

Biodistribution in rodent and non-human primate

Understanding how Test Items distribute around the body following administration is an important step in developing a therapy. Defining biodistribution in target and non-target areas allows efficacy to be optimised while minimising potential safety concerns

Biodistribution overview

The biodistribution services that Atuka offers include evaluation of the distribution of viral vectors, small molecules, antibodies and other biologics, PET tracers, cells, exosomes and antisense oligonucleotides. Additional Test Items can be provided on a case-by-case basis depending upon the clients needs.

Administration of Test Items

Atuka has the ability to administer Test Items by many routes including; oral, intramuscular, intravenous, subcutaneous, **intrathecal**, into the CSF via **ventricles** or **cisterna magna** or direct injection into **brain parenchyma** via MRI-guided stereotaxic surgery. Atuka can perform these studies in rodents and primates.



In-life safety and monitoring

In order to understand the functional implications arising from the distribution of a Test Item, Atuka offers several endpoints that can be incorporated into distribution studies including collection of blood and urine for monitoring clinical chemistry, 24 h, non-invasive electrocardiography and behavioural monitoring in a functional observational battery.



Tissue collection

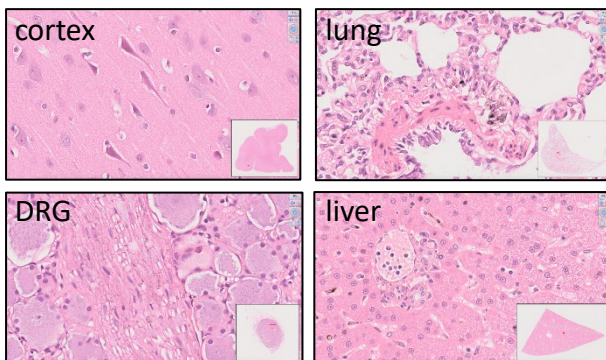
Depending on the clients need, any tissue can be collected including peripheral and central tissues. Atuka has extensive experience in neuroanatomy and can collect tissues from client-defined brain areas.

Gene therapy vector distribution and transgene expression

We have performed many studies using vector delivery of transgenes and are experienced in collecting and analysing tissue to avoid contamination. Tissue collection can be performed under DNAase and RNAase free conditions and analysed by several techniques including qPCR, real-time RT-PCR, ELISA, colourimetric and fluorimetric assays.



Histology assessment



Histological analysis can be performed on peripheral and central tissues, including distinct tissues within the CNS. H&E histochemistry and multi-label immunohistochemistry can be performed and images collected using a 40x slide scanner for digital pathology.

in vivo PET imaging

Whole body PET imaging can be performed in rodents and primates. An on-site cyclotron allows specific radiolabelled compounds to be easily produced. PET imaging can be used to determine tissue expression, receptor occupancy, understand mechanism of action and be translated for use in clinical studies.

