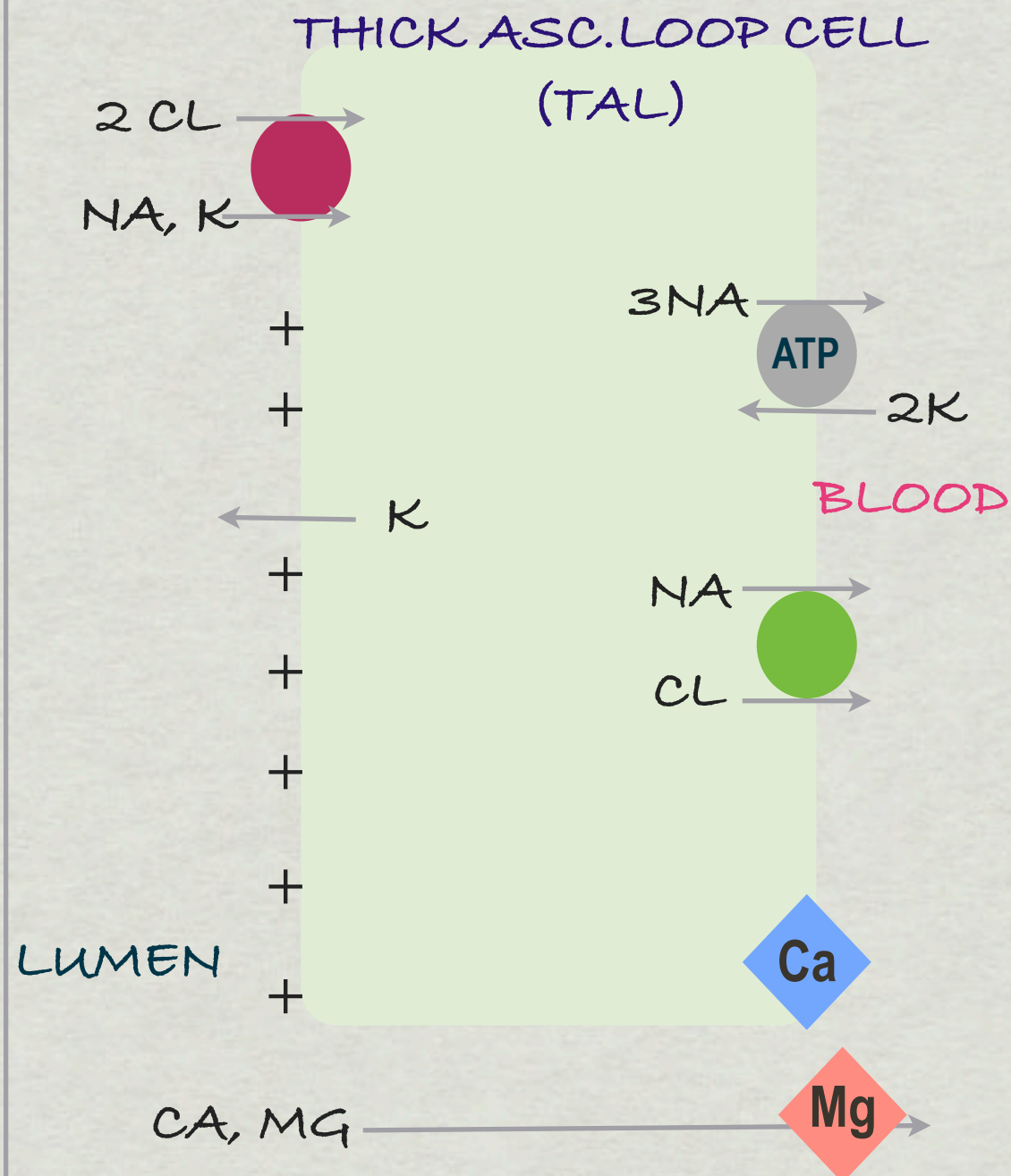


Loop physiology



Na reabsorption	~15-25% in TALC
	main pump to reabsorb Na^+ from filtrate on apical (luminal) membrane of the thick ascending loop of Henle by SECONDARY ACTIVE TRANSPORT . In series w/ Na/K ATP pump and Na/Cl pump on basolateral (BL) membrane.
K	goes back into filtrate through an apical K channel creating a positive charge on the luminal (apical) membrane
Ca, Mg	repelled in the blood through paracellular tight junctions by the positive charges
Ca	Mg
a Ca sensitive receptor on BL mb regulates NaCl intake; its defect: Familial HYPERcalcemic hypocalciuria	PARACELLIN-1 - transmb protein in tight junction- defect: hypoMgemia & hypercalciuria with nephrocalcinosis . TRPM6 and TRPM7 proteins are critical for Mg reabsorption in thick asc loop cell. Defect of TRP6 : hypoMgemia & hypoCa-emia