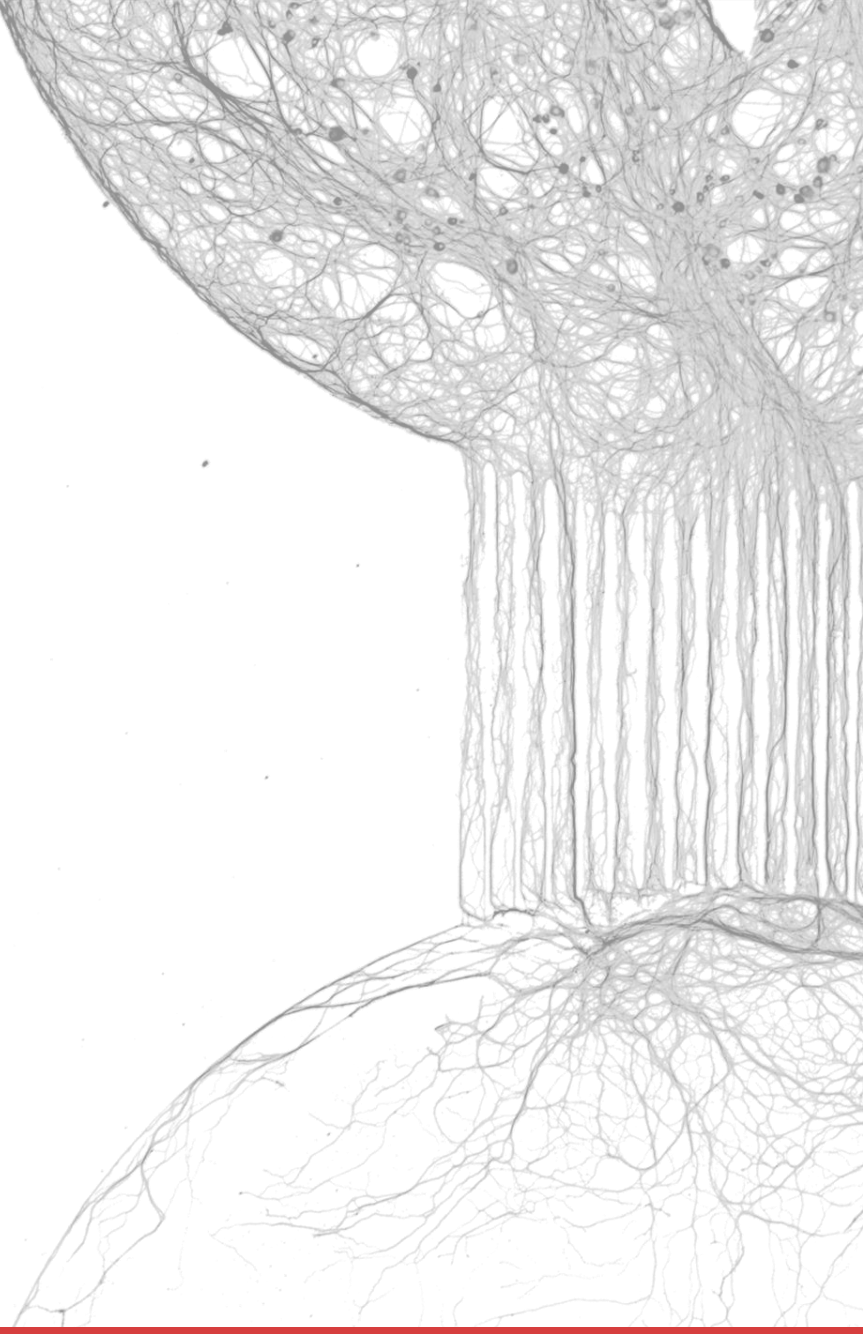
*In vitro* solutions for *in vivo* results

# Ananda Devices

*In vitro* solution for *in vivo* results

Non-Confidential Introduction

Date: Jan 4th, 2021



# Who we are

Ananda Devices develops and commercializes customized **neurons-on-a-chip** assays for **high throughput screening.**

**20+** years of experience in neuroscience and tissue engineering

**14** countries using our innovative solutions to model brain, spinal cord, and innervated tissues

**24** prizes in science and innovation

WOMEN OWNED · hello tomorrow · SheEO · Cartier WOMEN'S INITIATIVE · INSEAD · SUSTAINABLE DEVELOPMENT GOALS 17 GOALS TO TRANSFORM OUR WORLD

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# We offer services and products

## Services

**We help Pharmaceutical, Cosmetic and Chemical companies develop more efficient biological assays and reduce animal experimentation: We offer:**

- Customized high throughput physiologically relevant disease models using our nano-scale organization technology;

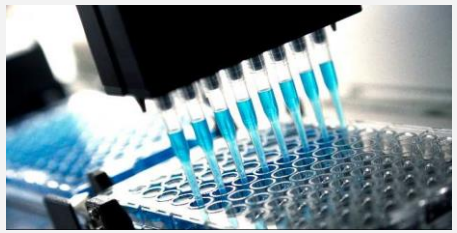
- Customized *in vitro* assays such as:
  - Clinical/translational assays: personalized neuronal responses analysis
  - Pre-clinical assays:
    - MoA analysis
    - Drug screening assays
    - Neurotoxicity assays

## NeuroHTS™

A first-in-class **high throughput screening** (HTS) platform to rapidly cultivate over **3,000** CNS or PNS neurons/plate into physiologically relevant networks.

Easy-to-use technology requiring no additional equipments such as shakers and tubing.

Compatible with most automation solutions, suitable for both and human/animal models

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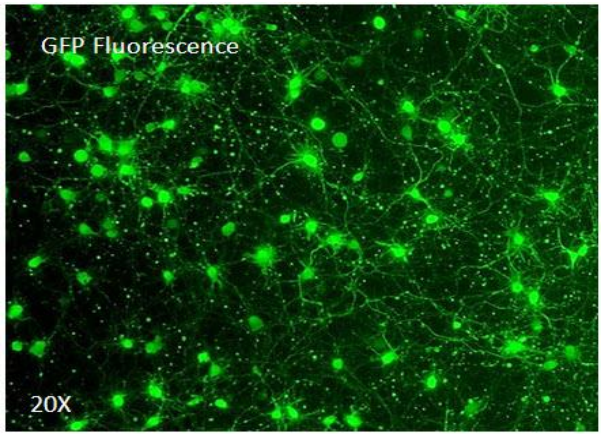
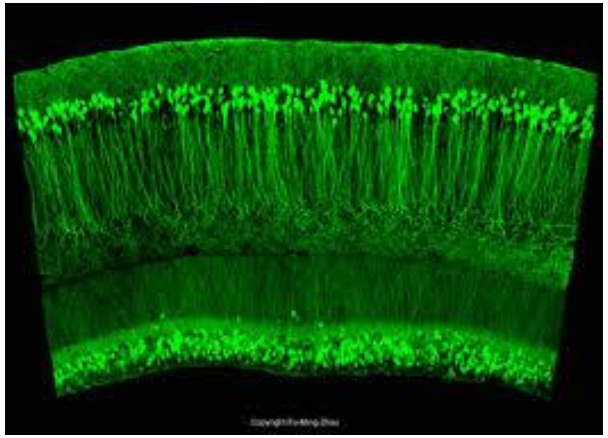
# Technology: reconstruct human brain and neuronal networks on-a-chip with 1 μm resolution

**Without device**



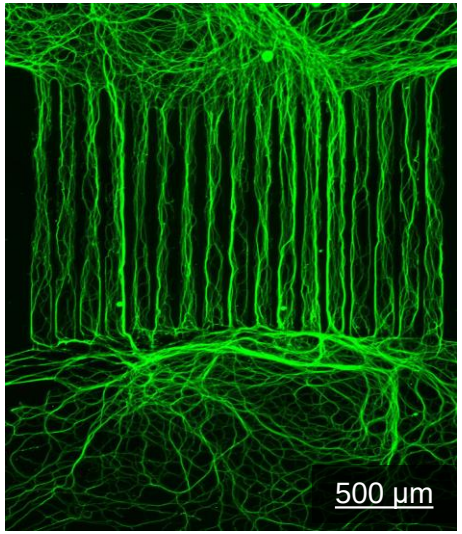

Entangled networks

**Actual brain slice**



Precisely organized networks

**With ANANDA's device**




Precisely organized networks

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# Precisely organized CNS and PNS neuronal cultures

**10x** fewer cells

**60x** faster growth

**30+** days viability

**1mm+** axon length

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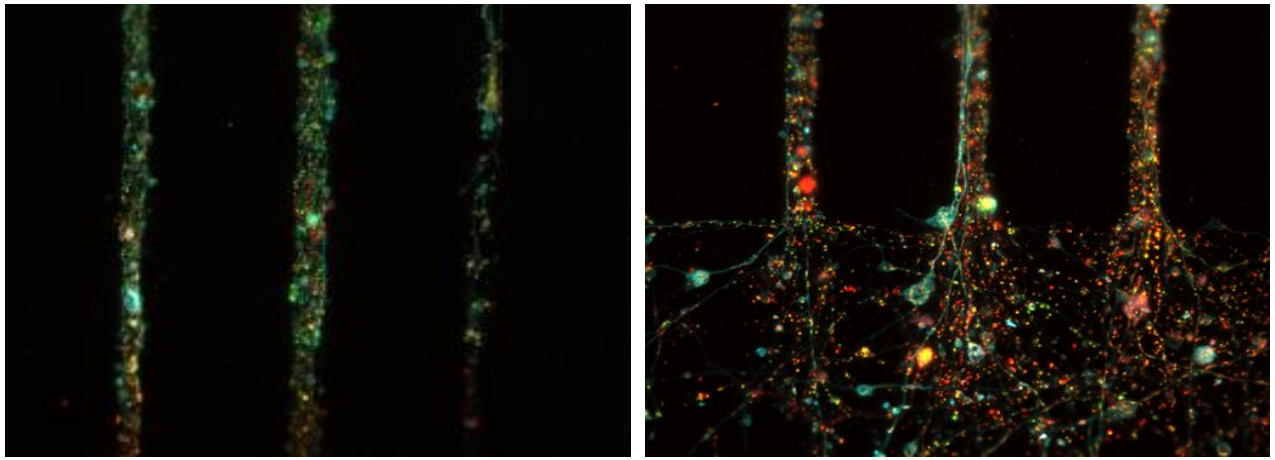
# Compatible with Human iPSC derived neuronal networks

Over 3,000 precisely organized human dopaminergic neurons from Parkinson patient ready for HTS



50 µm

Stained for mitochondrial markers: Tuj1 TOM20 PDH

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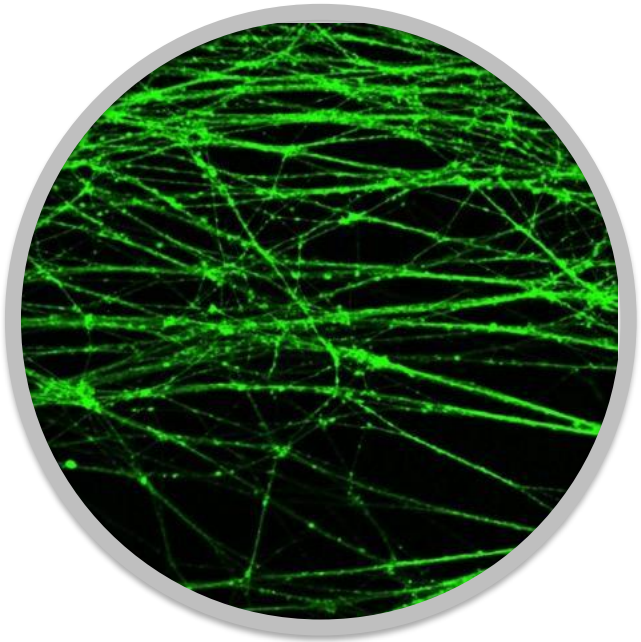
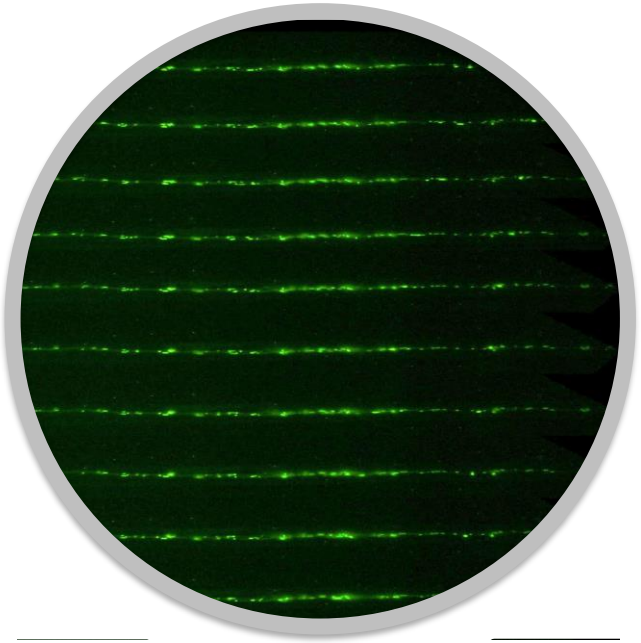
# Precisely organized to single cell level for advanced analysis

**50x Faster imaging and analysis of axonal transport ; Efficient identification of retrograde and anterograde transport;  Faster tracking of mitochondria (green) transport.**



**Without device**



**With ANANDA's device**

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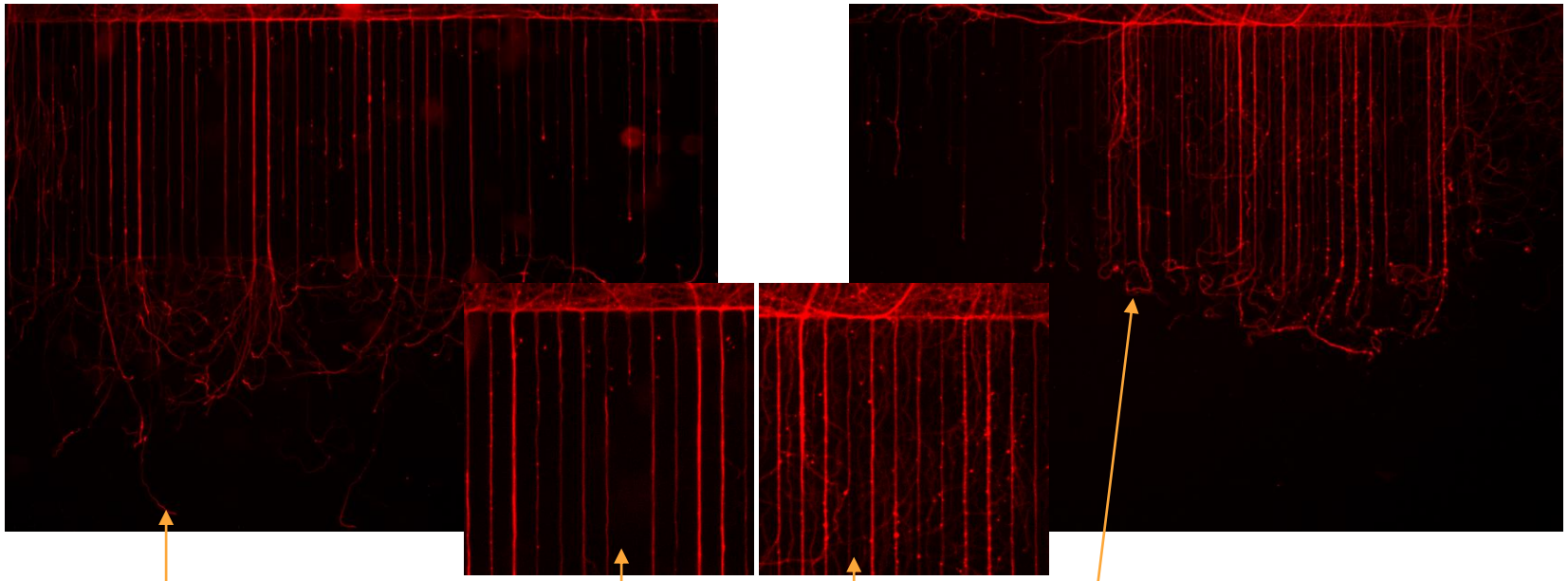
# Quantitatively measure neurons dynamics and network formation



**Drug A:**
**long axons and few connections**

**Drug B:**
**shorter axons and increased connectivity**

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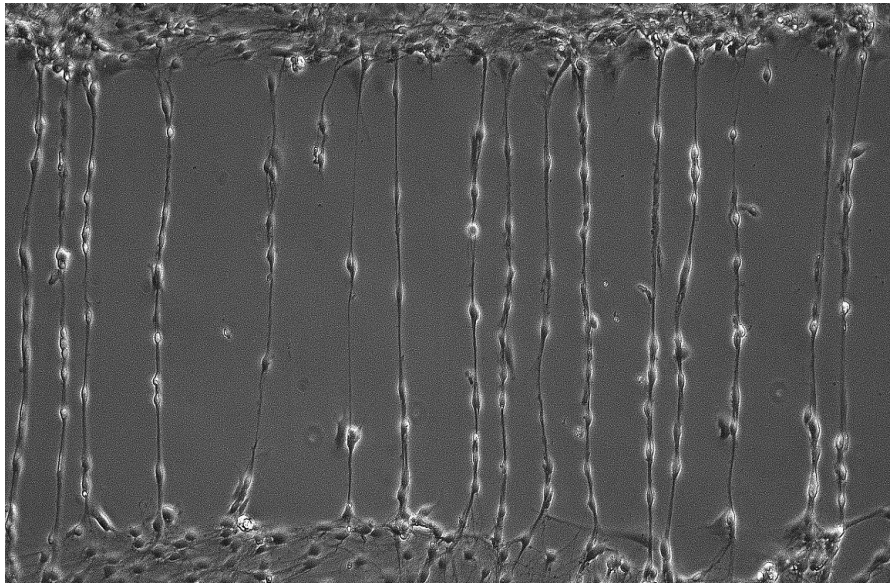
# Complex disease modeling through independent co-culture systems



**Co-culturing of oligodendrocytes and neurons***

**Allows treatment of each cell type individually as well as the treatment of the co-culture to easily compare treatment responses**

***Potential to add a third cell type, such as microglia***

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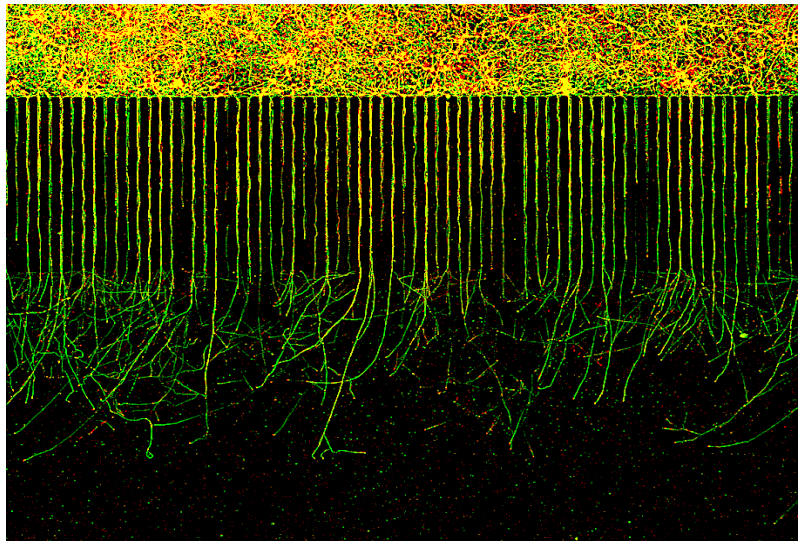
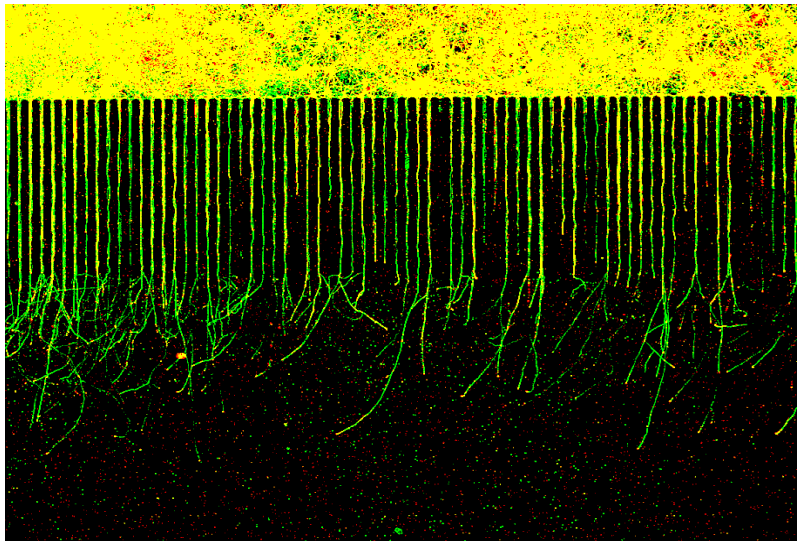
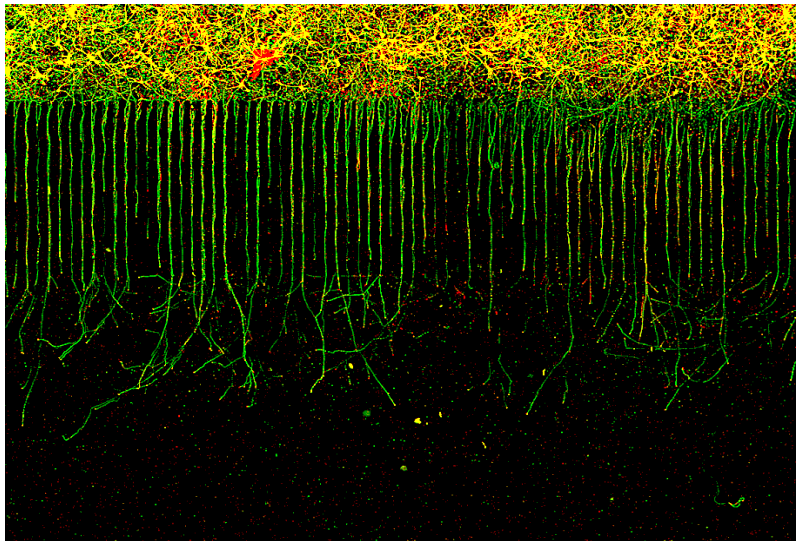
# Highly reproducible results with less than 10% sample-to-sample variability

## Neurons precisely organized in the same pattern in every well







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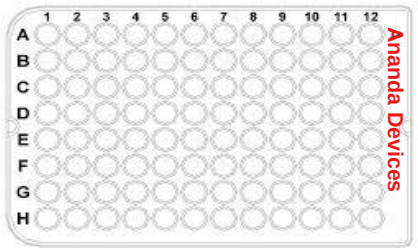
# Easy-to-use design is compatible with automation equipment and requiring no additional accessories

Neurons from patients

Pharma, Vaccine, Cosmetic or Chemical products

**Ananda Devices NeuroHTS™ Microplate**




+

=

**2.5 x**
**more quantifiable endpoints/assay**

**Less than 10%**
**sample to sample variability**

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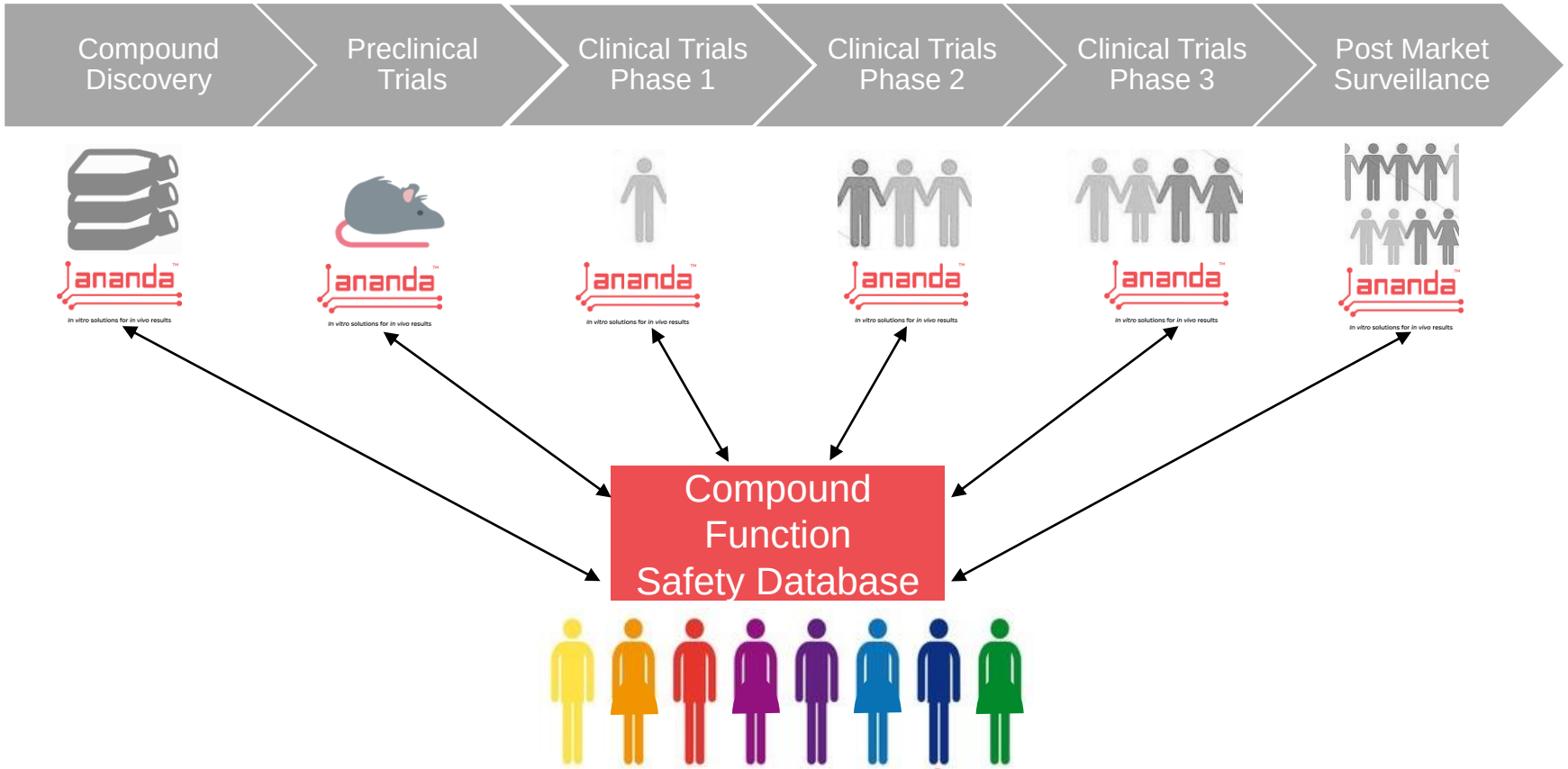
# Potential to enable correlation between clinical parameters and *in vitro* neuro-function assays

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# Ananda Devices

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