Product Name

Name: MSC Adipo-Staining Kit

Cat. No.: C37A0-0150

Size: 1 kit

Package specification

Product	Storage	Form	Cat. No.	Amount
Adipo-Fixation	2 - 8°C	Colorless transparent liquid	C37A1-0020	1 × 20 mL
Adipo-Wash I	2 - 8°C	Colorless transparent liquid	C37A2-0050	1 × 50 mL
Adipo-Staining A	2 - 8°C	Dark red liquid	C37A3-0012	1 × 12 mL
Adipo-Staining B	2 - 8°C	Colorless transparent liquid	C37A4-0008	1 × 8 mL
Adipo-Wash II	2 - 8°C	Colorless transparent liquid	C37A5-0050	1 × 50 mL
Adipo-Inspection	2 - 8°C	Colorless transparent liquid	C37A6-0010	1 × 10 mL

Intended Use

Use for staining of adipocyte after adipogenic differentiation of mesenchymal stem cells, and recommend especially for staining verification after adipogenic differentiation using SpeeDiff MSC Adipogenic Differentiation Medium (VivaCell, C8210).

Staining principle

Oil Red-O is a fat-soluble azo dye belonging to the Sudan dye family. It is widely used for fat staining because of its obvious color development and easy observation.

Under the effect of adipogenic differentiation, mesenchymal stem cells (MSCs) are induced to differentiate into preadipocytes and adipocytes, and the latter gathers large and small fat droplets. The solubility of Oil Red O in fat is greater than that in dye solution, which makes the fat color red or orange.

Main components

Oil red-O

Application

Evaluation of adipocyte staining after adipogenic differentiation of mesenchymal stem cells.

Storage and Stability

The product should be kept at **2 - 8°C.**
The product is **light-sensitive** and therefore should not be left in the light.
Shelf life: 18 months from date of manufacture.

Sample requirements

The samples to be examined should be adipocytes formed after adipogenic differentiation of mesenchymal stem cells. SpeeDiff MSC Adipogenic Differentiation Medium (VivaCell, C8210) is recommended for induction of adipogenic differentiation.

Procedure

Take the use of a T25 flask as an example:

Before staining, mix Adipo-Staining A solution (C37A3-0012) and Adipo-Staining B solution (C37A4-0008) at a volume ratio of 3:2, which is the working staining solution. Each T25 flask requires 3 mL working staining solution. It is better to be freshly prepared for each use and used within 3 h.

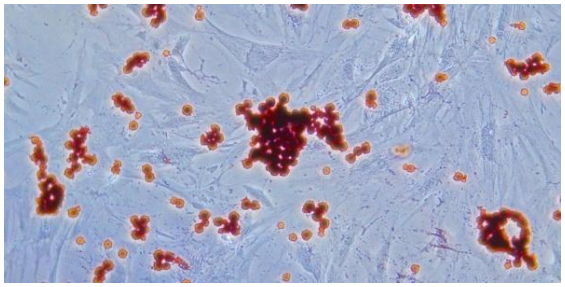
1. Aspirate to remove the differentiation medium and add 1 mL DPBS (VivaCell C3590-0500) to gently wash the culture flask.
2. Aspirate the DPBS, add 3 mL Adipo-Fixation solution (C37A1-0020), gently shake the culture flask to spread evenly on the whole surface of the flask. Incubate at room temperature for 30 min.
3. Discard the Adipo-Fixation solution, add 3 mL Adipo-Wash I (C37A2-0050), rinse the flask, and incubate at room temperature for 2-3 min.
4. Aspirate Adipo-Wash I solution, add 3 mL Staining Solution, spread the solution evenly, and stain at room temperature for 30 min.
5. Discard the Staining Solution and add 3 mL Adipo-Wash II solution (C37A5-0050) to rinse the flask.
6. Aspirate Wash II solution, repeat step 5, and rinse the flask again (if the supernatant is still red, you can extend the rinsing time or rinse again. Note: do not wash the cells away).
7. Discard Wash II solution, add 1 mL Adipo-Inspection solution (C37A6-0010), observe and take photographs through a microscope.

Quality Control

MSC Adipo-Staining Kit is tested for adipocyte staining.

Explanation of the test results

Under the microscope, lipid droplets within fat cells can be observed to appear distinctly red or dark red when combined with the oil red dye (as shown in the picture below). The intensity of staining will be affected by many factors, such as cell type, cell passage number, differentiation time and culture conditions.



Precaution and Disclaimer

For research use only, not for clinical diagnosis, and treatment.