

BR: bitter receptor

SR: sweet receptor

IP₃: inositol triphosphate

ER: endoplasmic reticulum

NV: neurotransmitter vesicle

cAMP: cyclic adenosine triphosphate

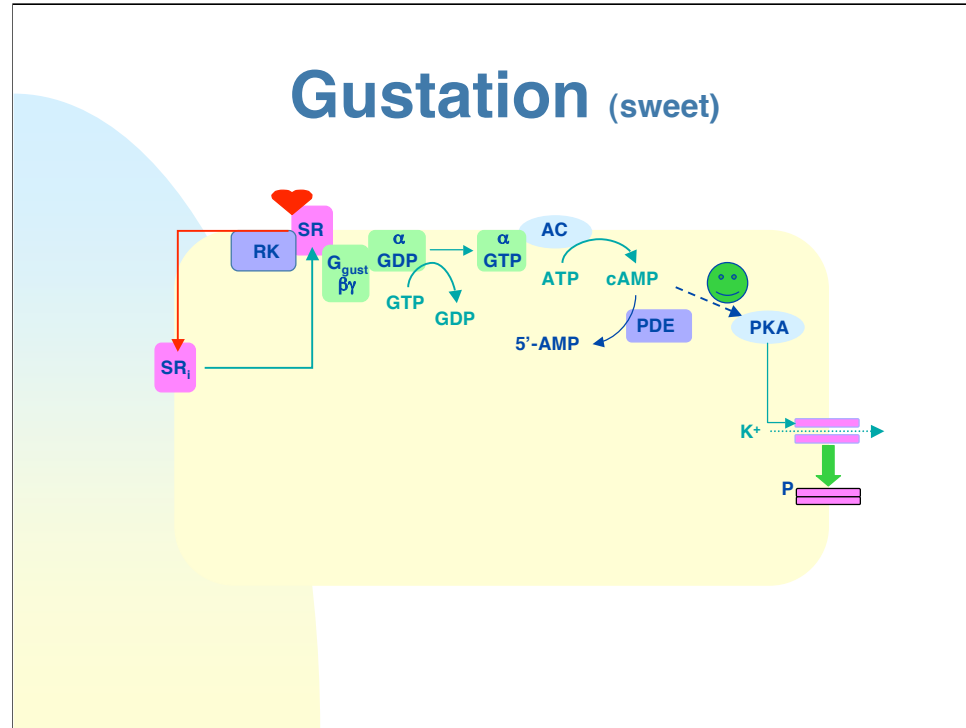
PKA: protein kinase A; recall that PKA adds a phosphate to hydroxyl groups (Ser, Thr, Tyr)

There also appears to be a cyclic GMP (cGMP) pathway involved.

Recent studies suggest that a Ca²⁺-channel protein is involved in salty and sour taste. May be part of a G protein pathway.

Gusta = flavor

Type I familial dysautonomia (i.e., Riley-Day syndrome)



G_{gust}: G protein gustducin

GTP: guanosine triphosphate

ATP: adenosine triphosphate

PKA: protein kinase A

RK: receptor kinase

5'AMP: 5'-adenosine monophosphate

β-arrestin binds to the phosphorylated receptor **AND** appears to recruit phosphodiesterase to degrade the cAMP signal

GDP: guanosine diphosphate

AC: adenylyl cyclase

cAMP: cyclic adenosine monophosphate

P: phosphate

PDE: phosphodiesterase

Review Questions

- Which ions and ion channels are used for gustation?
- Which signal transduction pathways are used for gustation (enzymes, second messengers, receptors)?