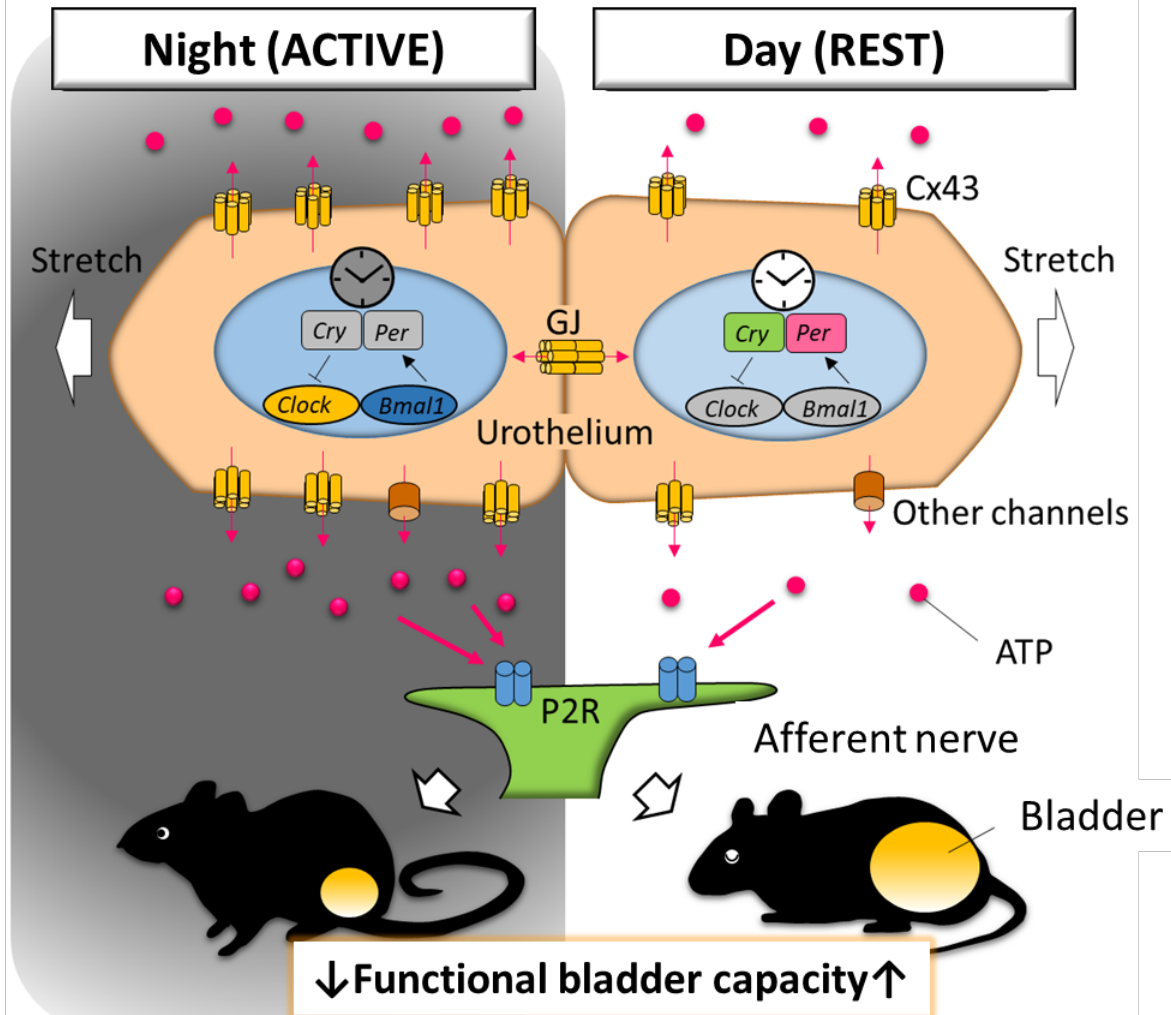


Circadian coordination of ATP release in the urothelium via connexin43 hemichannels.



A schematic model illustrating circadian rhythm in the urothelium coordinates ATP release via Cx43 hemichannels to modulate functional bladder capacity.

The circadian clock exists in the urothelium, which coordinates diurnal changes of Cx43 expression and function as hemichannels for ATP release. Diurnal changes of ATP release during the bladder distension may lead to diurnal variation of bladder afferent activity presumably via the activation of P2 purinergic receptors (P2R) on the afferent nerve ending to modulate functional bladder capacity with other mechanisms. GJ, gap junction.