



Standard operating procedure: GeoMx – NGS Slide preparation for Fresh Frozen tissue




Health and Safety hazards and control measures

- Hazardous Material – Unscreened, unfixed human tissue.



User must wear gloves and laboratory coat and any existing cuts or skin lesions must be properly protected.. All procedures creating aerosols to be conducted in a microbiological safety cabinet. A biological agents questionnaire must be completed and returned to occupational health before any work with unfixed human tissue. Users should be hepatitis B vaccinated. In the event of an incident, users must report and seek appropriate medical advice. Occupational health must be informed. Tubes used for unprocessed sections must be disposed of in human waste container to be autoclaved. Samples must be treated with universal precaution.

- Hazardous chemical - Ethanol  

Ethanol is a highly flammable liquid and vapour. It causes serious eye irritation. Wear nitrile gloves. Low risk of eye splash as ethanol steps are performed in a fume hood. Avoid use near flames, heat or sparks.

- Hazardous chemical – 10% Neutral buffered formalin (NBF)   

Neutral buffered formalin is a combustible liquid and is a health hazard. It is suspected of causing genetic defect, may cause cancer and may cause damage to organs. It may also cause an allergic skin reaction. Wear nitrile gloves. Keep away from flames and hot surfaces. Store in fume cabinet. Do not wash into drains, dispose via chemical waste route.

- Hazardous chemical – 100% deionized formamide  

100% Deionized formamide may damage fertility or the unborn child if swallowed, it is suspected of causing cancer if swallowed and may cause damage to organs through prolonged or repeated exposure. Wear nitrile gloves and use in a fume hood. Do not wash into drains, dispose via chemical waste route.

- Hazardous chemical – Proteinase K 

Proteinase K may cause allergy or asthma symptoms or breathing difficulties if inhaled. Desiccate Proteinase K should be used in fume hood and proteinase K in solution can be used in well ventilated areas. Do not wash into drains, dispose via chemical waste route.

- Hazardous Chemical – Buffer R 

Buffer R is suspected of causing cancer, may damage fertility or the unborn child and may cause damage to organs through prolonged or repeated exposure. Wear nitrile gloves and use in a well-ventilated area. Do not wash into drains, dispose via chemical waste route.

- Hazardous Chemical – Buffer H and buffer S 



Buffer H and buffer S may cause an allergic skin reaction. Wear Nitrile gloves and avoid breathing in vapour.

- **Steamer** – Hot steam may cause burns. Heat may cause glass containers to break. Staff/students are trained in the safe use of the steamer. Only use plastic containers in the steamer.

Protocol:

See: [MAN-10150-02_GeoMx_DSP_Manual_Slide_Prep_User_Manual \(GeoMx DSP Manual Slide Preparation User Manual \(nanosting.com\)\)](#) Starting at Page 48.

Tissue disposal:

Once tissue sections have been used, dispose of in yellow wiva bin labelled “HTA waste” for incineration.

Accidental exposure/ first aid:

First Aid treatment for skin contact with xylene, ethanol, 10% neutral buffered formalin and deionized formamide:

Remove any contaminated clothing. Rinse skin well with water for a prolonged period. If necessary, seek medical attention.

First Aid treatment for inhalation:

Remove person to a well-ventilated area. If person seems to become dizzy or loses consciousness call security and wait for emergency services to arrive.

First Aid treatment for eye splash:

Rinse thoroughly for at least 15 min using the eye wash station. If necessary, seek medical attention.

First Aid treatment for ingestion:

Do NOT induce vomiting. Rinse mouth with water and seek medical attention immediately.

First Aid treatment for scalds:

Flush the burn with lots of cool water for 20min. Seek medical attention if the patient has anything more than a small minor burn.

Emergency support through security: 4444 (+442075891000)

In all instances of accident OR near miss, notify the safety department and complete a SALUS report.

<https://www.imperial.ac.uk/safety/safety-by-topic/accidents--incidents/>

Occupational health contacts: <https://www.imperial.ac.uk/occupational-health/>

email: occhealth@imperial.ac.uk phone: +44 20 7594 9401

