



Research Models and Services
Primary neurons

Knockin and knockout rat primary neuron isolation

Isolated cortical neurons from rat models

Inotiv offers a wide array of genetically modified rat models suited for neuroscience research of highly studied diseases and disorders such as Parkinson’s, Alzheimer’s, autism, schizophrenia and others. From these genetically engineered knockin (KI) and knockout (KO) models, we are able to offer isolated primary neurons – collected, verified and cryopreserved – from any of these or other rat models.

Primary neurons are isolated from the cerebral cortex of KI, KO and WT rat embryos. These neurons are useful tools for research in the neurotoxicity of drugs in the preclinical phase of drug development, disease modeling, synaptic mechanisms and function, and neuron morphology. The primary neuron cultures are a powerful tool for studying disease without using live animals. However, these can be difficult to isolate and maintain viability due to their high sensitivity to culture and environmental growth conditions.

Inotiv’s primary neurons are isolated from E18.5 embryos and can be provided as a pooled population or from a single embryo. Cortical neurons are collected aseptically from embryo brains from animals raised at Inotiv and then cryopreserved. Vials of one million viable cells per tube are delivered along with recommended thawing and culturing protocols.

Inotiv has developed and established repeatable techniques for the isolation, cryopreservation, thawing and culturing of primary neurons, giving an opportunity to do mechanistic studies or preclinical drug screens in cell culture prior to animal studies.

ORGANISM:	Rat – KI, KO and WT
CELL TYPE:	Cortical neuron
AVAILABLE AGE:	E18.5 (Date of plug defined as E0) or other embryonic ages on request
MORPHOLOGY:	Neuronal
GROWTH PROPERTIES:	Adherent
PRODUCT TYPE:	Cryopreserved cells, 1 million viable cells/tube guaranteed
TIMELINE:	Variable; Approximately 2 months from readily available lines
NOTE:	Standard offering contains pooled neurons from multiple embryo samples. Single embryo(s) isolation available for an additional fee.

THE INOTIV ADVANTAGES

- Collected from pathogen free barrier-reared animals
- Pooled embryo population
- Guaranteed a minimum of 1 million viable cells/vial for culturing cells for culturing
- Offers Inotiv KI, KO or WT rat models
- Provides thawing and culturing protocols to optimize viability

KI, KO and WT rat primary neurons are extracted from Inotiv rat strains.
Please inquire at ServicesPMG.US@inotivco.com or ServicesPMG.EU@inotivco.com