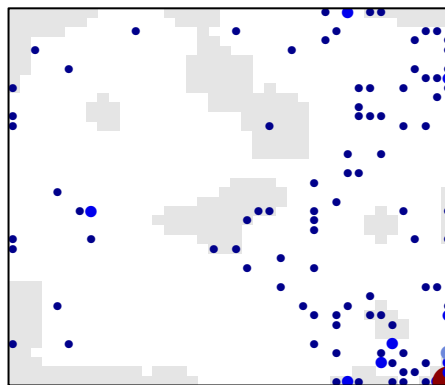


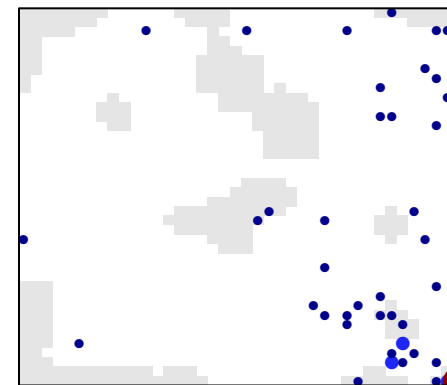
# Taste transduction

## all genes

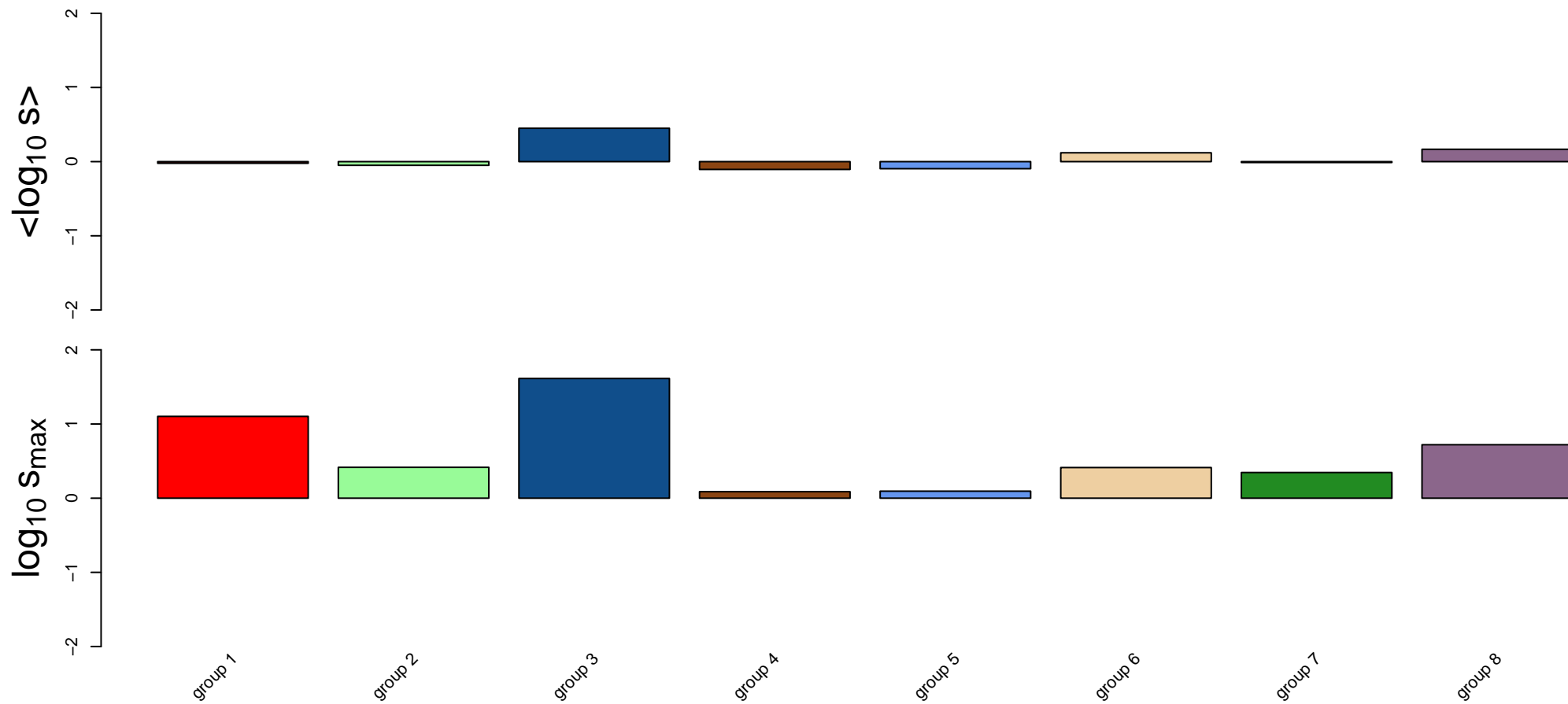


maximum = 8

## sink node genes



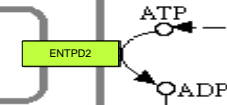
maximum = 6



**TASTE BUD CELL**

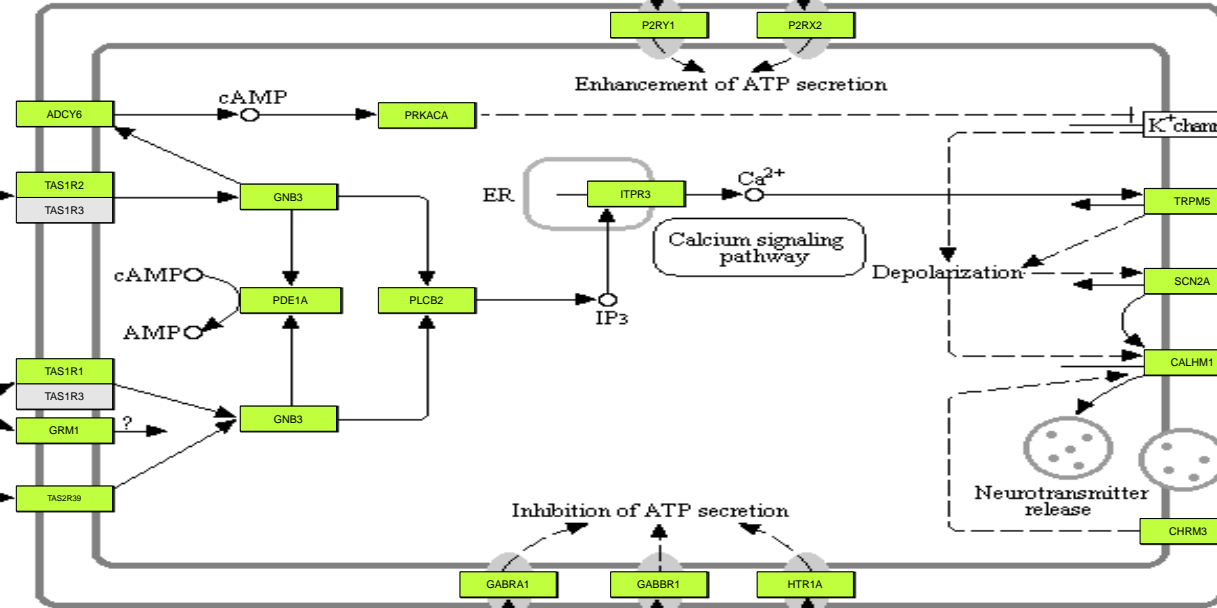
**Type I glial like cell**

Salty  $\text{Na}^+$   $\circ$   $\rightarrow$  **SCNN1A**  $\rightarrow$  Depolarization



**Type II receptor cell**

Sweet  
Sweeteners  $\circ$   
Sugars  $\circ$   
D-amino acids  $\circ$



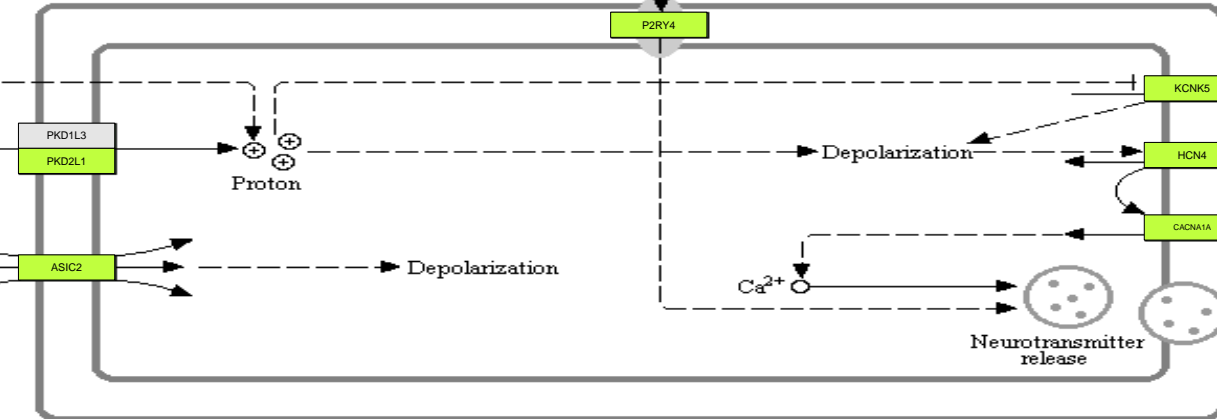
Umami  
GMP  $\circ$   
IMP  $\circ$   
L-glutamate  $\circ$

Bitter  
Salicin  $\circ$   
Quinine  $\circ$   
Saccharin  $\circ$

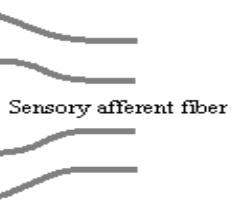
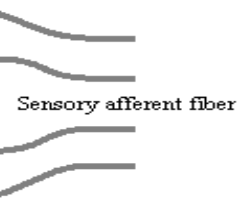
**Type III presynaptic cell**

Sour  
Weak acid  $\oplus$

HCl  $\circ$   
Citric acid  $\circ$   
Malic acid  $\circ$



$\text{Na}^+$   $\circ$   
 $\text{H}^+$   $\circ$   
 $\text{Ca}^{2+}$   $\circ$

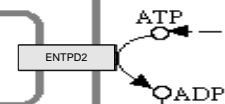


Taste transduction sink nodes

**TASTE BUD CELL**

**Type I glial like cell**

Salty  $\text{Na}^+$   $\circ$   $\rightarrow$  SCNN1A  $\rightarrow$  Depolarization

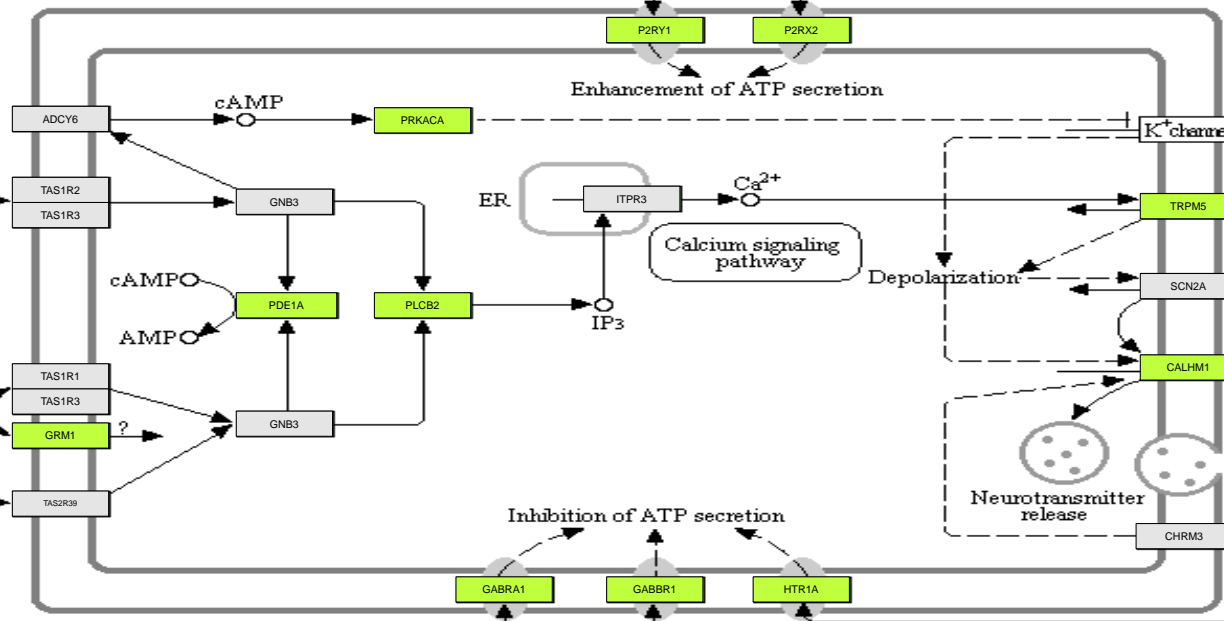


**Type II receptor cell**

Sweet Sweeteners  $\circ$   
Sugars  $\circ$   
D-amino acids  $\circ$

Umami GMPO  $\circ$   
IMP  $\circ$   
L-glutamate  $\circ$

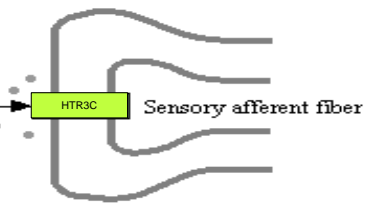
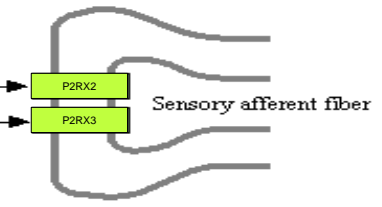
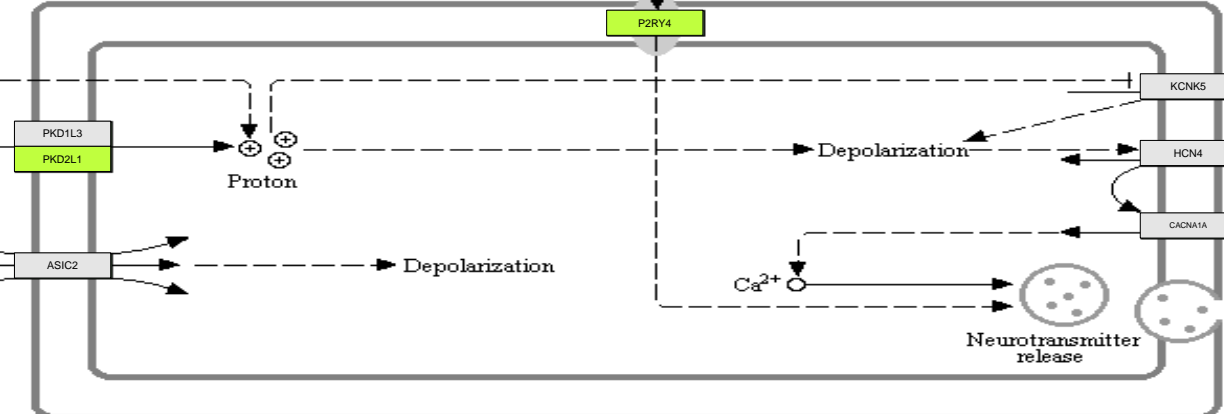
Bitter Salicin  $\circ$   
Quinine  $\circ$   
Saccharin  $\circ$



**Type III presynaptic cell**

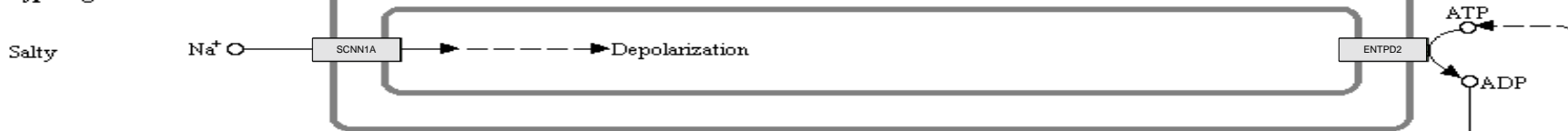
Sour Weak acid  $\oplus$   
HCl  $\circ$   
Citric acid  $\circ$   
Malic acid  $\circ$

$\text{Na}^+$   $\circ$   
 $\text{H}^+$   $\circ$   
 $\text{Ca}^{2+}$   $\circ$

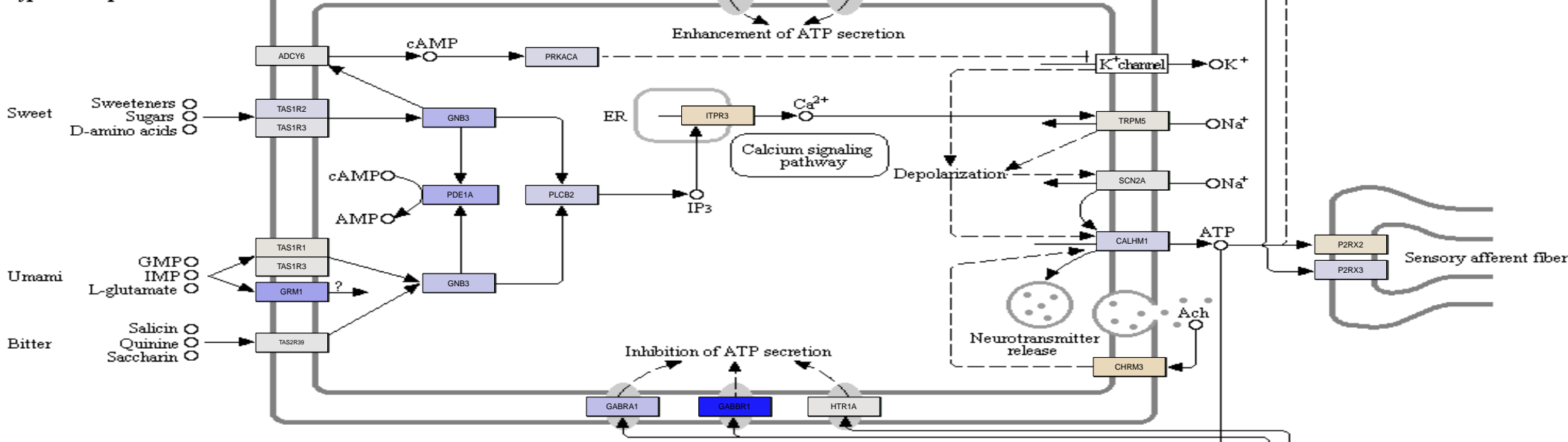


**TASTE BUD CELL**

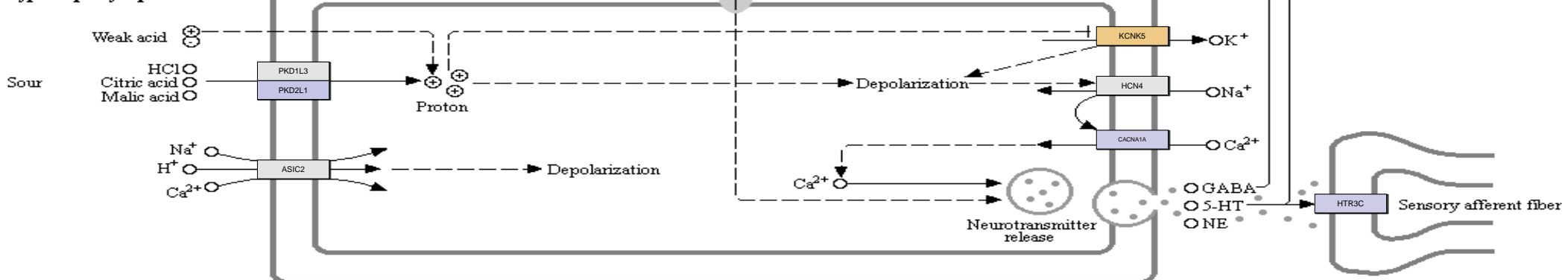
**Type I glial like cell**



**Type II receptor cell**



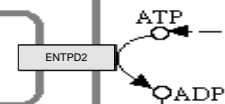
**Type III presynaptic cell**



**TASTE BUD CELL**

**Type I glial like cell**

Salty  $\text{Na}^+$   $\circ$   $\rightarrow$  SCNN1A  $\rightarrow$  Depolarization

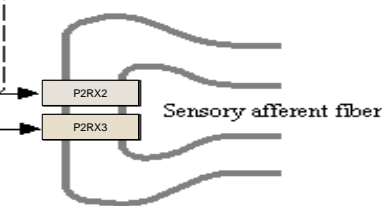
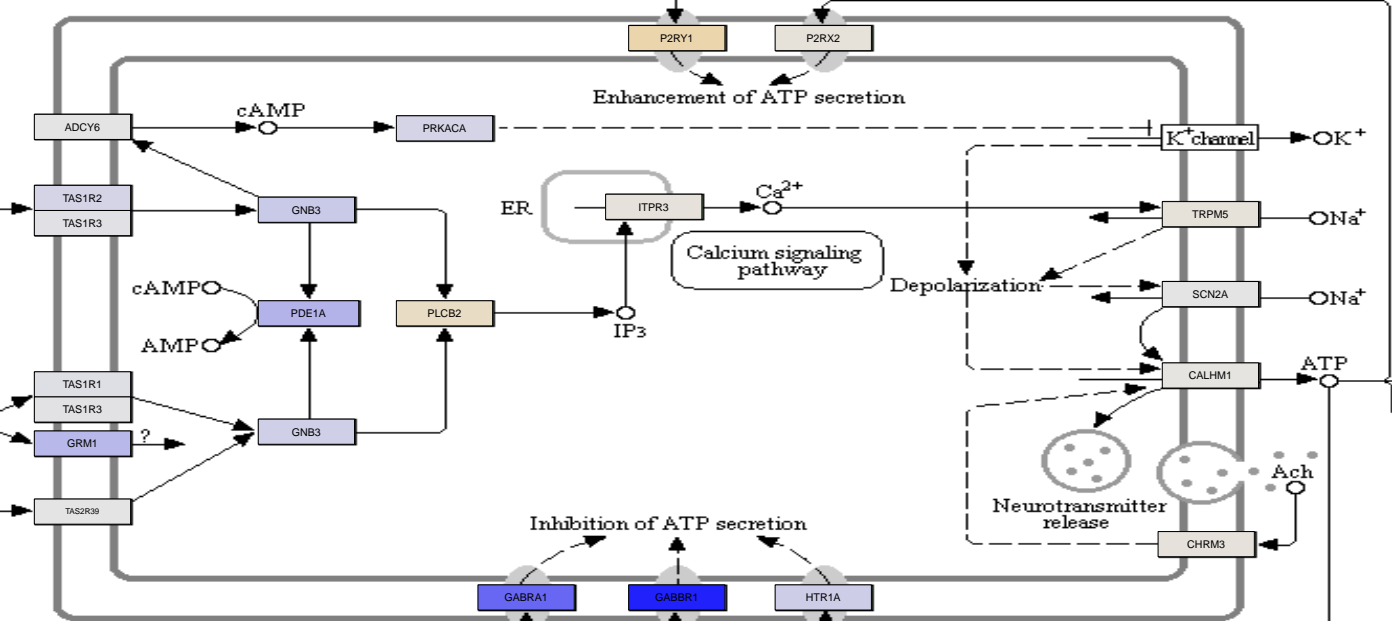


**Type II receptor cell**

Sweet  
Sweeteners  $\circ$   
Sugars  $\circ$   
D-amino acids  $\circ$

Umami  
GMP  $\circ$   
IMP  $\circ$   
L-glutamate  $\circ$

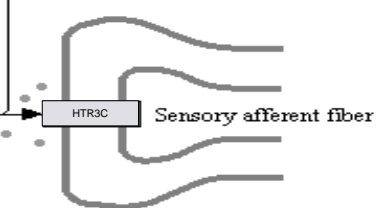
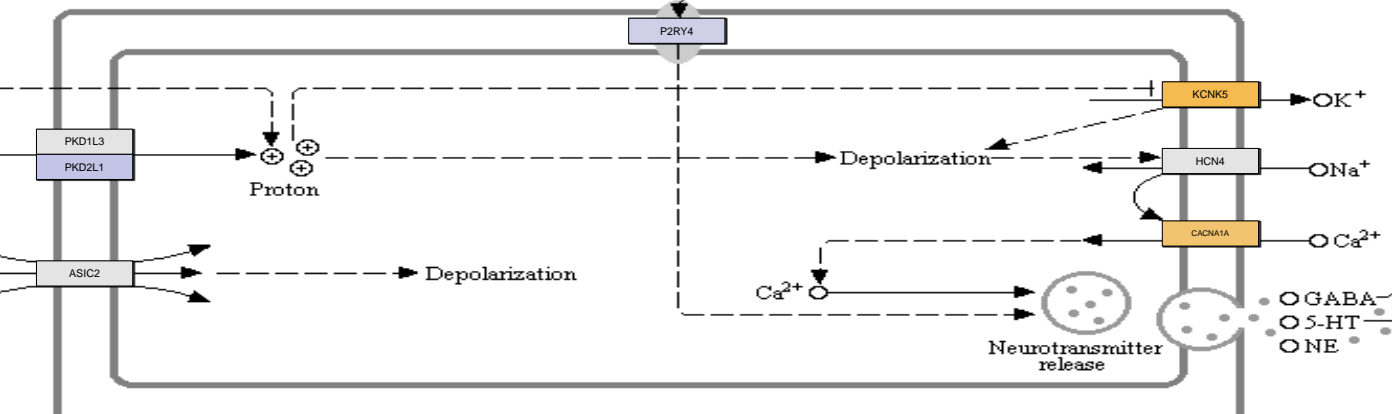
Bitter  
Salicin  $\circ$   
Quinine  $\circ$   
Saccharin  $\circ$



**Type III presynaptic cell**

Sour  
Weak acid  $\oplus$   
HCl  $\circ$   
Citric acid  $\circ$   
Malic acid  $\circ$

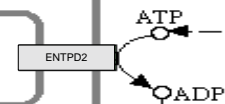
$\text{Na}^+$   $\circ$   
 $\text{H}^+$   $\circ$   
 $\text{Ca}^{2+}$   $\circ$



**TASTE BUD CELL**

**Type I glial like cell**

Salty  $\text{Na}^+$   $\circ$   $\rightarrow$  SCNN1A  $\rightarrow$  Depolarization

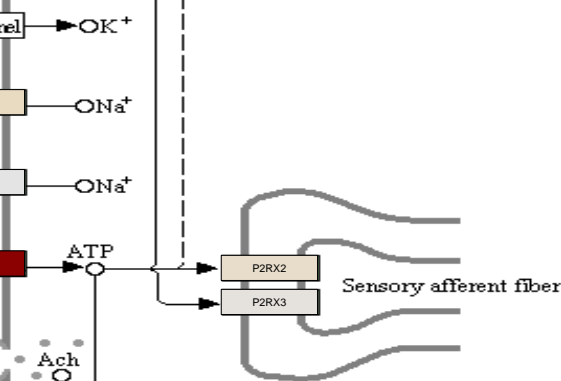
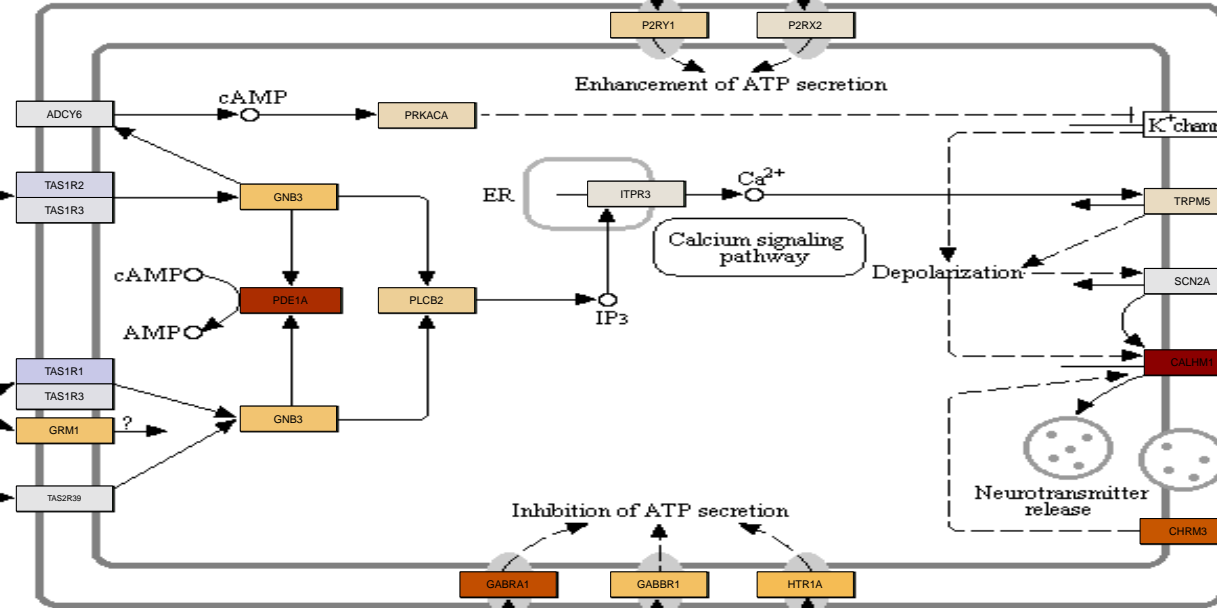


**Type II receptor cell**

Sweet  
Sweeteners  $\circ$   
Sugars  $\circ$   
D-amino acids  $\circ$

Umami  
GMP  $\circ$   
IMP  $\circ$   
L-glutamate  $\circ$

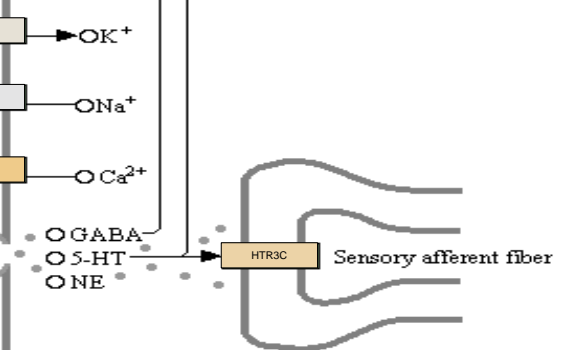
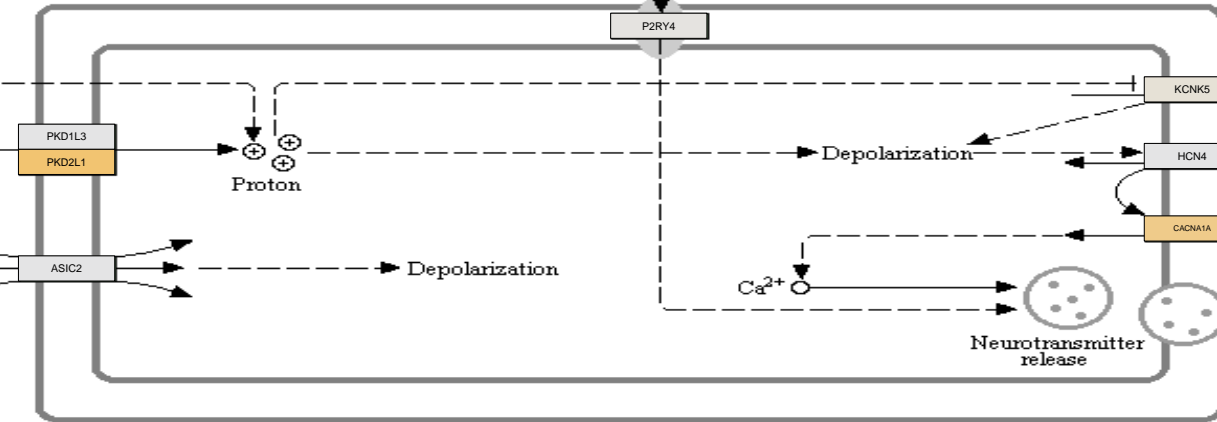
Bitter  
Salicin  $\circ$   
Quinine  $\circ$   
Saccharin  $\circ$



**Type III presynaptic cell**

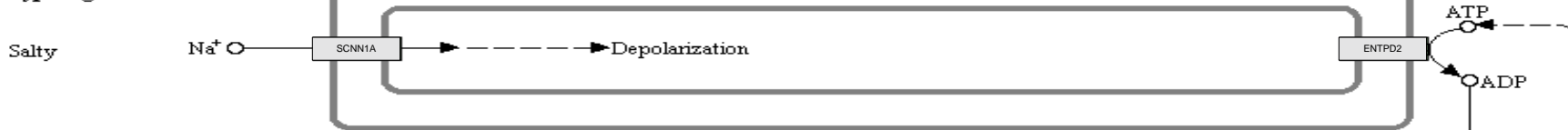
Sour  
Weak acid  $\oplus$   
HCl  $\circ$   
Citric acid  $\circ$   
Malic acid  $\circ$

$\text{Na}^+$   $\circ$   
 $\text{H}^+$   $\circ$   
 $\text{Ca}^{2+}$   $\circ$

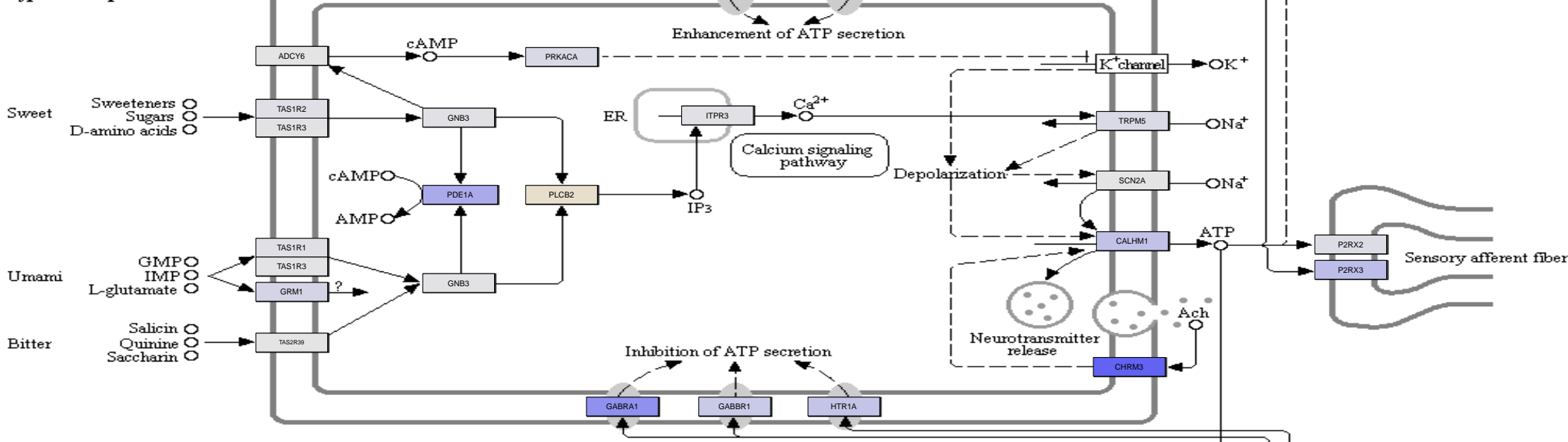


**TASTE BUD CELL**

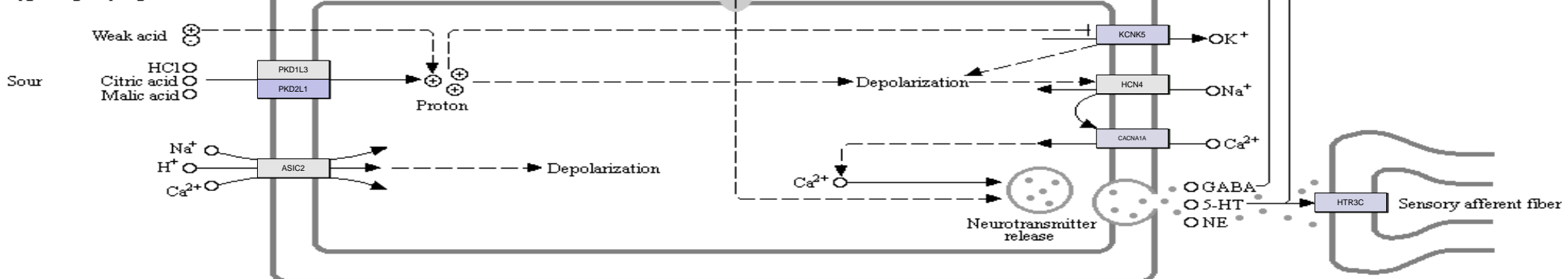
**Type I glial like cell**



**Type II receptor cell**



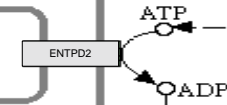
**Type III presynaptic cell**



**TASTE BUD CELL**

**Type I glial like cell**

Salty  $\text{Na}^+$   $\circ$   $\rightarrow$  SCNN1A  $\rightarrow$  Depolarization

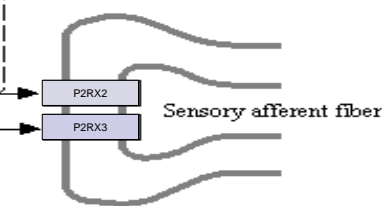
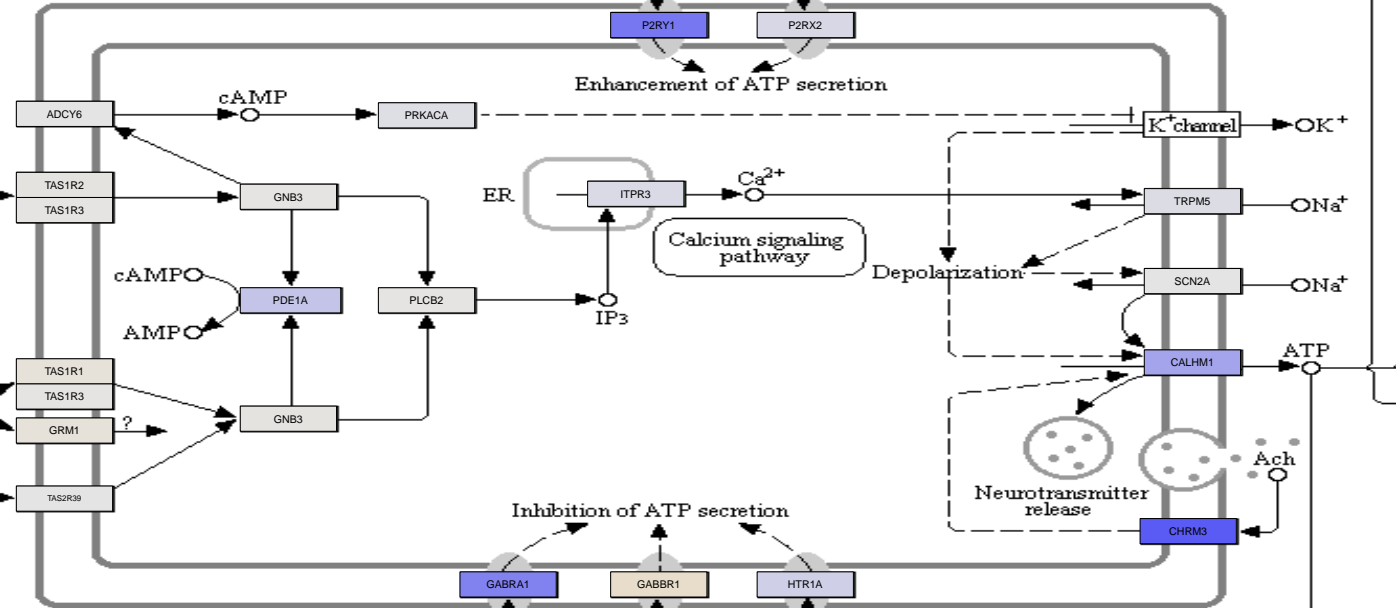


**Type II receptor cell**

Sweet  
Sweeteners  $\circ$   
Sugars  $\circ$   
D-amino acids  $\circ$

Umami  
GMP  $\circ$   
IMP  $\circ$   
L-glutamate  $\circ$

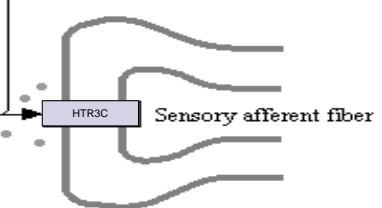
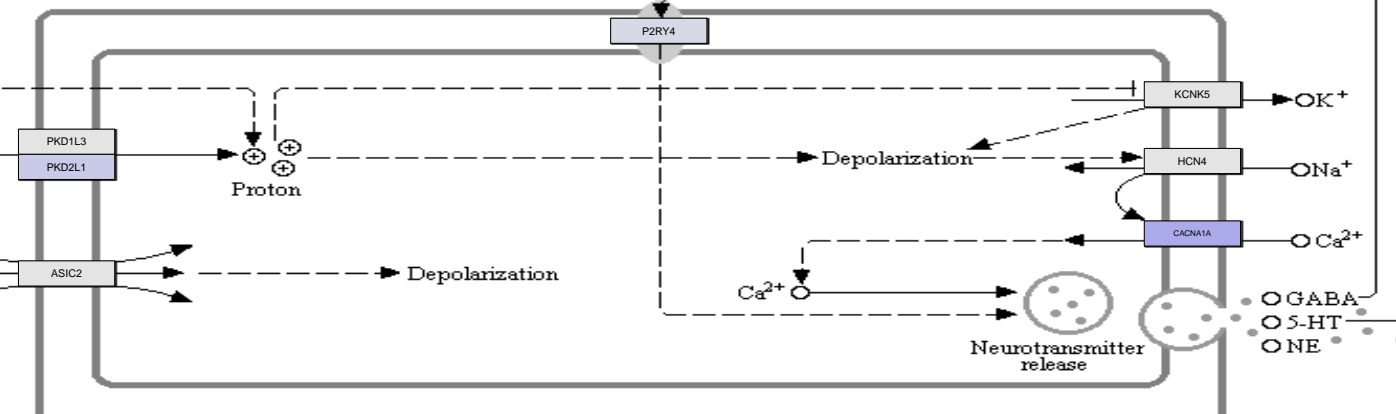
Bitter  
Salicin  $\circ$   
Quinine  $\circ$   
Saccharin  $\circ$



**Type III presynaptic cell**

Sour  
Weak acid  $\oplus$   
HCl  $\circ$   
Citric acid  $\circ$   
Malic acid  $\circ$

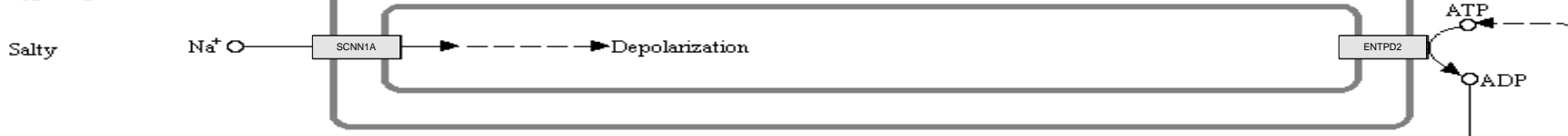
$\text{Na}^+$   $\circ$   
 $\text{H}^+$   $\circ$   
 $\text{Ca}^{2+}$   $\circ$



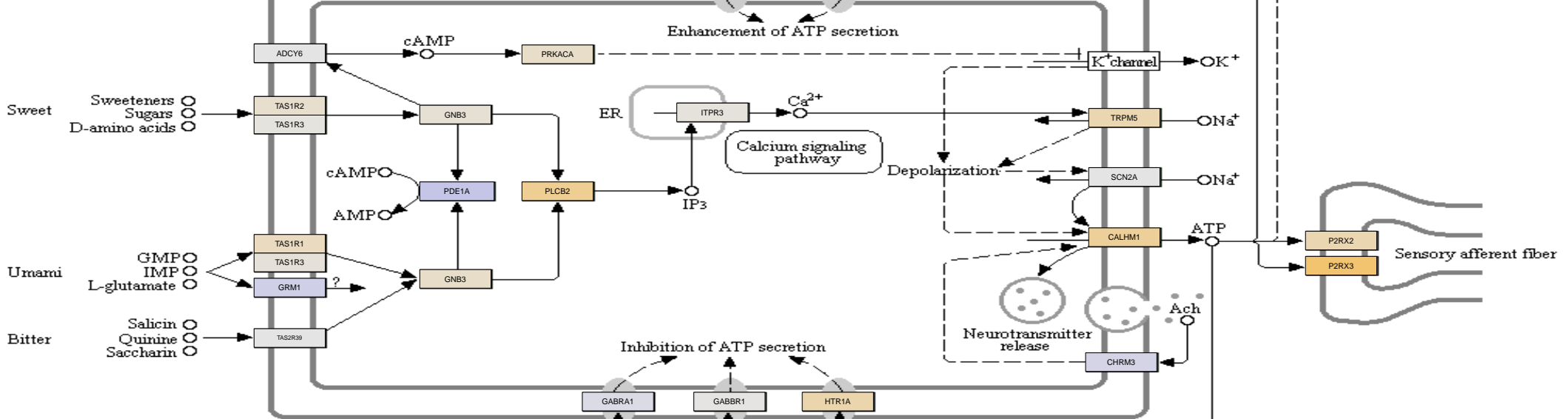


**TASTE BUD CELL**

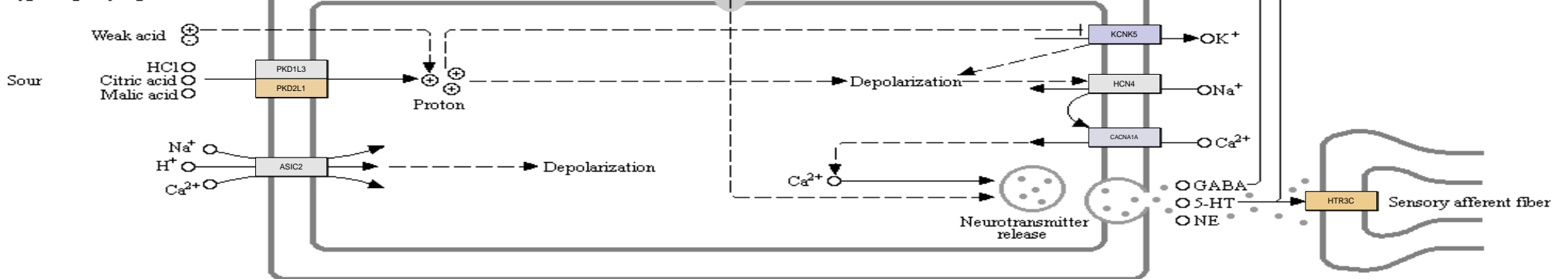
**Type I glial like cell**



**Type II receptor cell**



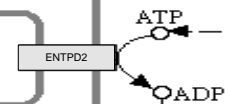
**Type III presynaptic cell**



**TASTE BUD CELL**

**Type I glial like cell**

Salty  $\text{Na}^+$   $\circ$   $\rightarrow$  SCNN1A  $\rightarrow$  Depolarization

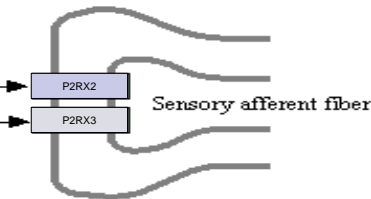
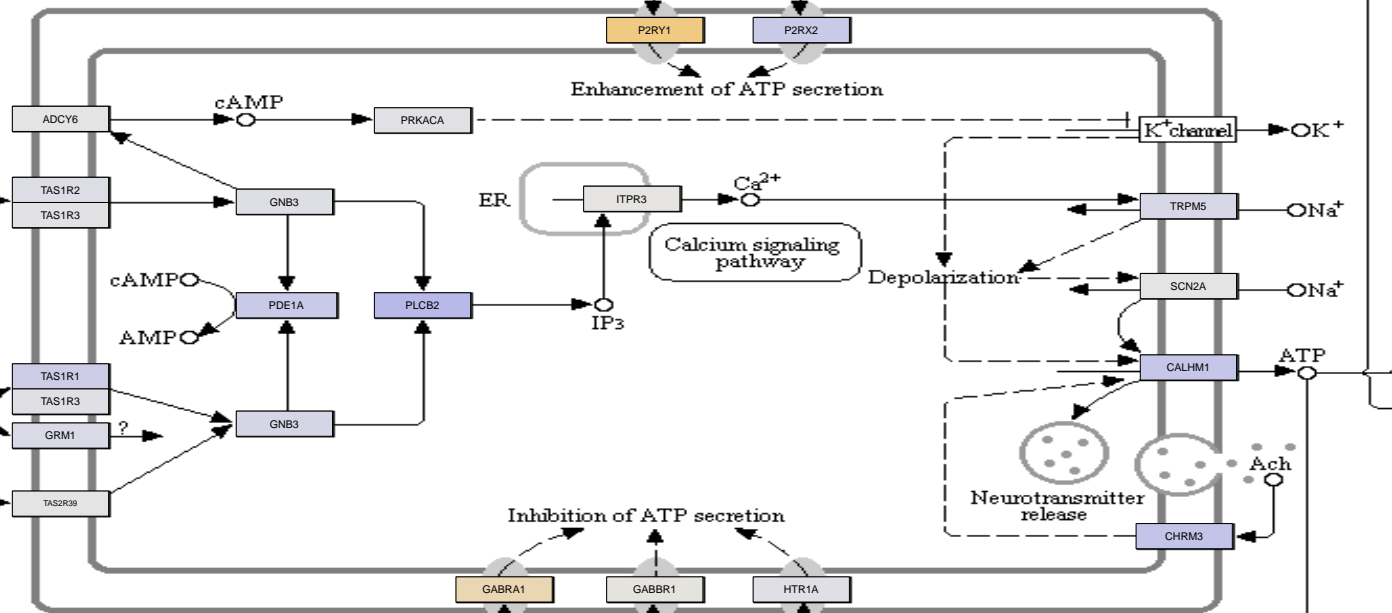


**Type II receptor cell**

Sweet  
Sweeteners  $\circ$   
Sugars  $\circ$   
D-amino acids  $\circ$

Umami  
GMP  $\circ$   
IMP  $\circ$   
L-glutamate  $\circ$

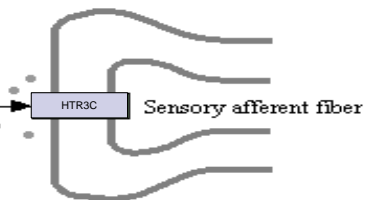
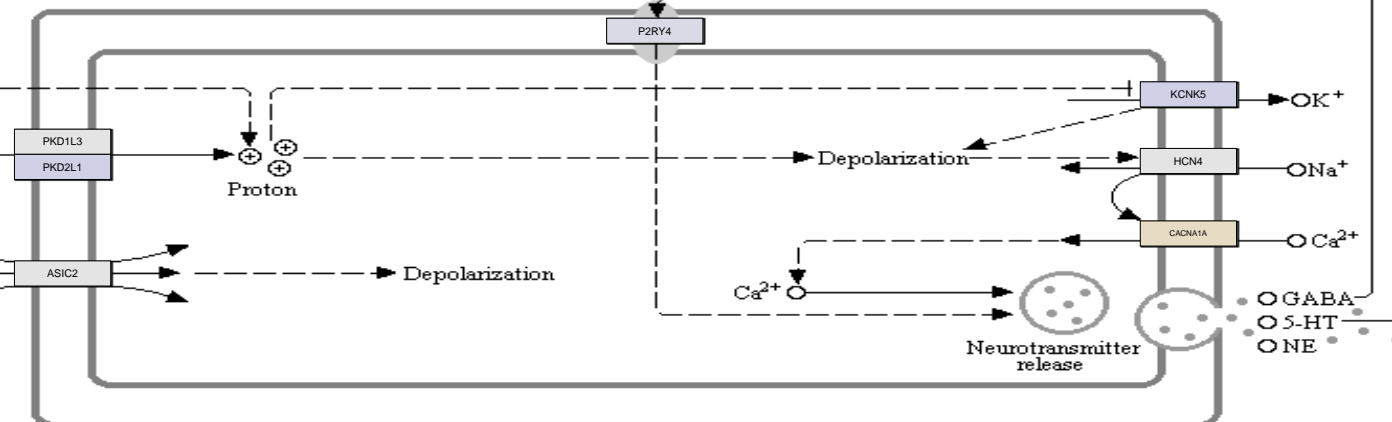
Bitter  
Salicin  $\circ$   
Quinine  $\circ$   
Saccharin  $\circ$



**Type III presynaptic cell**

Sour  
Weak acid  $\oplus$   
HCl  $\circ$   
Citric acid  $\circ$   
Malic acid  $\circ$

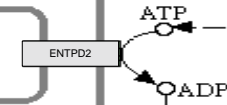
$\text{Na}^+$   $\circ$   
 $\text{H}^+$   $\circ$   
 $\text{Ca}^{2+}$   $\circ$



**TASTE BUD CELL**

**Type I glial like cell**

Salty  $\text{Na}^+$   $\circ$   $\rightarrow$  SCNN1A  $\rightarrow$  Depolarization

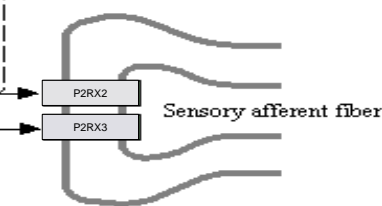
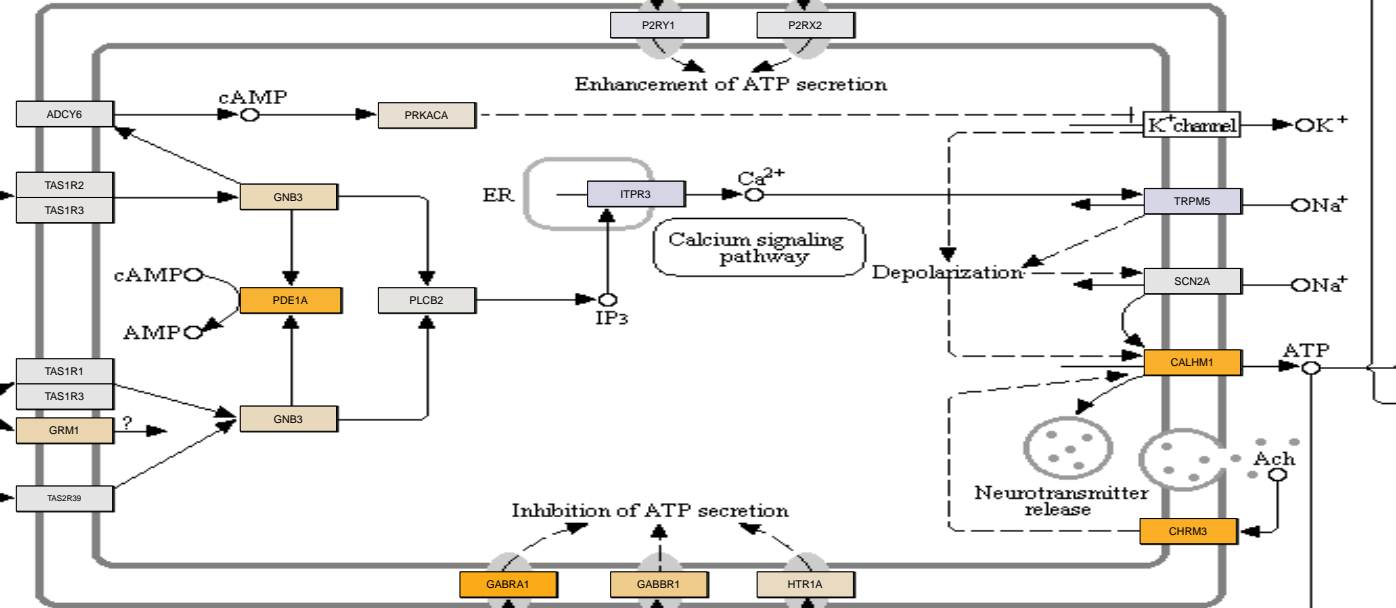


**Type II receptor cell**

Sweet  
Sweeteners  $\circ$   
Sugars  $\circ$   
D-amino acids  $\circ$

Umami  
GMP  $\circ$   
IMP  $\circ$   
L-glutamate  $\circ$

Bitter  
Salicin  $\circ$   
Quinine  $\circ$   
Saccharin  $\circ$



**Type III presynaptic cell**

Sour  
Weak acid  $\oplus$   
HCl  $\circ$   
Citric acid  $\circ$   
Malic acid  $\circ$

$\text{Na}^+$   $\circ$   
 $\text{H}^+$   $\circ$   
 $\text{Ca}^{2+}$   $\circ$

