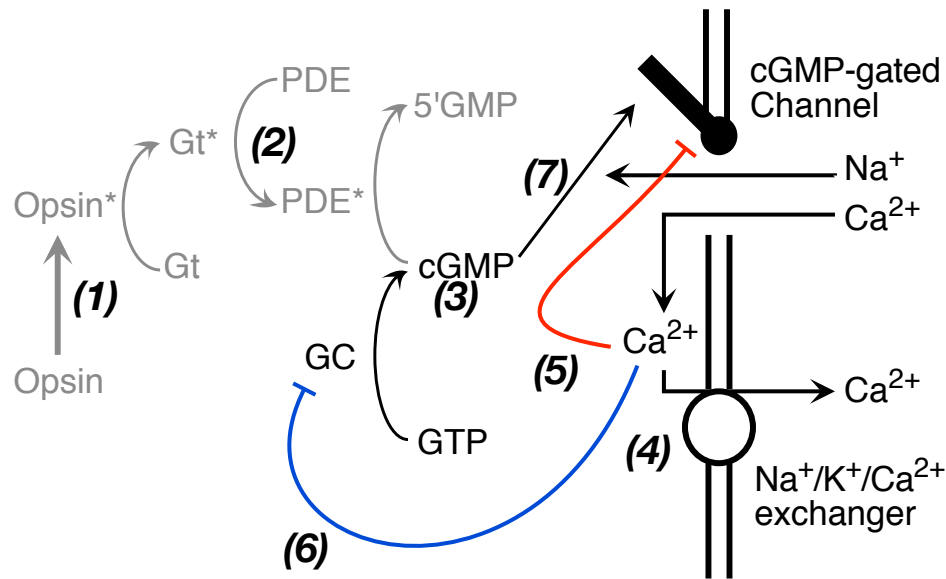


PHOTOTRANSDUCTION CASCADE



$$(1) \quad \frac{dOpsin^*(t)}{dt} = -\sigma Opsin^*(t)$$

$$(2) \quad \frac{dPDE(t)}{dt} = \sigma Opsin(t) - \phi PDE(t) + \eta$$

$$(3) \quad \frac{dcGMP(t)}{dt} = S(t) - PDE(t)cGMP(t)$$

$$(4) \quad \frac{dCa(t)}{dt} = qI(t) - \beta Ca(t)$$

$$(5) \quad \frac{dCa_{slow}(t)}{dt} = \beta_{slow} (Ca_{slow}(t) - Ca(t))$$

$$(6) \quad S(t) = \frac{S_{max}}{1 + \left(\frac{Ca(t)}{K_{GC}} \right)^n}$$

$cGMP_{dark}$

$$(7) \quad I(t) = \frac{k cGMP(t)^h}{1 + \frac{Ca_{slow}(t)}{Ca_{dark}}}$$

13 parameters, 7 free (fit to data)