

Method Procedure

Document Number:		SASoM/METHOD/019.v5	
Title:	Preparation of Type 1 Collagen		
Version:	v5		
Author:	Peter Mulle	n	

Effective from:	01/01/2021	
Valid to:	01/01/2023	

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 preparing Type 1 Collagen in Laboratory 248 at the St Andrews School of Medicine (SASoM).

2.0 Scope -

This SOP applies to the staff in the SASoM involved with preparation of Type 1 Collagen.

3.0 Responsibilities -

All staff involved in Type 1 collagen preparation 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 –

Place rat tails into 70% Ethanol.

Remove tendons from tails and place in fresh 70% ethanol to sterilise.

Weigh the tendons and add to the appropriate volume of precooled 0.5M acetic acid. (1g tendon/250ml acetic acid).



Method Procedure

MEDICINE

SCHOOL OF

Stir at 40°C for 48hours.

Centrifuge at 10,000g for 30minutes, discard the pellet.

To the supernatant add an equal volume of 10%(w/v) sodium chloride.

Collect the collagen rich insoluble material by centrifuging at 10,000g for 30 minutes.

Resuspend the insoluble material in 0.25M acetic acid at 4°C. Avoid adding too much acetic acid as collagen solution will be too dilute.

Dialyse collagen mix against 1:1000 acetic acid at 4°C for 3 days changing the dialysis buffer twice daily.

Clean up collagen by centrifuging at 20,000g for 2 hours.

Store collagen in sterile bottle at 4°C.

Collagen can be diluted as required by adding sterile 1.1000 acetic acid.

To make 1L of 0.5M acetic acid add 28.6ml glacial acetic acid to 971.4ml dH₂O.

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/020 Preparation of Collagen gels used for Invasion Assays
- 8.3 SOP SASoM/METHOD/021 Invasion Assays



Method Procedure

9.0 Approval and sign off –

Author:		
Name:	Peter Mullen	
Position:	Research Fellow	
Signature:		Date:
Management App	roval:	
Name:	Peter Mullen	
Position:	Research Fellow	
Signature:		Date:
QA release by:		
Name:	Alex MacLellan	
Position:	QA Manager	
Signature:		Date: