1. Macrophage and bacterial control

(1). Is there penetration of macrophages into the lining of epithelial cells? Does this penetration prevail by one population of macrophages? （毕 朱）

\*If yes, whether these macrophages express tight junction protein?

(2) Is there access of macrophages to the tubule lumen?

A. Inject E.coli, collect urine and test the number of macrophages

B. Measure phagocytosis of macrophages of labeled E.coli

(3) Whether by IHC can colocalize bacteria with macrophages in the kidney

(4) After liposome clondronate depletion of all macrophage or using iDTR model to only deplete the embryonic macrophages, whether the nonpathogenic DH5a can cause disease? \*using a strain of anti-antibiotics E.coli

(5) Is the protrusion and trans-migration of macrophage CX3CR1-dependent

2. The roles of the two types of macrophages in the development of renal tumor (lymphoma E.G7-OVA)

1. After liposome clondronate depletion of all macrophage or using iDTR model to only deplete the embryonic macrophages, whether tumor growth will show difference?