Document Number:	**SASoM/METHOD/021.v5**
Title:	**Collagen Gel Invasion Assay**
Version:	**v5**
Author:	**Peter Mullen**

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SOP History		
Number	Date	Reason for Change
v1	01/01/2013	Original
v2	01/01/2015	Update
V3	01/01/2017	Update
V4	01/01/2019	Update
V5	01/01/2021	Update

1.0 Purpose –
This SOP describes the current procedure for Invasion Assays in Laboratory 248 at the St Andrews School of Medicine (SASoM).

2.0 Scope –
This SOP applies to all staff in the SASoM involved with cell Invasion assays

3.0 Responsibilities –
All staff involved in Invasion assays are responsible for ensuring that the methods are followed in accordance with this SOP.

All staff must have read and signed the relevant risk assessment documents before performing this procedure.

4.0 Procedure –
Prepare collagen gels for Invasion assay as previously described.

Usually after 3-4 days the gels will have contracted ~4-fold and will be ready for use.

Trypinise the cells that are to be added to gels, i.e. cells which will invade. Pellet the cells by centrifuging and do cell count.

Determine the required volume/cell count required for invasion (typically 50,000 cells/ml gel) by diluting cells with TC medium.

Place contracted gels into wells of twelve well plate and add cells, in a final volume of 500ul, to top of gels, leave for one hour before topping up with 500ul cell culture medium which cells are normally grown in.

After 4 days, the gels are removed from the twelve-well plate and transferred to raised grids within small Petri-dishes. Medium is added to Petri-dish to volume level with grids, encouraging cells to invade into gels.

The cells are then returned to incubator and left for the 7-10 days or the required time length for the invasion to occur. Different cell type may require a different length of time.

Medium should be monitored throughout and topped up when required.

When ready gels can then be fixed in formalin and processed for paraffin embedding.

5.0 Personal protection –
A Howie coat must be worn at all times. Gloves as specified in the appropriate COSHH RA.

6.0 Spillages -
Always clean up any spills immediately after use, only you know what you have spilt and are aware of its hazard.

Spillages should be mopped up with paper towel, disinfected with 70% ethanol and finally washed with detergent.

7.0 Training –
All staff should under go training in this technique before performing the procedure.

8.0 Related documents –

8.1 Risk assessments COSHH/027

8.2 SOP SASoM/METHOD/008
Use of Trypsin for passaging cells in Cell Culture

8.3 SOP SASoM/METHOD /019
Preparation of Type 1 Collagen.

8.4 SOP SASoM/METHOD /020
Preparation of Collagen Gels for Invasion Assays

9.0 Approval and sign off –

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