidation in response to standard and test compounds. Useful for the lead optimization for diabetes compounds or to investigate potential compound side-effects. **Assay format:** Incubations in 12-well plates. [14C]CO2 capture. Fatty acid oxidation. **Data format:** Word™ report with data available in an Excel™ file.	**3 weeks** per donor	5mg	Up to 12 compounds at 1 concentration in triplicate
PZME - 07	GSIS Assay	**Test Model:** Measurement of induction of glucose stimulated insulin secretion in human isolated pancreatic islets. This approach is useful for assessing the effectiveness of compounds under development for the treatment of type 2 diabetes. **Assay Format:** Incubation within a 96 well plate format and analysis by ELISA. **Data Format:** Word™ report with data available in an Excel™ file.	**6 weeks** per donor	5mg	4 plate assay Testing of a maximum of 18 compounds (single concentration) at 2 glucose concentrations