

Sirius Red staining of murine tissues

Bianca Hemmeryckx, Dries Bauters, H. Roger Lijnen

Abstract

Sirius Red staining is a useful staining to study collagen distribution. In adipose tissue development during obesity the extracellular matrix is being remodeled and this can be analyzed using Sirius Red staining. In addition, fibrosis in livers from mice suffering from non-alcoholic steatohepatitis can be identified using this staining. Moreover, scar formation after the induction of a myocardial infarct can be illustrated using the Sirius Red staining.

Citation: Bianca Hemmeryckx, Dries Bauters, H. Roger Lijnen Sirius Red staining of murine tissues. **protocols.io**
dx.doi.org/10.17504/protocols.io.j9rcr56

Published: 11 Oct 2017

Guidelines

To weigh off Picric acid, the entire bottle is weighed before and after some Picric acid is transferred to another recipient.

Protocol

Step 1.

5 min xylene x 2

Step 2.

3 min 100% ethanol x 2

Step 3.

3 min 70% ethanol x 1

Step 4.

3 min 50% ethanol x 1

Step 5.

3 min denatured water (AD)

Step 6.

10 min TAP water (running water)

Step 7.

5 min AD

Step 8.

90 min Sirius Red solution

* 8g Picric acid in 200 ml AD (= 4% saturated solution)

- * Stirr 30 min
- * Filter
- * Add 0.2g Direct-Red
- * Stirr
- * Filter



REAGENTS

Picric acid 197378 by [Sigma-aldrich](#)

Direct-Red 80 365548 by [Sigma-aldrich](#)

Step 9.

2 min HCl 0.01N (1,015x dilution: 1.97 ml saturated HCl + 2,000 ml AD)

Step 10.

45 sec 70% ethanol

Step 11.

5 min 100% ethanol x 2

Step 12.

5 min xylene x 2

Step 13.

Mount coverslip with DPX



REAGENTS

DPX 1.00579.0500 by [Merck Millipore](#)

Warnings

-Due to its explosive characteristics Picric acid is delivered as a solution (powder moistened with water) and is kept within a locked separate ventilated cabinet.

-Waste is collected in a separate dedicated waste container.

-Due to toxicity of xylene, steps 1-5 and steps 10-13 are performed in a fume hood and xylene is handled with xylene-resistant gloves.