

Table 1. Two ways of generating adult tissue organoids

	Pluripotent Stem Cell (iPS)	Organ restricted stem cell
	One stem cell can generate cell types with characteristics of divers tissues	Tissue stem cell “remembers” tissue of origin
Step 1	Isolate adult mature cell	Isolate* adult stem cell
Step 2	Reprogram it to be a pluripotent stem (PS) cell (i.e. <i>induced PS</i>)	Self-organize in culture to form “mini-tissues”
Step 3	Differentiate to different tissue cell types (embryonic cues)	Generate the tissue-specific cell types and architecture (adult cues)
	Model normal and disease tissue	Model normal and disease tissue
	Regenerative medicine/transplantation	Regenerative medicine/transplantation
		Applicable to diseased tissues e.g. solid tumors; personalized anti-cancer treatment
	Autologous diverse tissue cell types	

*It is not necessary to isolate the adult stem cells; tissue pieces also yield organoids