**Isolation and Culture of Mouse Gastric Organoids**

The protocol for organoid generation was followed as previously described (1). Briefly, following humane sacrifice, the stomach was harvested and opened longitudinally with gastric contents removed. The tissue was rinsed with ice cold PBS in a 90 mm petri dish, washed with ~20 ml ice cold PBS in a 50 ml tube by vigorous shaking, and then rinsed again with ice cold PBS in a 90 mm petri dish. After washing, tissue was transferred to a 35 mm petri dish in a biological tissue culture hood and then minced with fine scissors. One ml collagenase (Invitrogen) solution was added to suspend tissue fragments, and the petri dish was incubated in a cell culture incubator (37°C) with vigorous mixing every 5–10 min, using a 1,000 μl pipette. Once visible, single epithelial units (crypts/pits) were separated from the larger tissue fragments as seen on a phase or dissection microscope. The epithelial units were passed through a 70 μm cell strainer (BD) using a 1,000 μl pipette and the strainer was washed with 9 ml washing media (penicillin (100 units/ml), streptomycin (0.1 mg/ml), L-glutamine (2 mM), and FBS (10%) in DMEM/F12 (Invitrogen) with HEPES). This filtrate was transferred to a 15 ml centrifuge tube and centrifuged at 20 g for 5 min. The pellet was suspended in 500 μl–1 ml washing media, transferred to a 1.5 ml tube, centrifuged at 200 g for 5 min, placed on ice and the epithelial units resuspended in Matrigel (Corning, 15 μl per well). Fifteen μl of cell-Matrigel suspension was then placed in the center of each well of a 24-well plate using a 20 μl pipette and spread with a pipette tip. To polymerize the Matrigel, plates were incubated upside down to avoid attachment of epithelial units to the plate surface. After 3-5 min, plates were returned to the upright orientation and 500 μl of 50% L-WRN conditioned medium (1) (a 1:1 mix of L-WRN conditioned medium and Advanced DMEM/F-12 with 20% FBS) were added to each well, and the medium subsequently changed at least every 48 h. To obtain enough organoids for the following assays, the method for culturing organoids was optimized from 24-well plates (where one aliquot of cell-Matrigel suspension was grown in 500 μl conditioned medium per well) to 6-well plates (7 aliquots with 2.5 ml conditioned medium per well).