

## Product Name

Name: MSC Osteo-Staining Kit

Cat. No.: C37C0-0150

Size: 1 kit

## Package specifications

Product	Storage	Form	Cat. No.	Amount
Osteo- Fixation	2 - 8°C	Colorless transparent liquid	C37C1-0020	1 × 20 mL
Osteo- Wash I	2 - 8°C	Colorless transparent liquid	C37C2-0050	1 × 50 mL
Osteo- Staining	2 - 8°C	Dark red liquid	C37C3-0020	1 × 20 mL
Osteo- Wash II	2 - 8°C	Colorless transparent liquid	C37C4-0050	1 × 50 mL
Osteo- Inspection	2 - 8°C	Colorless transparent liquid	C37C5-0010	1 × 10 mL

## Intended Use

Use for staining of osteoblasts after osteogenic differentiation of mesenchymal stem cells, and recommend especially for staining verification after osteogenic differentiation using MSCgo™ Osteogenic XF medium (Satorius, 05-440-1B & 05-442-1B).

## Staining principle

Alizarin Red S is a commonly used calcium-binding stain, which is widely used for the staining test of calcium-containing targets in biomedical samples. Free calcium ions can form red precipitates by chelating with alizarin red S; the fixed calcium will be directly dyed red.

Under the effect of osteogenic induction, mesenchymal stem cells (MSCs) will be gradually differentiated into osteoblasts, including the formation of calcified bone segments (calcium salt crystals) and the calcium secretion reaction of cells. Both can be dyed red by Alizarin Red S.

## Main components

Alizarin Red S

## Application

Evaluation of osteoblasts staining after osteogenic 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 osteoblasts properly induced after osteogenic differentiation from mesenchymal stem cells. MSCgo™ Osteogenic XF medium (Biological Industries) is recommended for induction of osteogenic differentiation.

## Procedure

Take the use of a T25 flask as an example:

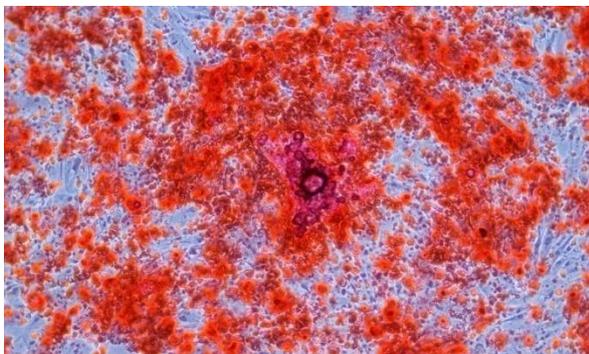
1. Remove the differentiation medium and add 1 mL DPBS (VivaCell C3590-0500) to gently wash the culture flask.
2. Remove the DPBS, add 3 mL Fixation solution (C37C1-0020), gently shake the culture flask to spread the solution evenly on the whole surface of the flask. Incubate at room temperature for 30 min.
3. Remove the Fixation solution, add 3 mL Wash I solution (C37C2-0050), rinse the flask 2-3 times.
4. Remove the Wash I solution, add 3 mL Staining Solution (C37C3-0020), spread the solution evenly, and stain at room temperature for 30 min.
5. Remove the Staining Solution and add 3 mL Wash II (C37C4-0050) solution to rinse the flask 2-3 times.
6. Remove the Wash II solution, add 1 mL Inspection solution (C37C5-0010), observe and take photographs through a bright-field microscope (differentiated bone cells will be dyed orange-red).

## Quality Control

MSC Osteo-Staining Kit is tested for differentiation of osteoblasts staining.

## Explanation of the test results

Under the microscope, it can be observed that the calcified bone joint appears red or orange after combining with alizarin red dye (as shown in the figure below). The number and the intensity of stained cells appeared will depend on many factors, such as cell type, cell passage number, differentiation time, and culture conditions.



## Manufacturer

Shanghai Dr. Cell Co., Ltd.



**Issue Date**

Feb 2024

**Precaution and Disclaimer**

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

