

Product Description

Alizarin Red S is an anthraquinone dye used to stain for calcium deposits, which are indicators of mature osteocytes. This kit contains 2% Alizarin Red S Stain in a convenient, ready-to-use solution. The dye forms a complex with calcium during the process of chelation resulting in birefringence [1].

Kit Components

Cat. No.	# of vials	Name	Quantity	Storage
0223	1	2% Alizarin Red S Stain Solution	100 mL	Room temperature

Materials Supplied by User

4% Paraformaldehyde solution in Phosphate Buffered Saline (PBS)
Deionized H₂O (diH₂O)

Product use

This kit is for research use only. Not for use in animals, humans, or diagnostic procedures.

Shipping

Room temperature.

References

[1] Clark, G. (Ed.). (1981). *Staining Procedures*. (4th ed.). Baltimore, MD: Williams & Wilkins.

Procedures

A. Preparation of Cells:

1. Aspirate culture medium from each well gently without disrupting the cells.
2. Wash the cells twice with 1 mL PBS and gently aspirate.
3. Fix the cells in 4% Paraformaldehyde in PBS for 15 min at room temperature.
4. Carefully remove the fixative and wash the cells 3 times with diH₂O.

B. Staining of Cells:

1. Remove diH₂O completely and slowly add 1 mL of 2% Alizarin Red S Stain Solution to each well.
2. Incubate for 20-30 min at room temperature.
3. Remove dye and wash 3-5 times with diH₂O.
4. Add 1 mL diH₂O to each well to keep cells from drying out. Samples are now ready for imaging under microscope.

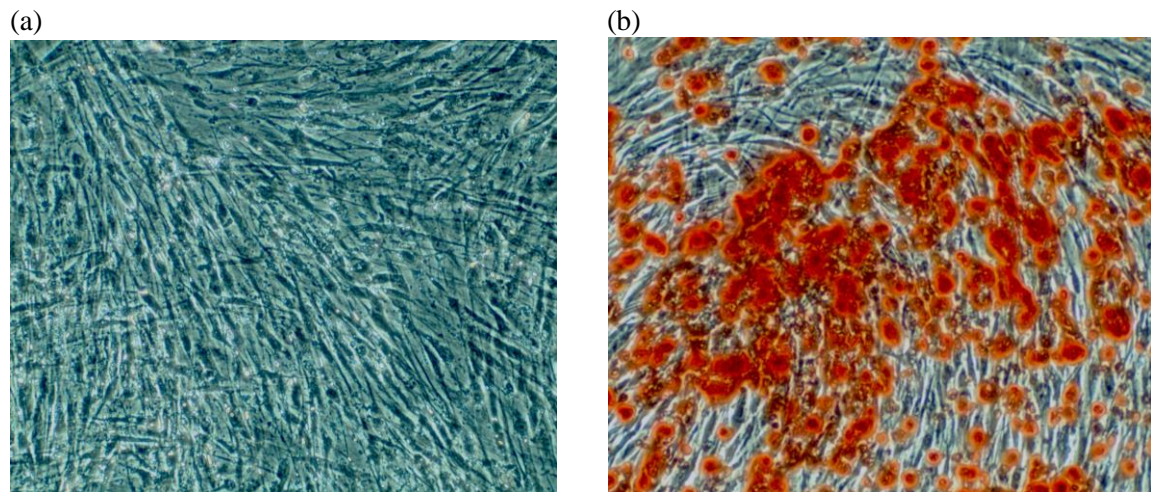


Figure 1. (a) Human mesenchymal stem cells from bone marrow (HMSC-bm, Catalog # 7500) were cultured in growth medium, complete Mesenchymal Stem Cell Medium (MSCM, Catalog # 7501) for 21 days. Alizarin Red staining was not detected (Magnification: 10X).
(b) HMSC-bm were cultured in complete MSC Osteogenic Differentiation Medium (MODM, Catalog # 7531) for 21 days. The Alizarin Red staining demonstrated the presence of calcium deposits in cells (Magnification: 10X).