

Table 1.Troubleshooting table.

Step A: Surgical procedure	Problem	Possible cause	Solution
10	Finding the place where CBD enter the small intestine is difficult.	Junction cannot be visualized.	<ul style="list-style-type: none">- Clamping the duodenum on either side of the junction with the CBD is also an option.- Postpone step 10 after injecting collagenase for the first time. At this time, entering the solution into the intestine is completely obvious. Clamping the duodenum at the place where collagenase enters the duodenum.
12	The CBD is cut during making scission.	Using inappropriate scissors.	Make another session at the lower part. If it is destroyed, an alternative method involves directly injecting collagenase into the numerous lobes of the pancreas.
13	The CBD is distended during injection.	<ul style="list-style-type: none">- The needle tip is not in the bile duct cavity.- Fast and strong perfusion.	<ul style="list-style-type: none">- Reinsert the needle under the microscope.- Slow the perfusion rate. Be patient!
14	Intestine and blood vessels rupture, blood and excrement contamination.	Vessel and intestine rupture during pancreas removal.	Wash the isolated tissues with solution II before transferring to conical tube which contains 5 ml collagenase.

Step B: Digestion procedure	Problem	Possible cause	Solution
5	Many undigested part remain after digestion steps	Inappropriate digestion.	<ul style="list-style-type: none"> - Increase incubation time. - Increase shaking times and duration. - Increasing the enzyme solution is an alternative solution, but not recommended.
16	No completely distinct and separated phases appear after adding solution III.	Adding solution III via syringe too quickly.	Perform step 17, if you cannot isolate islets, centrifuge at 1000 rpm for 2 min, discard the supernatant, then perform step 15 again.
18	There are little, if any, islets in the interphase.	<ul style="list-style-type: none"> -Inappropriate pipetting in step 14. -Inappropriate addition of solution III via syringe. -Exocrine tissues attached to the islets. 	<ul style="list-style-type: none"> - Collect the isolated islets, if any. - Discard the supernatant then perform step 14 again. - Resuspend the pellet and pipette several times. - Adjust the enzyme activity as described before.
23	Islets are not intact.	<ul style="list-style-type: none"> -Too vigorous pipetting or shaking during step 4. -More than enough digestion. 	<ul style="list-style-type: none"> - Decrease enzyme incubation time. - Decrease shaking time and duration.
23	Too many fine exocrine particles.	-Too vigorous pipetting or shaking during step 4.	<ol style="list-style-type: none"> 1. Decrease shaking time and duration. 2. Increase the amount of solution III in the step 21. 3. Decrease the centrifuge rotation (not recommended).

