DIFFERENTIATION OF PREADIPOCYTES INTO ADIPOCYTES

Adipocytes play an important role in energy storage and metabolism. The Human Primary Subcutaneous White Preadipocytes (T4002) is derived from human subcutaneous or visceral adipose tissue and can proliferate and differentiate into mature adipocytes using **abm**'s Adipocyte Differentiation Medium (TM005). **abm**'s Adipocyte Differentiation Medium is complete medium containing all growth factors and supplements necessary to induce the differentiation of preadipocytes into mature adipocytes.

Protocol

1. Human Primary Subcutaneous White Preadipoctyes are cultured to 90% confluency in PriGrow IV (TM004) supplemented with 10% fetal bovine serum (TM999), 10ng/ml recombinant Epidermal Growth Factor (rEGF), 1µg/ml hydrocortisone, 90µg/ml heparin and Penicillin/Streptomycin (G255).

2. Replace the culture medium with appropriate volume of Adipocyte Differentiation Medium (see Table 1 below). Incubate plate for 7 days at 37°C and 5% CO_2.

3. After 7 days, replace half of the Adipocyte Differentiation Medium with PriGrow IV (TM004) supplemented with 10% fetal bovine serum (TM999), 8µg/ml d-biotin, 0.5µg/ml human insulin, 400ng/ml dexamethasone and Penicillin/Streptomycin (G255). Add the medium gently to avoid dislodging the cells.

4. The differentiation process to mature adipocytes is completed after 12-14 days. Mature adipocytes should appear rounded with large lipid droplets apparent in the cytoplasm.

Table 1: Volume of Adipocyte Differentiation Medium for Different Culture Vessels

Culture Wares	Area (cm^2)	Volume
96- well plates	0.143	0.15 ml/ well
24- well plates	0.33	1.0 ml/ well
12- well plates	1.12	2.0 ml/ well
6- well plates	4.67	3.0 ml/ well
T-25 flask	25	7.0 ml/ flask
T-75 flask	75	20.0 ml/ flask

For laboratory research only. Not for clinical applications.

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