

## Oil Red O Staining Kit Specifications and Instruction Quick Steps



### Oil Red O Staining Kit Components

Oil Red O stains lipid vesicles which are created by functional adipocytes and is a useful tool when used with Lifeline's mesenchymal stem cells and Lifeline's AdipoLife™ Adipogenesis Medium Complete Kit. This kit contains fixative solution, dehydration solution, Oil Red O stain solution and stain differential solution for staining lipid vesicles in adipocytes.

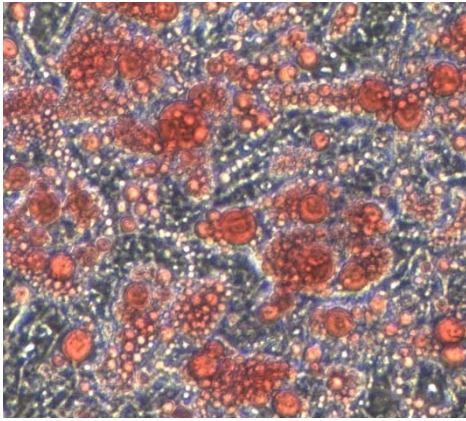
### Safety Statement

These products are For Research Use Only and are not approved for human or veterinary use, or for use in *in vitro* diagnostics or clinical procedures. Paraformaldehyde releases formaldehyde gas which is a known carcinogen. It is best to work with paraformaldehyde in a chemical fume hood. Please dispose of paraformaldehyde in accordance with local and federal regulations.

Product	Part No.	Volume	Storage	
<b>Oil Red O Lipid Staining Kit</b>	LL-0052			
0.5% Oil Red O Stain Solution	CM-0054	100 mL	RT	
4% Paraformaldehyde Fixative Solution	CM-0055	100 mL	-20°C	
100% 1,2-Propanediol Dehydration Solution	CM-0056	100 mL	RT	
85% 1,2-Propanediol Stain Differential Solution	CM-0057	100 mL	RT	
Other Recommended Products	Part No.	Unit	Kit Components	Storage
<b>Human Mesenchymal Stem Cells-Adult (HMSC-Ad)</b>	FC-0034	10 <sup>6</sup> Cells		-150°C
<b>StemLife™ MSC Medium Complete Kit</b>	LL-0034	Kit	StemLife MSC Basal Medium; StemLife MSC LifeFactors® Kit	2-8°C when prepared
<b>AdipoLife™ Adipogenesis Medium Complete Kit</b>	LL-0050	Kit	AdipoLife Basal Medium DifFactor™ 1 DifFactor 2	2-8°C when prepared
<b>Phosphate Buffered Saline</b>	CM-0001	500 mL		RT
Deionized water, coarse filter paper				

### The Lifeline® Guarantee

Lifeline's rigorous quality control ensures performance to standardized testing criteria. If Lifeline's products do not meet our posted performance and quality standards, we will replace them at no charge or provide a full refund. Upon request, Lifeline will provide lot-specific QC test results, material safety data sheets and certificates of analysis. See complete guarantee/warranty statement at [lifelinecelltech.com](http://lifelinecelltech.com) or contact your Lifeline representative for more information.



Lifeline's adult mesenchymal stem cells differentiated to adipocytes and stained with Oil Red O (200X).

#### Quick Steps for Fixation and Staining of Adipocytes for Lipid Vesicles in 6-Well Plates

1. Always wear eye protection and gloves when working with staining reagents.
2. Use 4% Paraformaldehyde Fixative Solution in a chemical fume hood.
3. Adipocytes may be stained with Oil Red O at either 37°C or 60°C.
4. Pre-heat an oven to 60°C or a water bath to 37°C.
5. For each well (6-well plate) to be stained, pre-warm 2.5 mL of Oil Red O (37°C or 60°C) in a 50 mL conical tube.
6. Once Oil Red O has been warmed, filter through paper towel or coarse Whatman filter paper into a fresh tube to remove small particulates. Return Oil Red O to warming at 37°C or 60°C.
7. Partially aspirate medium from well. Never allow monolayer to be exposed to air at any point during staining. If the wells are allowed to dry the lipid vesicles will burst.
8. Gently, from the side of the well, add 2 mL of Lifeline® PBS (CM-0001).
9. Repeat Steps 5 and 6 two more times.
10. Partially aspirate PBS from the wells.
11. Add 2 mL of 4% Paraformaldehyde Fixative Solution (CM-0055) to each well of a 6-well plate.
12. Partially remove 4% Paraformaldehyde from each well, and replace with another 2 mL of 4% Paraformaldehyde.
13. Fix for at least 20 minutes at room temperature.
14. Partially aspirate fixative solution.
15. Rinse well twice with deionized water.
16. Add 1.0 mL of 100% 1,2-Propanediol Dehydration Solution (CM-0056) to each well and incubate for 5 minutes at room temperature. Gently tilt the plate 2 to 3 times to mix.
17. Partially remove dehydration solution. Add another 1 mL of 100% 1,2-Propanediol Dehydration Solution to each well and incubate for 5 minutes at room temperature. Gently tilt the plate 2 to 3 times to mix.
18. Partially remove dehydration solution. Add 2 mL Oil Red O Stain Solution (CM-0054) to each well.
19. Incubate at 37°C for 30 minutes or at 60°C for 8 minutes. Tilt the plate 2 to 3 times during the incubation.
20. Remove Oil Red O. Add 2 mL of 85% 1,2-Propanediol Stain Differential Solution (CM-0057) for 1 minute to differentiate stain. Do not mix the stain differential solution in the well(s)!
21. Rinse wells carefully twice with 2 mL dH<sub>2</sub>O per well, leaving the final dH<sub>2</sub>O rinse in the well.

**For any question on cell handling, differentiation or staining, please contact technical service. We are here to help.**

**Call Lifeline Technical Service and Sales at [877.845.7787](tel:877.845.7787)**  
or visit [lifelinecelltech.com](http://lifelinecelltech.com) for more information

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