# FIMM Hiprep

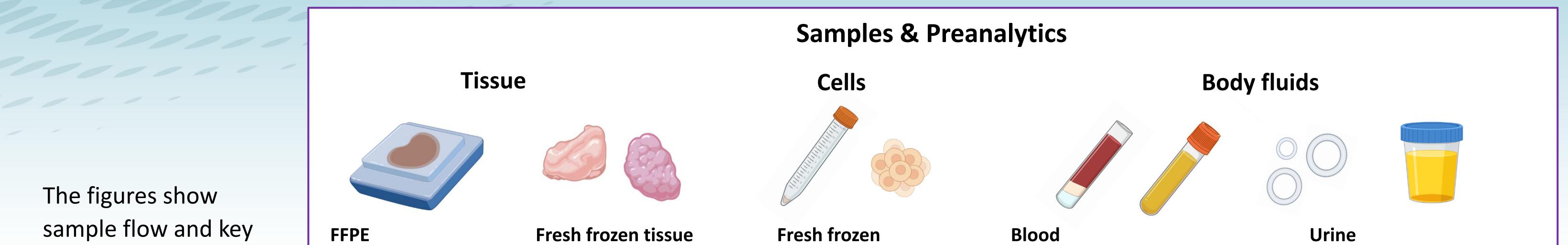
# Services and technologies for high-end sample preparations

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variables in sample preparation including collection to handling, storage, extraction, quality and quantity control.

• Snap frozen • RNAlater

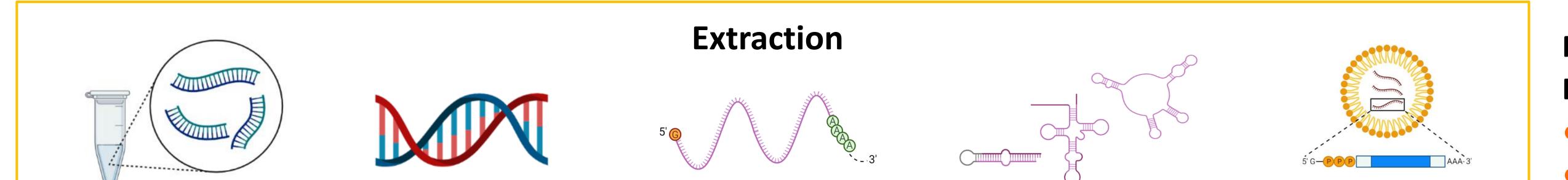
- Cultured cells
- PBMC (CPT etc)
- Bone marrow cells
- Viable or non-viable

- Tempus, PaxGene
- Serum, plasma (EDTA, citrate, heparin)
  - Fasting, non-fasting
- Urine (preservatives, e.g. protease inhibitors)
  - 24h, ON, morning, spot



### Centrifugation and ultracentrifugation

- Removal of contaminants
- Concentration
- G-value, K-factor, volume, temperature



mRNA

## **MOST IMPORTANT DEVELOPMENT ITEMS**

- Multi-analyte extractions
- High throughput protocols

Freezing and storage

- LN2, -80°C, -20°C
- +4 ° C, RT
- Time to preservation
- Sectioning • Section thickness
- Sectioning temperature

# cfDNA

## gDNA

Sections, punches



### Homogenization

- Bead beating, mortar & pestle, needle, vortex, shaking, enzymatic treatment
- Strength, duration, temperature

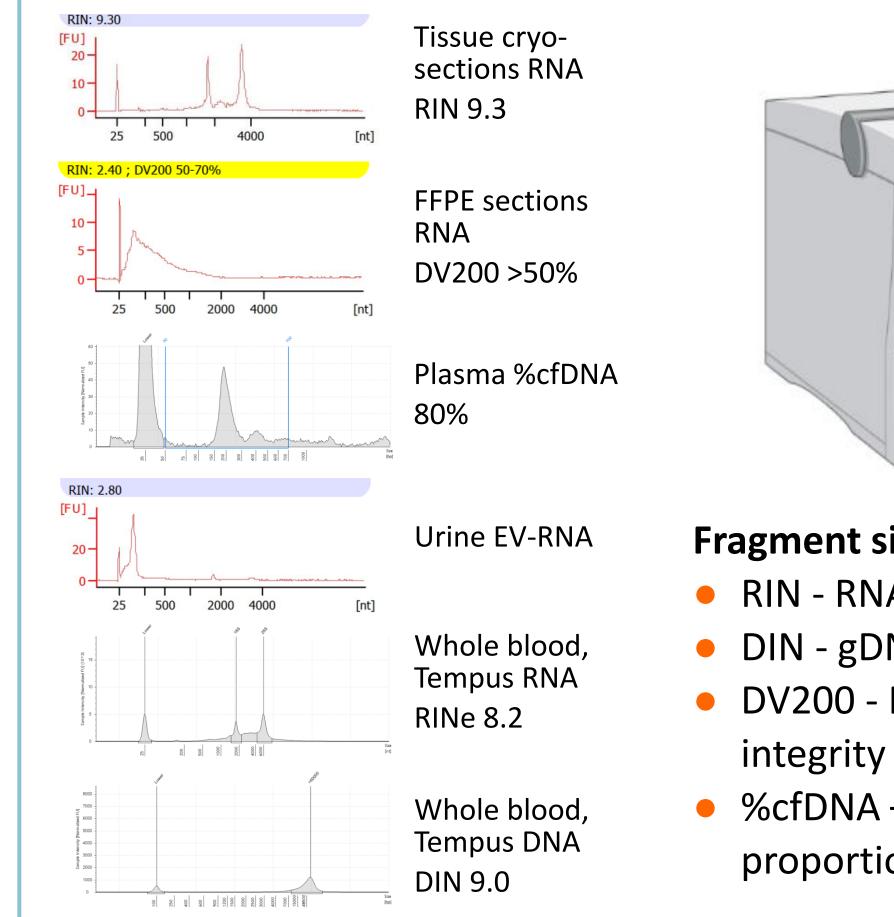


## **RNA or DNA extraction or coextraction**

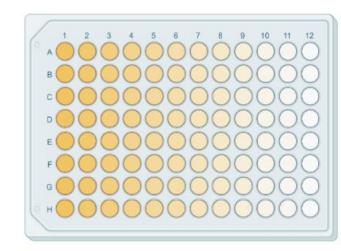
- Magnetic bead or silica column
- Automated or manual
- Nucleic acid inclusion/removal
- Elution buffer and volume

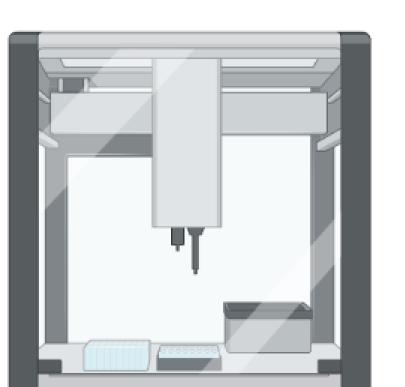
# for clean-up and concentration targeting small final volumes

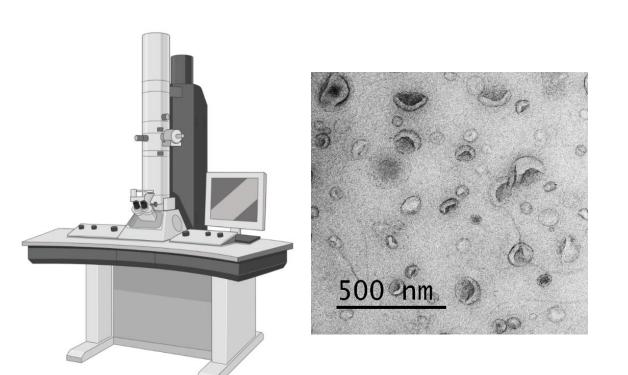
- Quality control for emerging research areas
  - cfRNA, cfDNA
  - **EV-RNA**
  - FFPE RNA and DNA
  - Small RNA



## **Quality control & normalization**







# **Fragment size analysis**

- RIN RNA integrity
- DIN gDNA integrity
- DV200 FFPE RNA

%cfDNA – cfDNA

proportion of total DNA

#### **Concentration and contamination**

- DNA, RNA, DNA/RNA-%, RNA/DNA-%
- A260/A280, A260/A230
- smallRNA, dsDNA, ssDNA
- Fluorometric methods (Qubit/Quant-It), Absorbance (Nanodrop), Fragment analysis (Bioanalyzer, TapeStation)

#### Normalization and extras

- Constant concentration or quantity
- **DNAse and RNAse treatments**
- Clean-up and concentration
- Buffer exhange

#### **Electron microscopy**

- EV morphology, size
- Purity, contaminants



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