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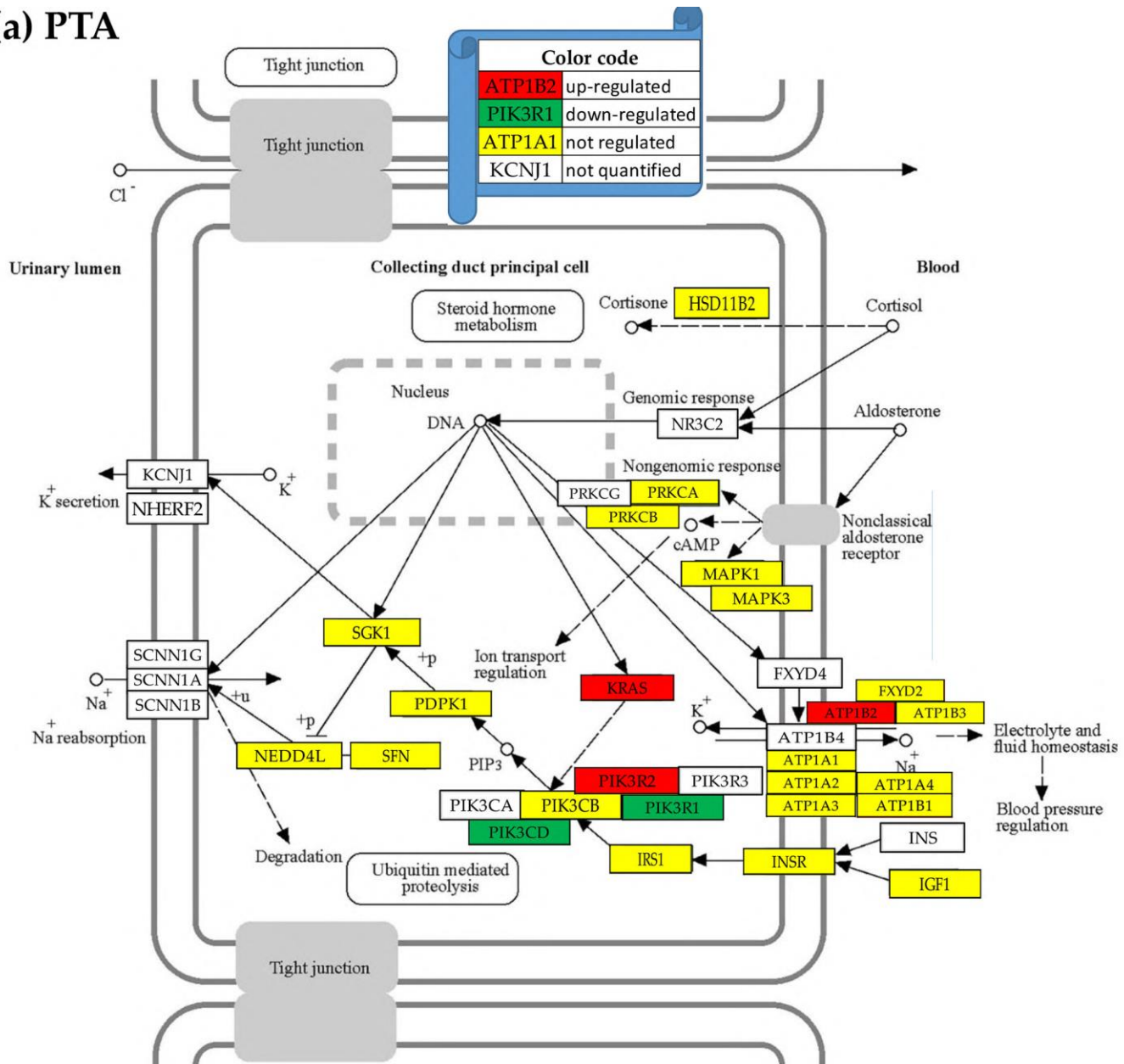
# **Genomic Fabrics of the Excretory System's Functional Pathways Are Remodeled in Clear Cell Renal Cell Carcinoma**

Dumitru Andrei Iacobas, Ehiguese Alade Obiomon and Sanda Iacobas

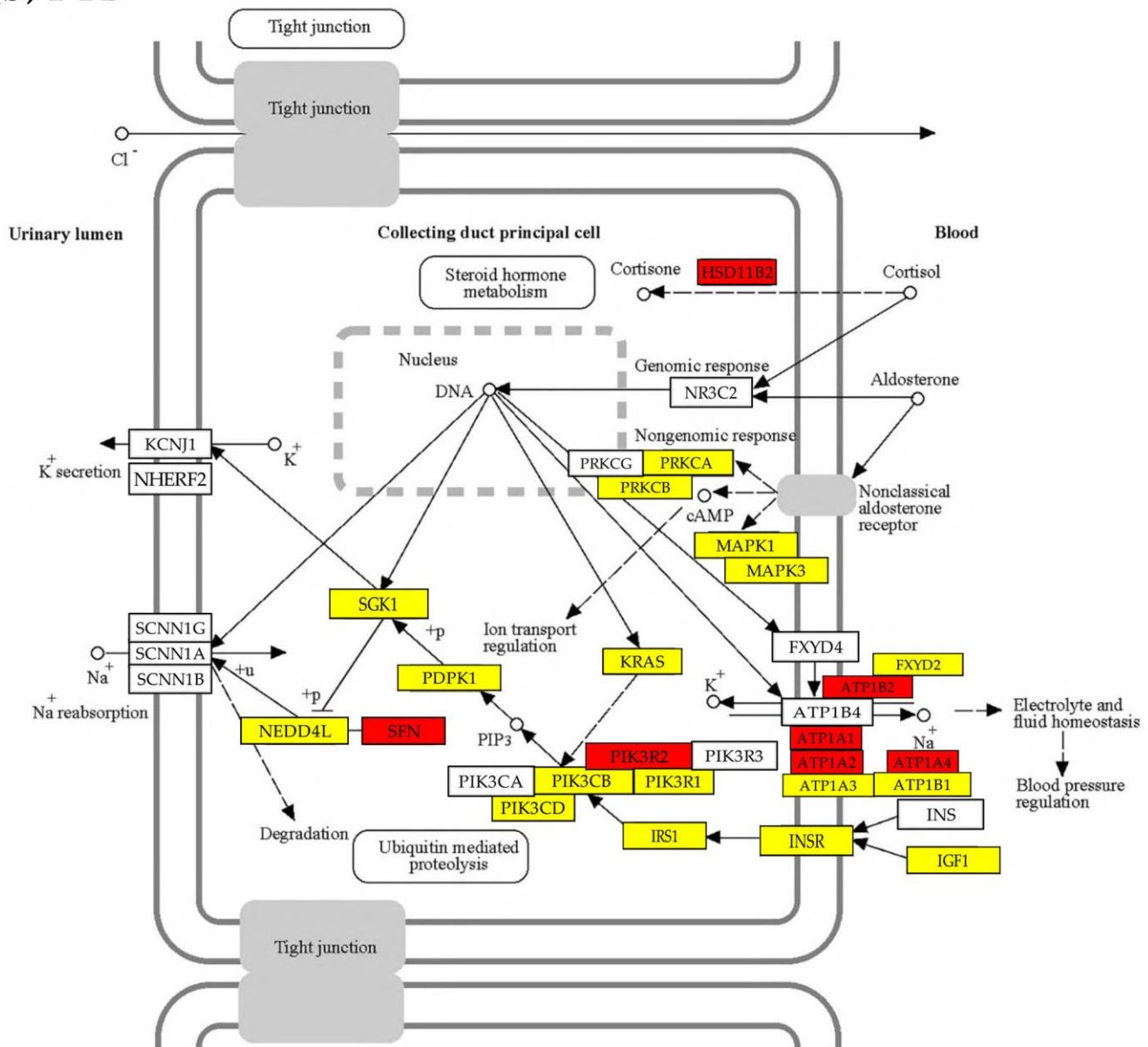
## Supplementary Material

**Supplementary Figure S1:** Regulated genes in the KEGG-constructed functional pathway hsa04960 Aldosterone-regulated sodium reabsorption. **(a)** PTA nodule. **(b)** PTB nodule. **(c)** CWM nodule. **Regulated genes:** *ATP1A1/A2/A3/A4* (ATPase, Na<sup>+</sup>/K<sup>+</sup> transporting, alpha 1/2/3/4 polypeptide), *ATP1B2/B3* (ATPase, Na<sup>+</sup>/K<sup>+</sup> transporting, beta 2/3 polypeptide), *FXYD3* (FXYD domain containing ion transport regulator 3), *HSD11B2* (hydroxysteroid (11-beta) dehydrogenase 2), *IRS1* (insulin receptor substrate 1), *KRAS* (Kirsten rat sarcoma viral oncogene homolog), *PIK3CD* (phosphatidylinositol-11-sitot-4,5-bisphosphate 3-kinase, catalytic subunit delta), *PIK3R1/2* (phosphoinositide-3-kinase, regulatory subunit 1 (alpha-12 ph)/2 (beta), *SFN* (stratifin).

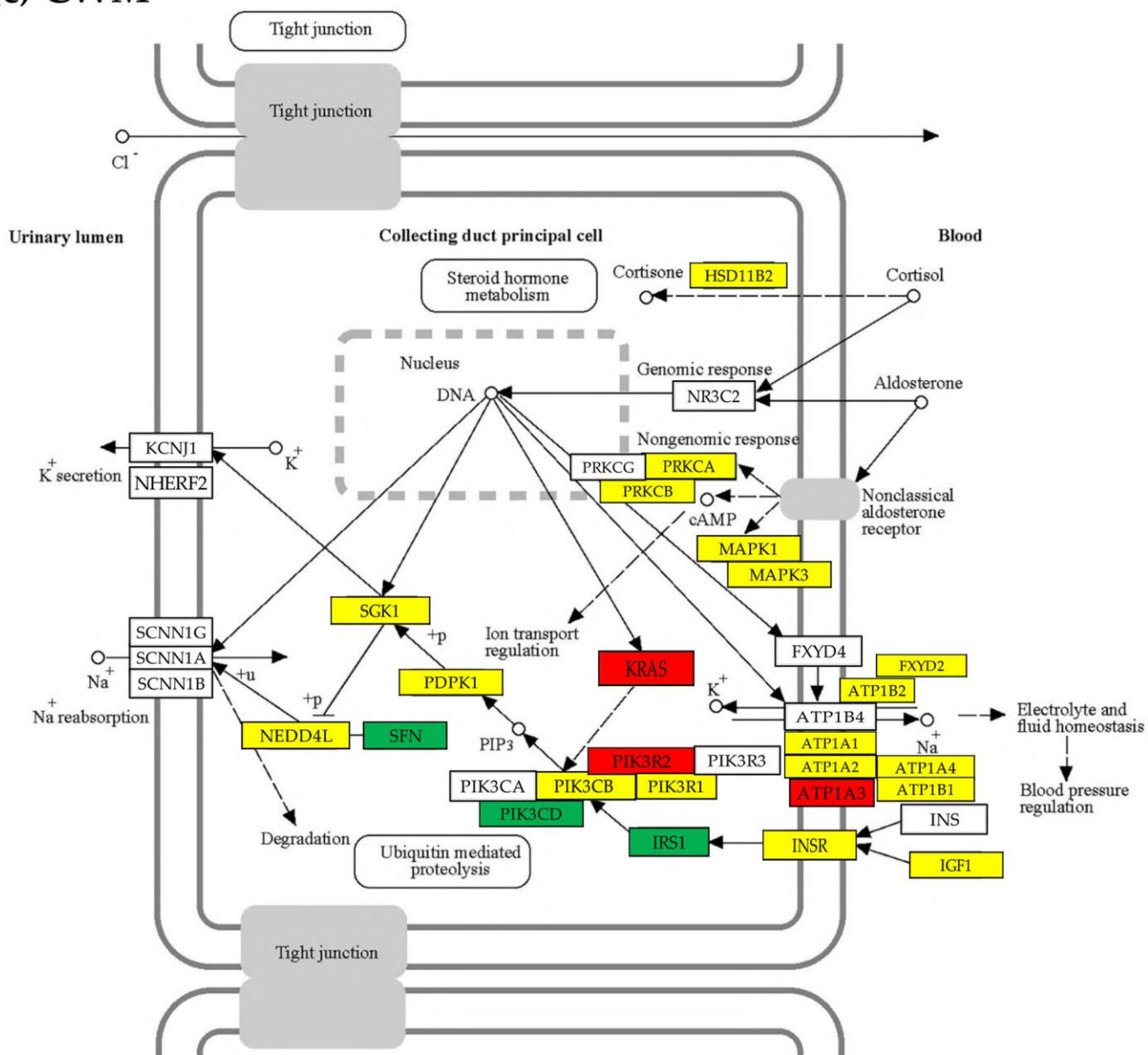
### (a) PTA



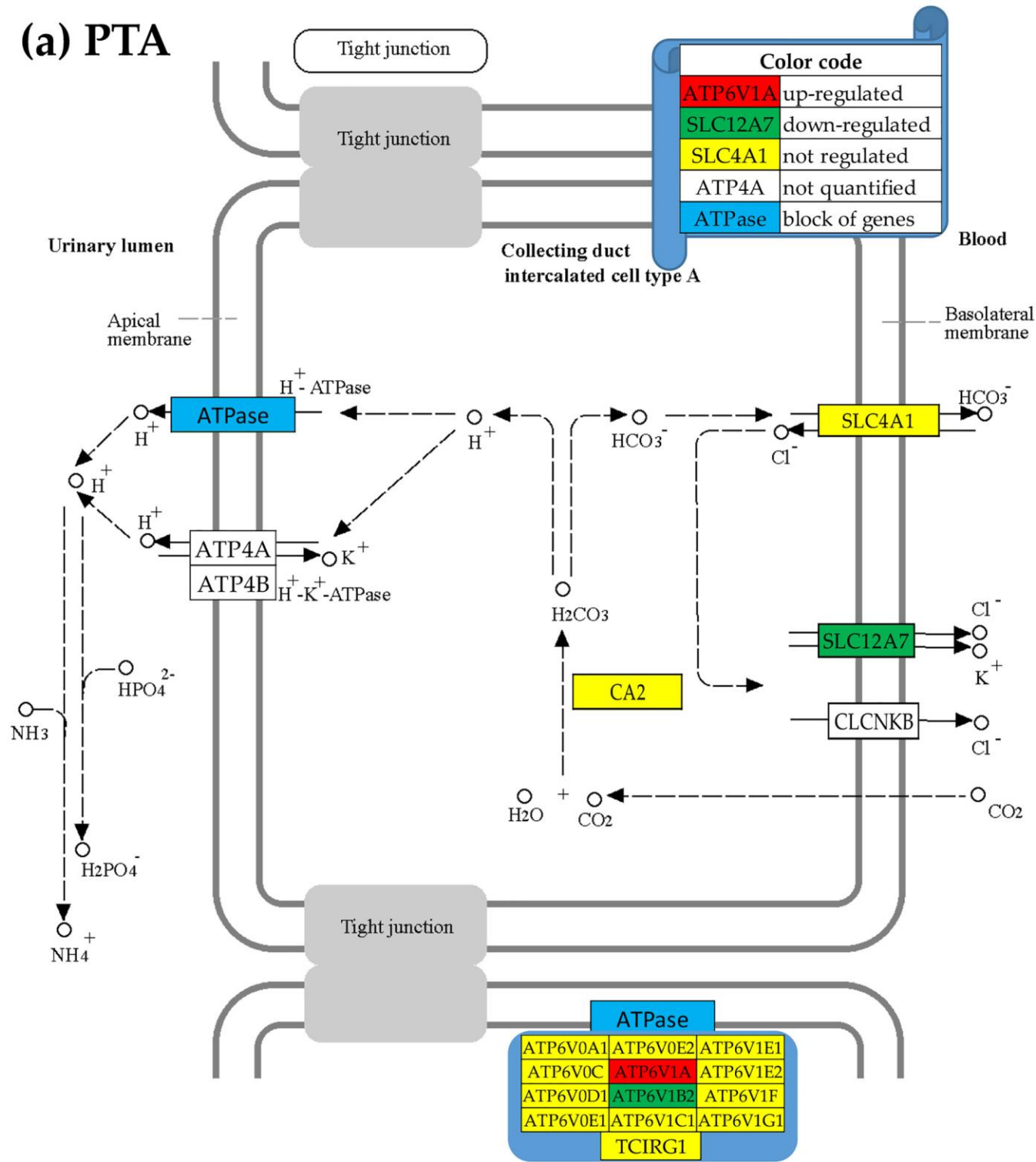
## (b) PTB



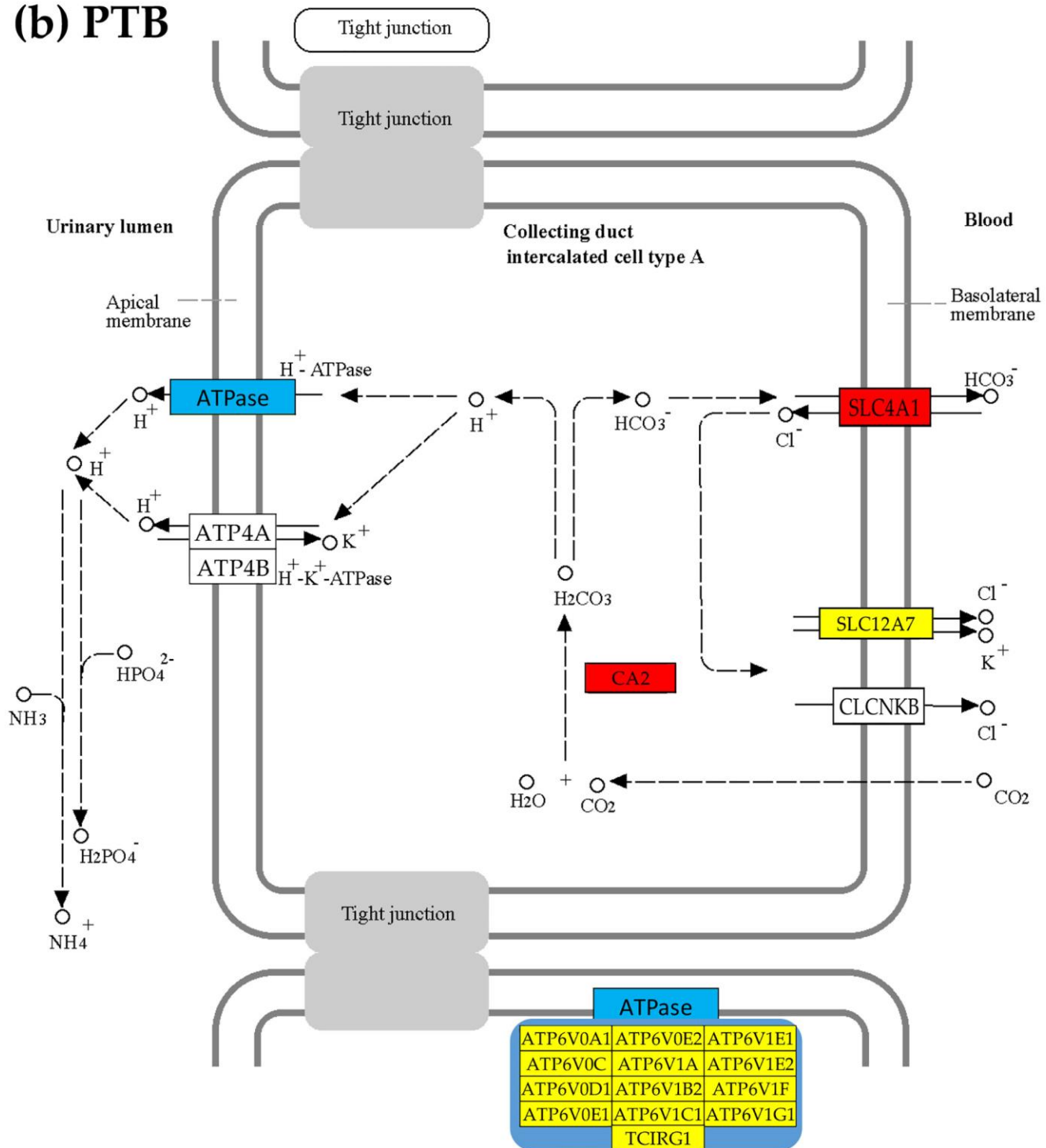
**(c) CWM**



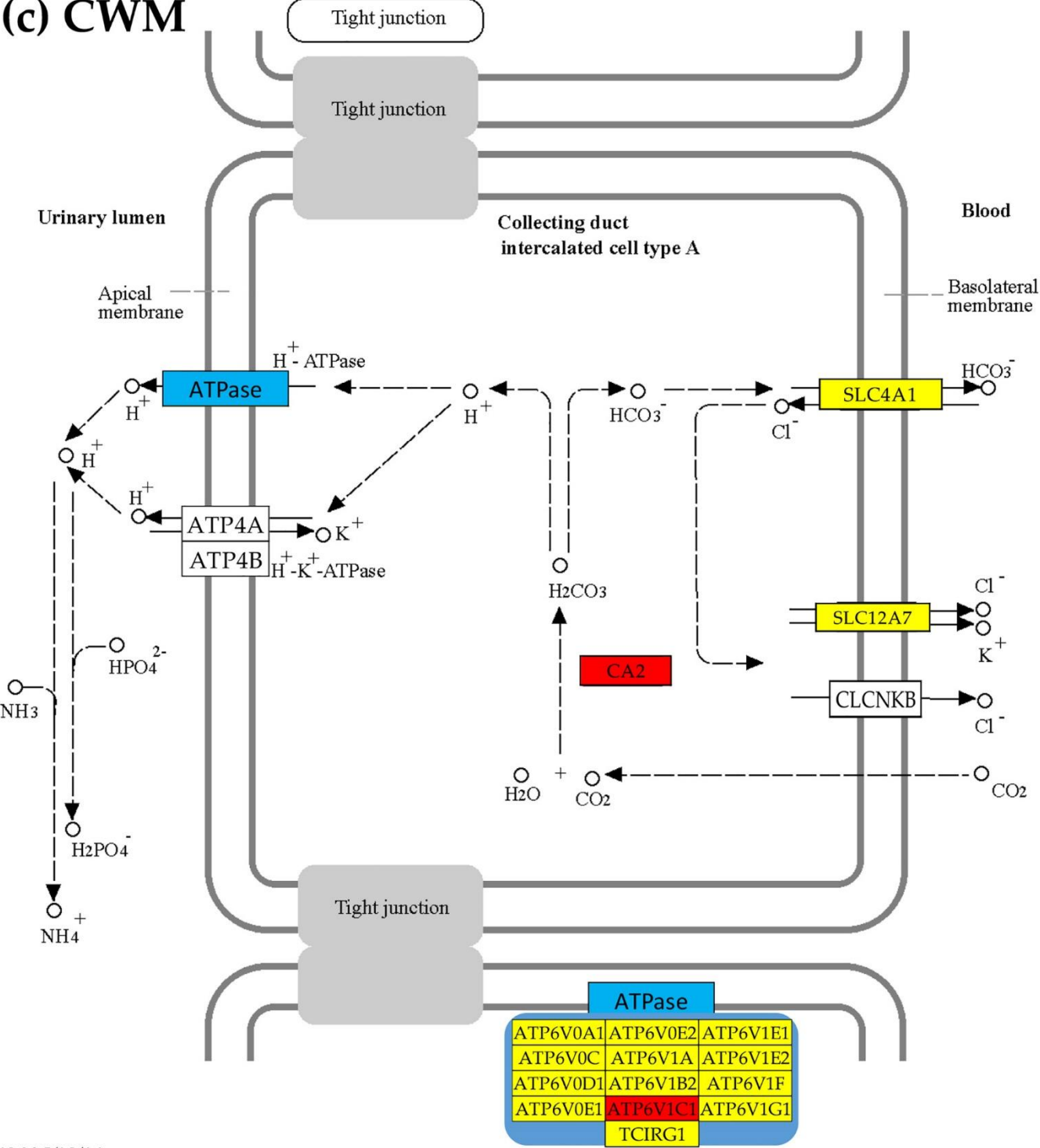
**Supplementary Figure S2:** Regulated genes in the KEGG-constructed functional pathway hsa04966 “Collecting duct acid secretion”. (a) PTA node. (b) PTB node. (c) CWM node. Regulated genes: ATP6V1A/B2/C1 (ATPase, H<sup>+</sup> transporting, lysosomal 70kDa, V1 subunit A/B2/C1), CA2 (carbonic anhydrase II), SLC12A7 (solute carrier family 12 (potassium/chloride transporter), member 7), SLC4A1 (solute carrier family 4 (anion exchanger), member 1 (Diego blood group)).



## (b) PTB

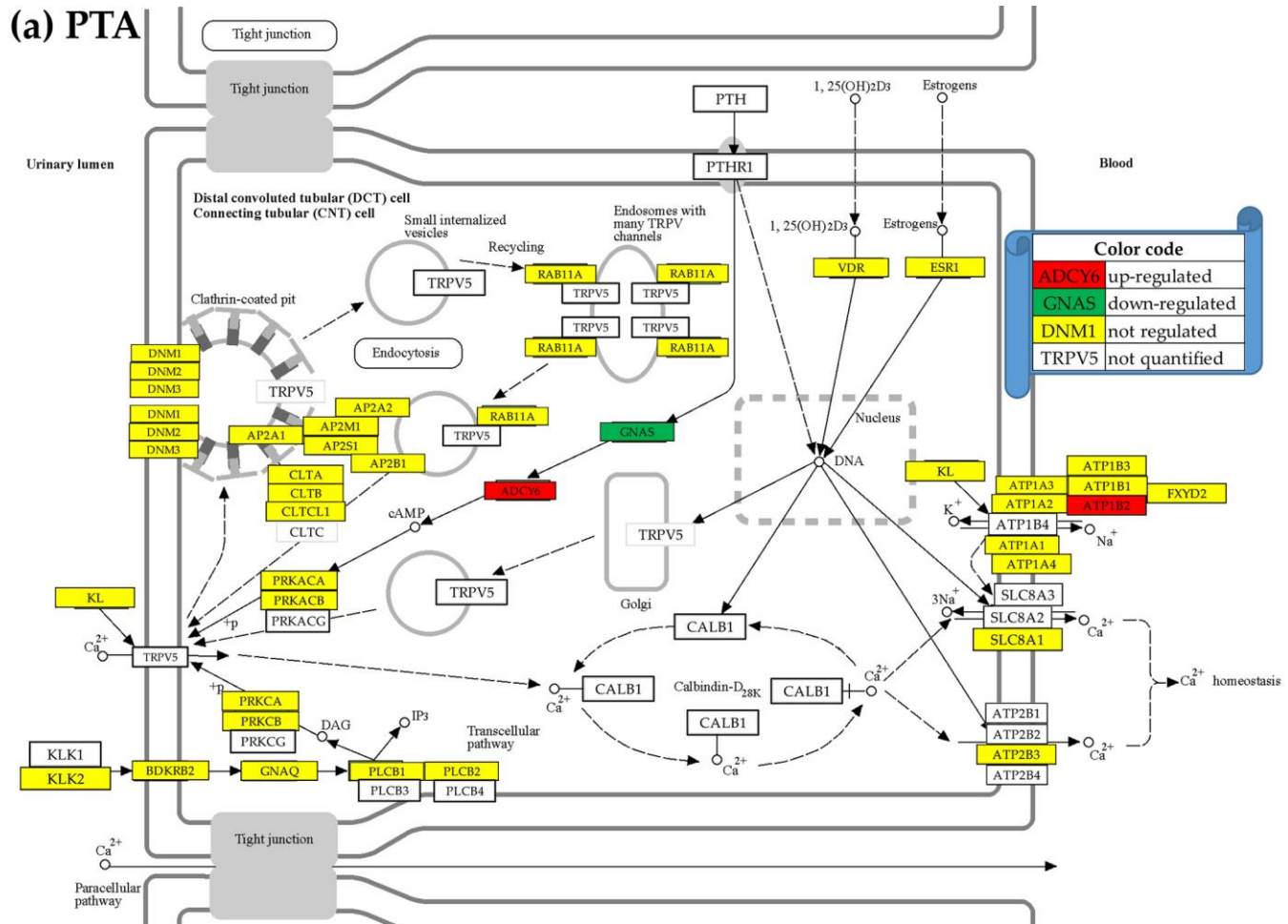


(c) CWM



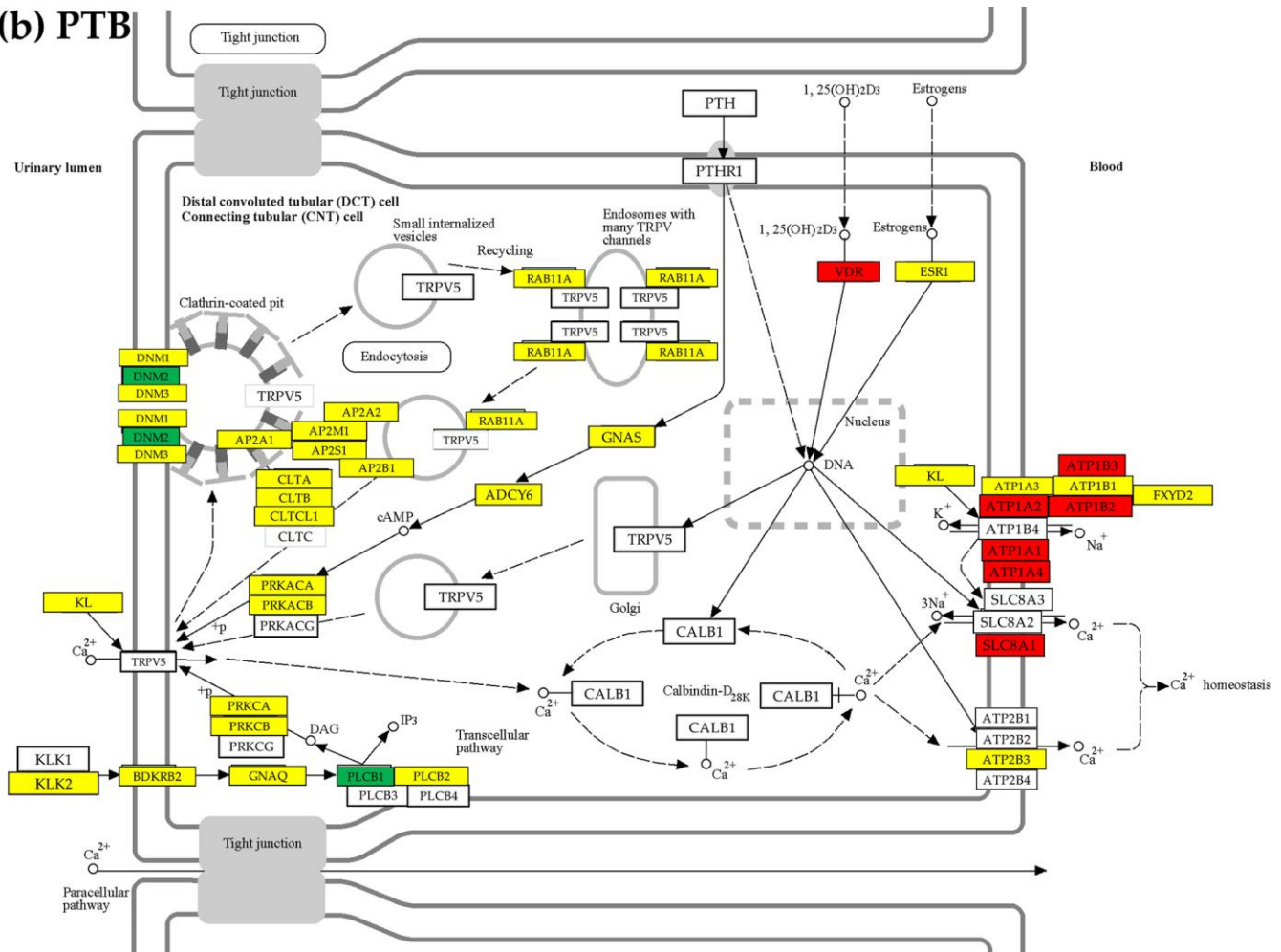


**Supplementary Figure S3:** Regulated genes in the KEGG-constructed functional pathway hsa04961 “Endocrine and other factor-regulated calcium reabsorption”. **(a)** PTA nodule. **(b)** PTB nodule. **(c)** CWM nodule. Regulated genes: *ADCY6* (adenylate cyclase 6), *ATP1A1/2/3/4* (ATPase, Na<sup>+</sup>/K<sup>+</sup> transporting, alpha 1/2/3/4 polypeptide), *ATP1B2/3* (ATPase, Na<sup>+</sup>/K<sup>+</sup> transporting, beta 2/3 polypeptide), *BDKRB2* (bradykinin receptor B2), *GNAS* (GNAS complex locus), *PLCB1* (phospholipase C, beta 1 (phosphoinositide-specific)), *SLC8A1* (solute carrier family 8 (sodium/calcium exchanger), member 1), *VDR* (vitamin D (1,25- dihydroxyvitamin D3) receptor).

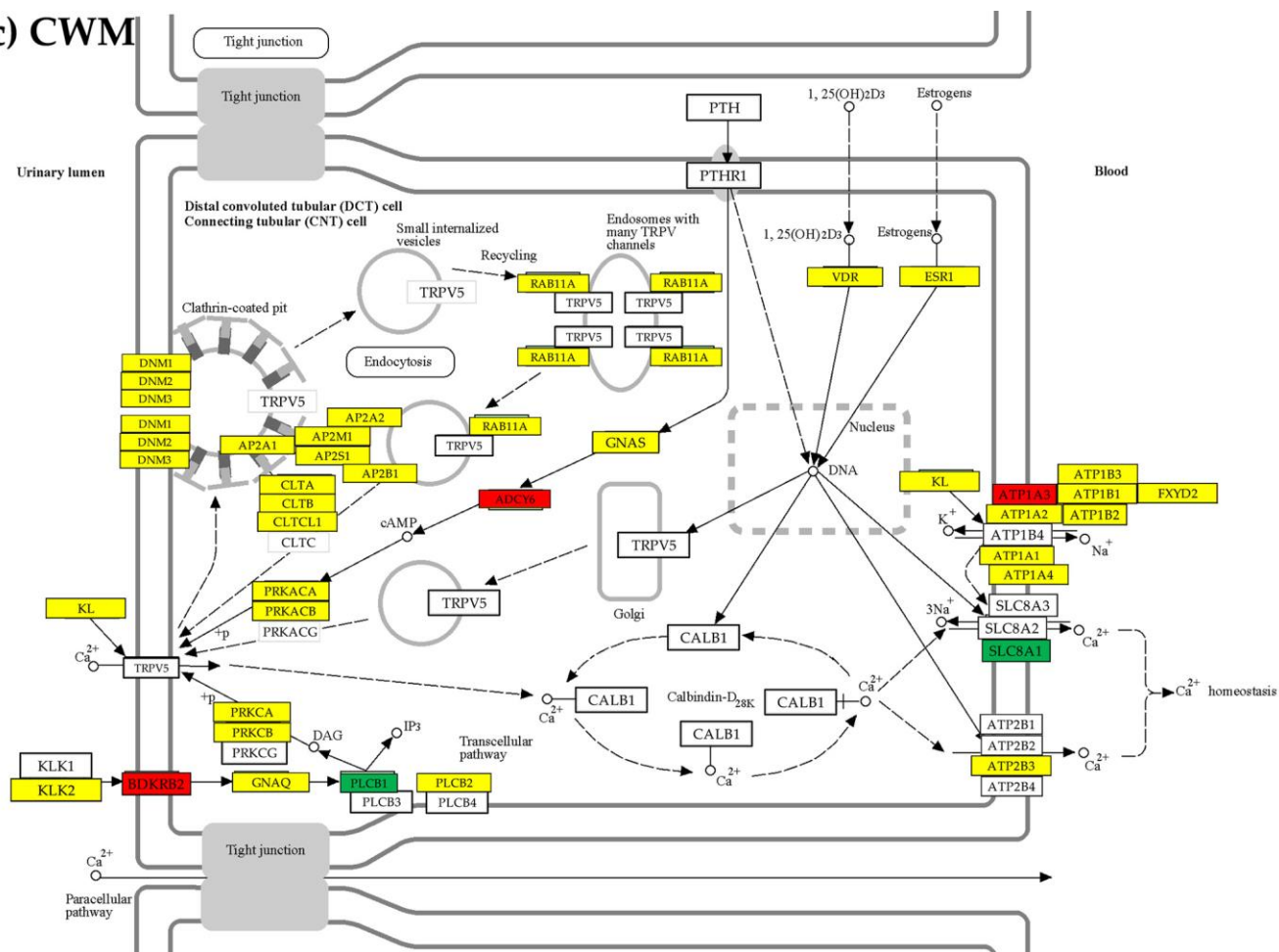




(b) PTB

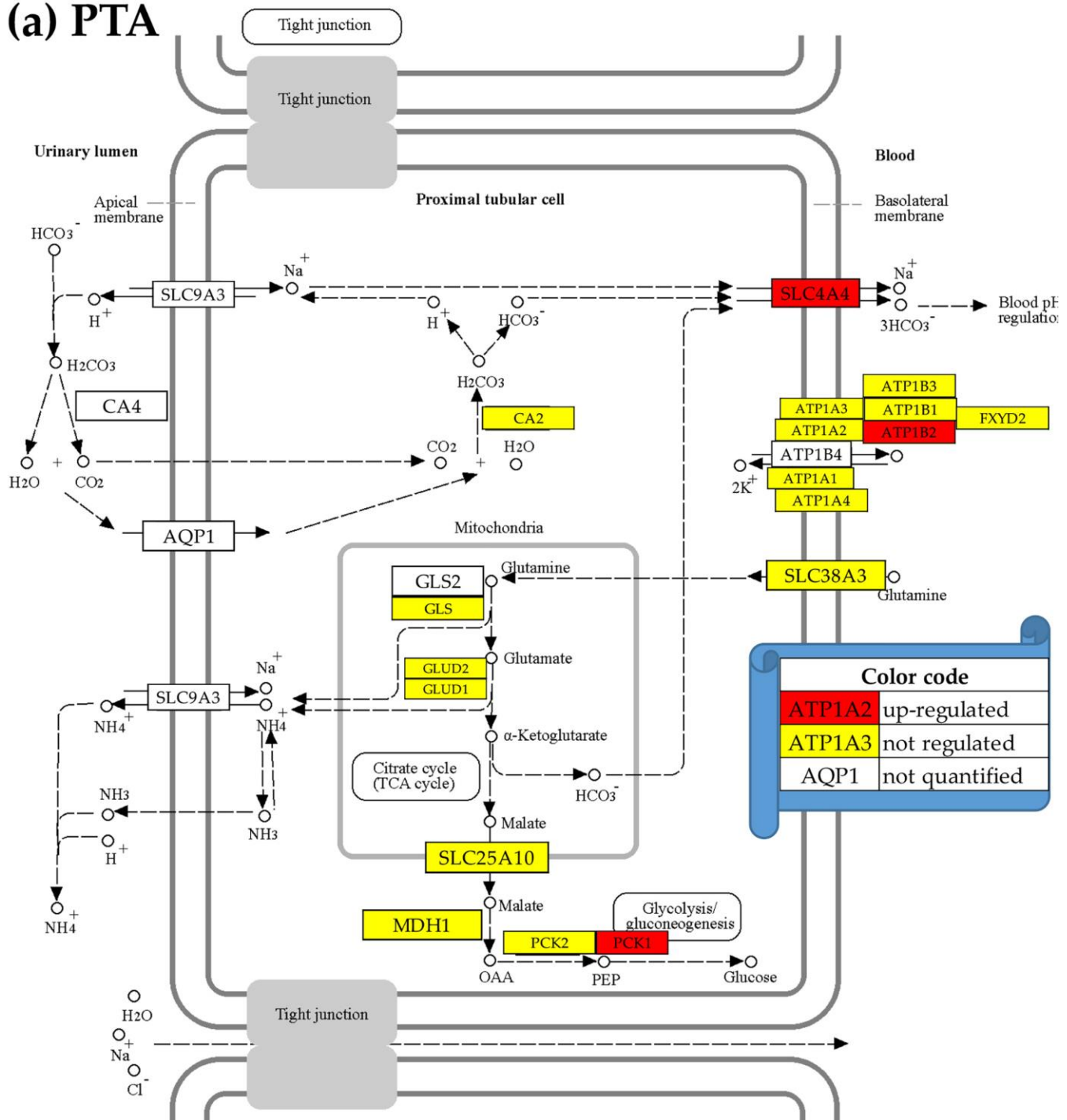


# (c) CWM

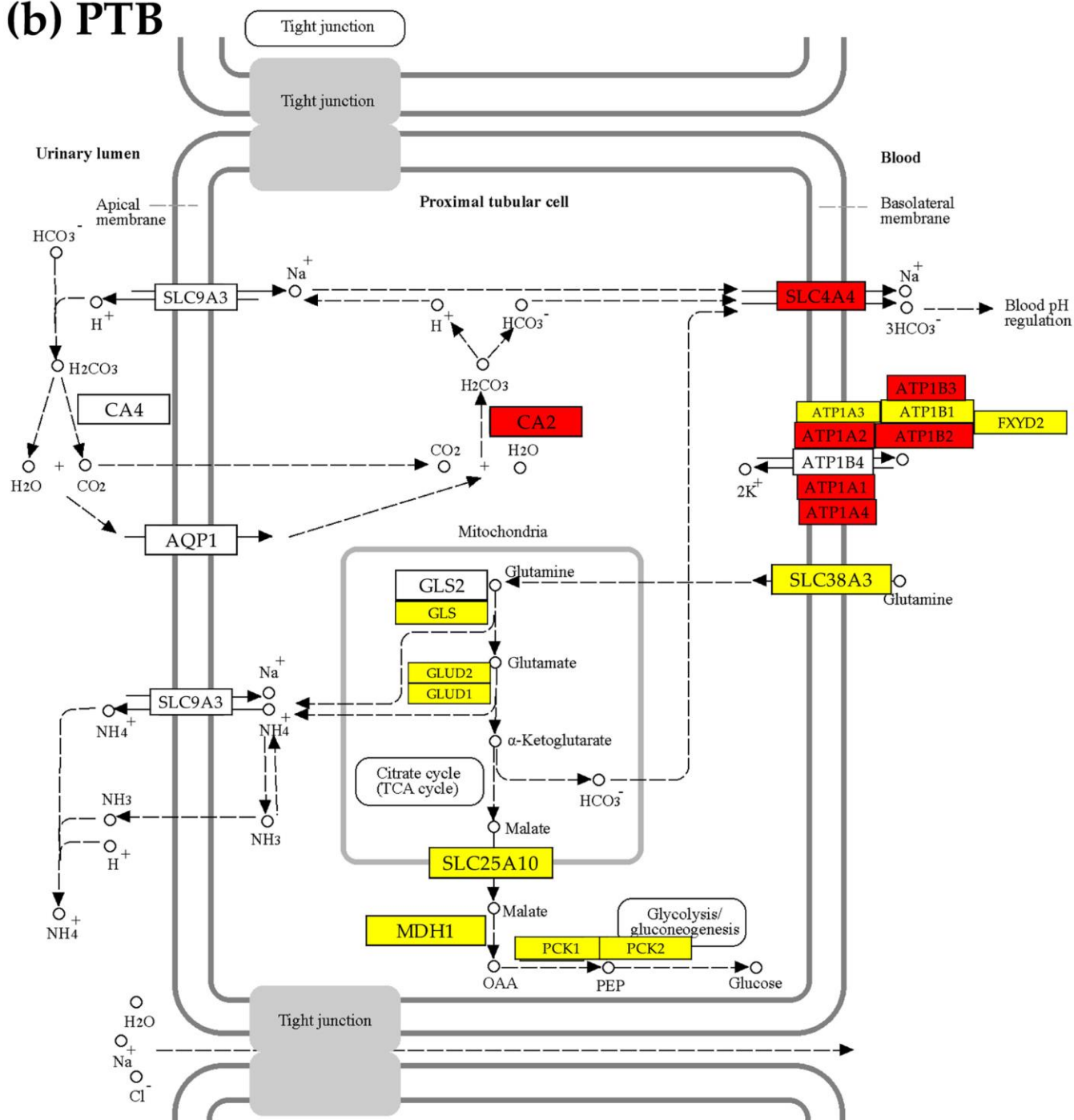


**Supplementary Figure S4:** Regulated genes in the KEGG-constructed functional pathway hsa04964 “Proximal tubule bicarbonate reclamation in the three profiled cancer nodules”. **(a)** PTA nodule. **(b)** PTB nodule. **(c)** CWM nodule. **Regulated genes:** *ATP1A1/2/3/4* (ATPase, Na<sup>+</sup>/K<sup>+</sup> transporting, alpha 1/2/3/4 polypeptide), *ATP1B2/3* (ATPase, Na<sup>+</sup>/K<sup>+</sup> transporting, beta 2/3 polypeptide), *CA2* (carbonic anhydrase II), *PCK1* (phosphoenolpyruvate carboxykinase 1 (solu- 49 ble)), *SLC4A4* (solute carrier family 4 (sodium bicarbonate cotransporter), member 4).

## (a) PTA



## (b) PTB



# (c) CWM

