



Preclinical Technologies

FACTSHEET



In Vivo Cardiovascular Services

Cardiovascular Assessments in Conscious and Anaesthetized Animals

Conscious Dog and Primate Telemetry

To meet ICH S7A and S7B guidelines, the effects of test substances on arterial blood pressure, heart rate and lead II ECG (RR, PR, QT, QTc intervals and QRS duration) can be explored in conscious Beagle dogs or Cynomolgus monkeys using chronically implanted telemetry devices. In addition to standard corrected QT intervals, a correction of the QT interval that is specific to each individual animal is derived on a study by study basis (QTcQ Interval) to improve the detection of any potential QT interval effect.

Conscious Rodent Telemetry

For the early development of test substances, the effects on arterial blood pressure and heart rate can be explored in conscious rats, guinea-pigs or mice using chronically implanted telemetry devices. The guinea-pig is also the rodent species of choice for exploring the effects of test substances on lead II ECG (RR, PR, QT, QTc intervals, QRS duration).

Anaesthetized Dog and Primate

Beagle dogs or Cynomolgus monkeys are anaesthetized and instrumented to examine effects of test substances on basic cardiovascular parameters: arterial blood pressure, heart rate, lead II ECG (RR, PR, QT, QTc intervals and QRS duration) and left ventricular parameters. Respiratory parameters may also be measured: respiration rate, tidal volume, inspiratory and expiratory flow and time, arterial blood gases.

Additional measurements may also be made in anaesthetized dogs: femoral, carotid, coronary, renal and aortic blood flow, QT interval during cardiac pacing, effective refractory period, intra-atrial, intra-ventricular and atrio-ventricular conduction times

Anaesthetized Rodents and Rabbits

For the early screening of test substances, the effects on arterial blood pressure and heart rate can be explored in anaesthetized rats, rabbits or guinea-pigs. The lead II ECG can also be recorded in rabbits and guinea-pigs for measurement of RR, PR, QT, QTc intervals and QRS duration. Simultaneous recordings of epicardial monophasic action potential can be made. Test substances may also be screened for proarrhythmic effects using chloralose-anaesthetized rabbits.

Additional Aptuit Capabilities

Aptuit offers a comprehensive suite of drug development services that range from candidate selection through to market, including consultancy services, API development and manufacture, preclinical and clinical technologies, pharmaceutical services, large and small scale manufacturing, IVRS, and clinical packaging and logistics, across a wide range of compounds, dosage forms and delivery systems.

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