

NDMRB-RA-106

Risk Assessment: Western Blotting

Scope:

Western Blotting (WB) is a common analytical tool used during protein/lysate analysis. First stage of the process involves running a SDS page gel (see TDI-RA-014 Gel Electrophoresis), the second phase involving “blotting” from this gel to achieve a “western blot”.

The risks associated with this process are outlined within this assessment.

This replaces TDI-RA-046

Name of assessor:	Kathryn Pugh	Date of Assessment:	Nov 2015	Review Date:	Every 3 years
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Risk Matrix:

Risk Matrix		Likelihood			
		High	Medium	Low	Negligible
Consequence	Severe	High	High	Medium	Effectively Zero
	Moderate	High	Medium	Medium/low	Effectively Zero
	Insignificant	Medium/Low	Low	Low	Effectively Zero
	Negligible	Effectively Zero	Effectively Zero	Effectively Zero	Effectively Zero

Risk Assessment:

Hazard (Cause and consequence)	Affected Groups	Existing controls	Risk	Further Action
Electric Shock	All users of electrophoresis equipment	All users must be trained in the safe use of this equipment. All equipment to the PAT tested on an annual basis Gel tank lid must be in place before the equipment is switched on Gel tanks must be used in the photographic trays provided	Medium	Ensure all staff are appropriately trained in the process
iBlot kits – electric shock risk	All users of pre-prepared WB kits	Pre made iBlot kits are semi dry but still involved the use of a specific piece of equipment called an “iBlot”. The instructions must be followed and all components in place before turning the equipment on.	Medium	As above
Exposure to hazardous substances	All users of electrophoresis equipment and iBlot kits	Ensure that staff are aware of the possible exposure to hazardous chemicals. Gels should be disposed of wrapped in blue roll into the general waste only if the gel is polymerised acrylamide and the substances being separated are not	Medium	None

		<p>biologically active. If the gel has the potential to be biologically active then it should go through the biohazard waste stream.</p> <p>iBlot kits should be disposed of in the same manner, if the plastic is uncontaminated then this can be disposed via the recycling waste route.</p> <p>Staff must read all relevant MSDS and COSHH prior to commencing any work</p> <p>PPE must be used – lab coats, safety glasses and gloves</p> <p>Staff should read the following SOP and RA prior to commencing with any work which involved substances hazardous to health: NDMRB-SOP-003 Handling, Storage and Disposal of Lab Waste NDMRB-SOP-004 Safe handling and use of Chemicals NDMRB-RA-066 Handling and Usage of Chemicals NDMRB-SOP-008 Storage of flammable liquids in containers</p>		
Exposure to cold if incubating in the cold room	Staff	When incubating membranes in the cold room then staff should refer to NDMRB-RA-068 Use of cold rooms and NDMRB-RA-104 Overnight experiments	Medium	None

Signed By Author:

Approved by (sign and print):

Reviewed by:

Review date: