Differentiation of SH-SY5Y cells

Shenjie Wu[1], Nancy C. Hernandez Villegas[2], schekman[1]

[1]Department of Molecular and Cell Biology, Howard Hughes Medical Institute, University of California, Berkeley, Berkeley, United States; [2]Helen Wills Neuroscience Institute, University of California, Berkeley, Berkeley, United States

Nancy C. Hernandez Villegas

AUG 26, 2023

OPEN ACCESS

DOI: dx.doi.org/10.17504/protocols.io.dm6gp3jj1vzp/v1

Protocol Citation: Shenjie Wu, Nancy C. Hernandez Villegas, schekman 2023. Differentiation of SH-SY5Y cells. **protocols.io** https://dx.doi.org/10.17504/protocols.io.dm6gp3jj1vzp/v1

Protocol status: Working
We use this protocol and it's working

Created: Aug 04, 2023

ABSTRACT

This protocol describes a standard procedure to differentiate SH-SY5Y cells into dopaminergic neurons using retinoic acid

MATERIALS

Reagents

	Reagent	Catalog number	Manufacturer
	SH-SY5Y cells		Cell Culture Facility, UC Berkeley
	DMEM, High Glucose, GlutaMAX Supplement	10566-024	Thermo Scientific
	Mem Non Essential Amino Acids Solution (100X)	11140050	Thermo Scientific
	Corning® 100 mL Sodium Pyruvate, Liquid 100 mM	MT25000CI	Corning
	FBS		
	Retinoic acid	R2625	Sigma

Last Modified: Aug 26, 2023

PROTOCOL integer ID: 85961

Differentiation of SH-SY5Y cells

1 SH-SY5Y neuroblastoma cells were maintained in DMEM supplemented with 1× nonessential amino
acid (NEAA), 1× sodium pyruvate, and 10% FBS.

2 Differentiation was induced by lowering the FBS in culture medium to 1% plus 10 µM RA.

3 Cell medium was replaced each 3 days to replenish RA.

4 Cell morphology was monitored by microscopy and experiments on SH-SY5Y cells were performed from D6 of differentiation.