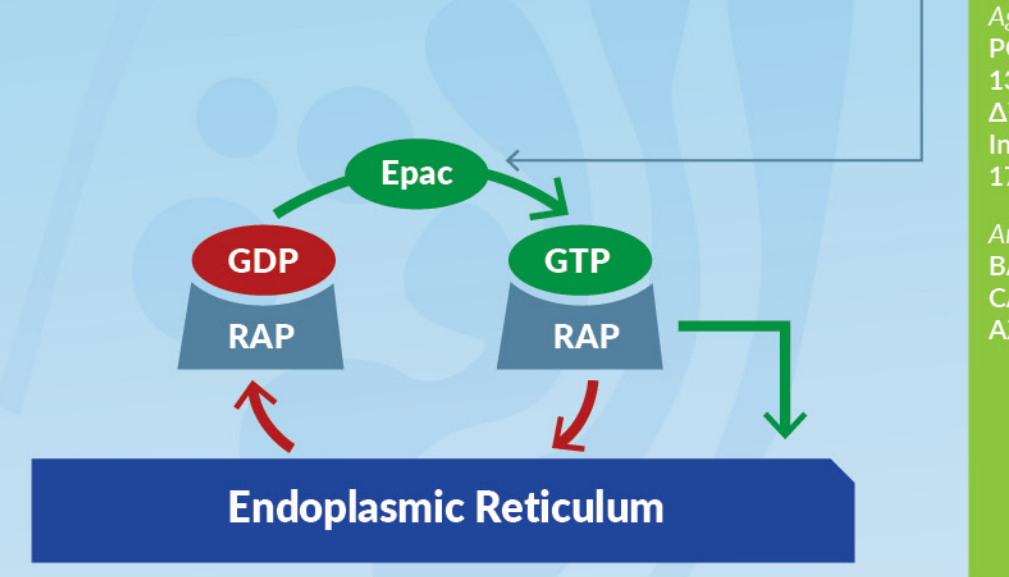
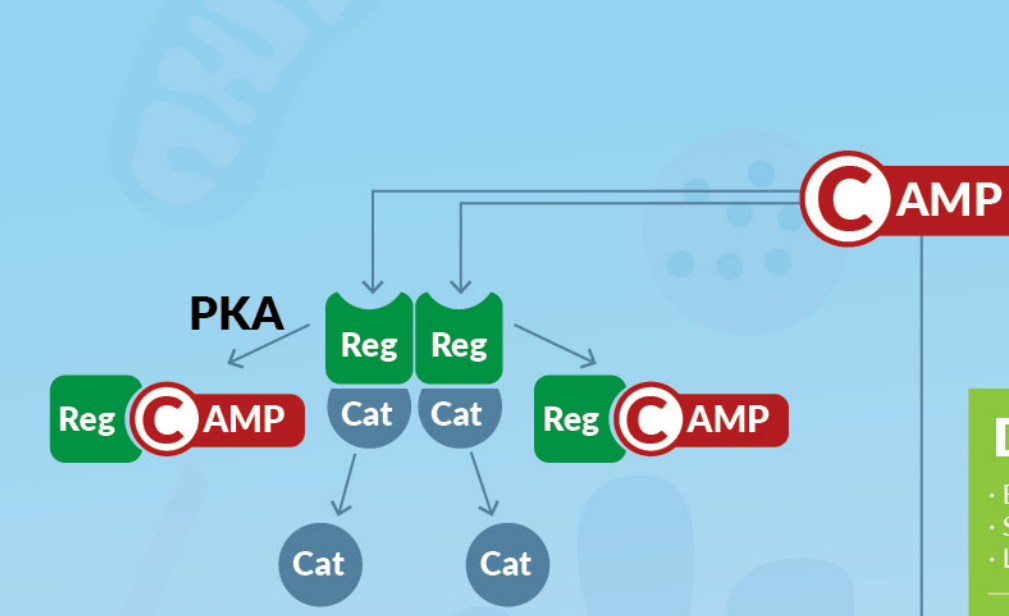
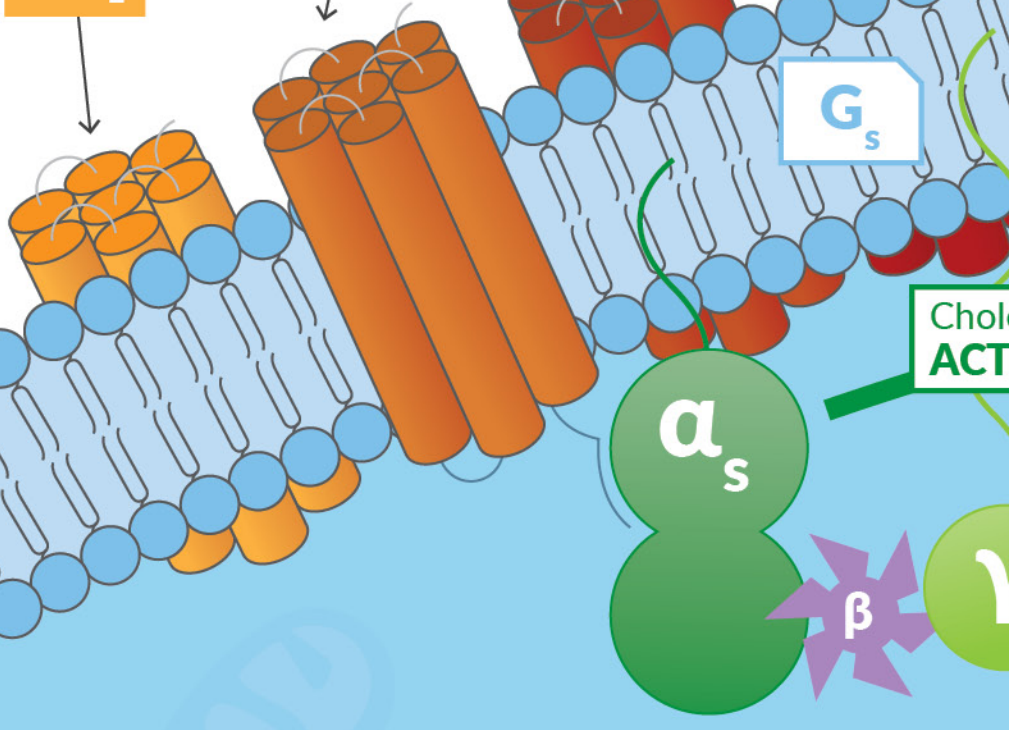
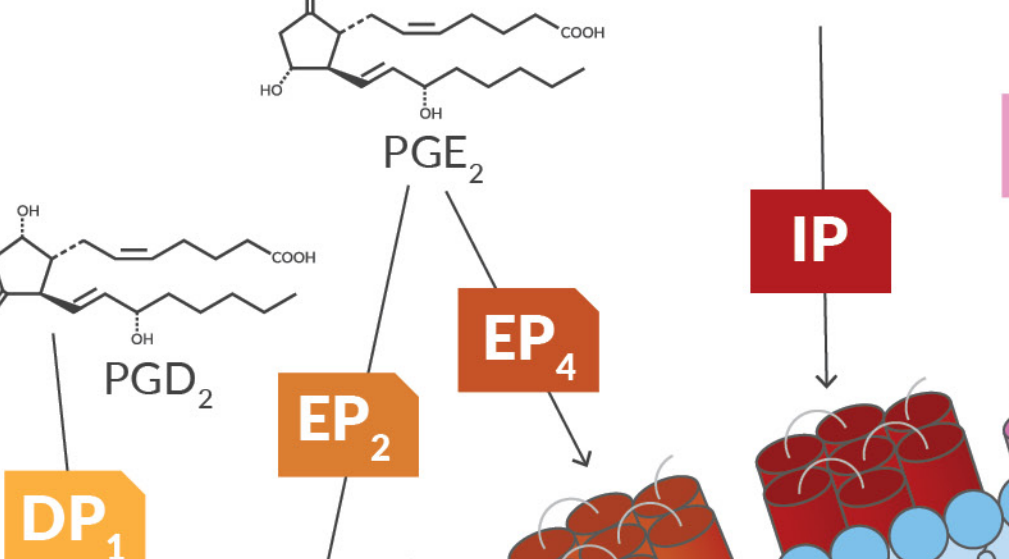
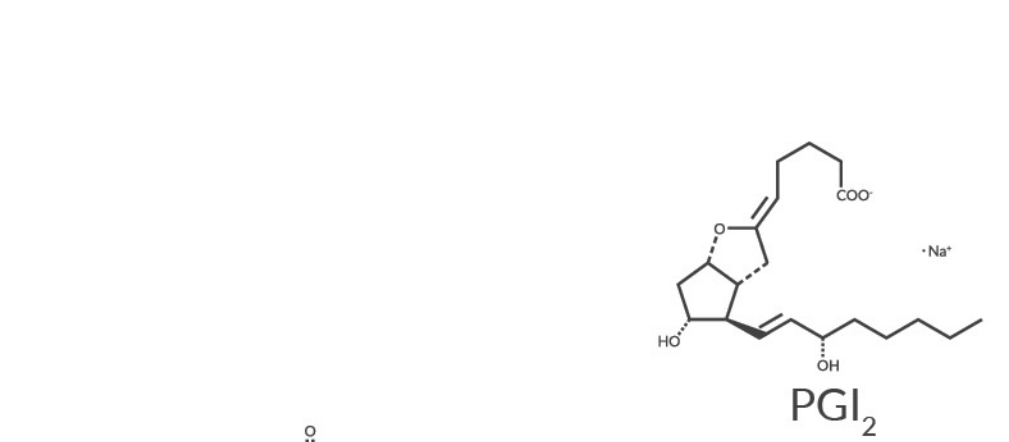


DP₁

- Relaxation of smooth muscle
- Inhibition of platelet aggregation
- Suppression of leukocyte function
- Nasal blockage

Agonists:
PGD₂ (12010), BW 245C (12050),
15(S)-15-methyl PGD₂ (12730),
BW 246C (12055)

Antagonists:
BW A868C (12060), AH 6809 (14050),
MK-0524 (10009835), S-5751 (10004030)

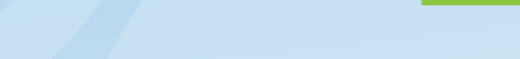
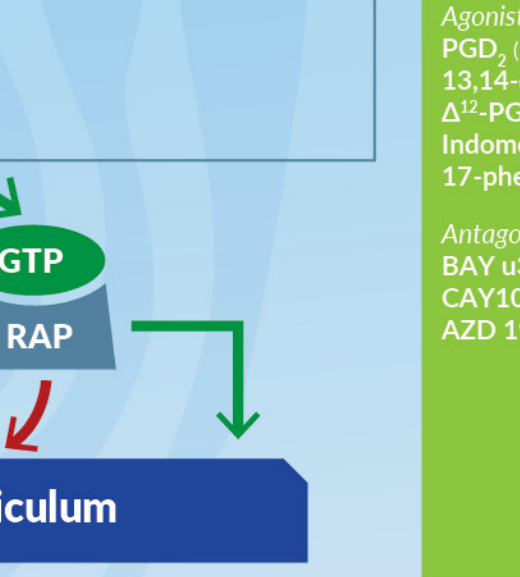
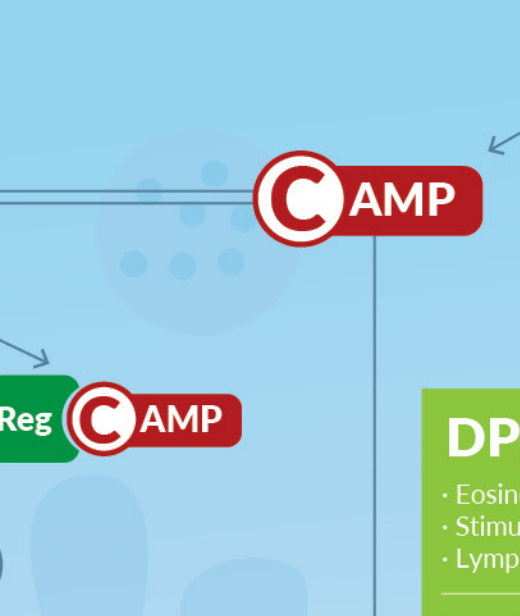
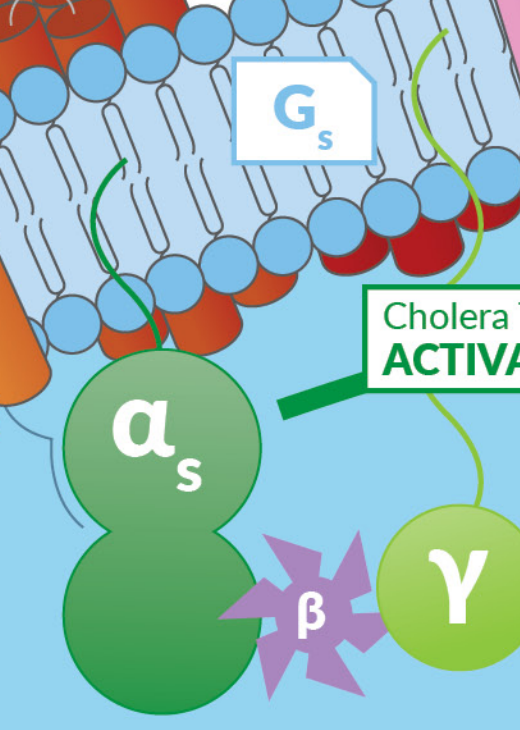
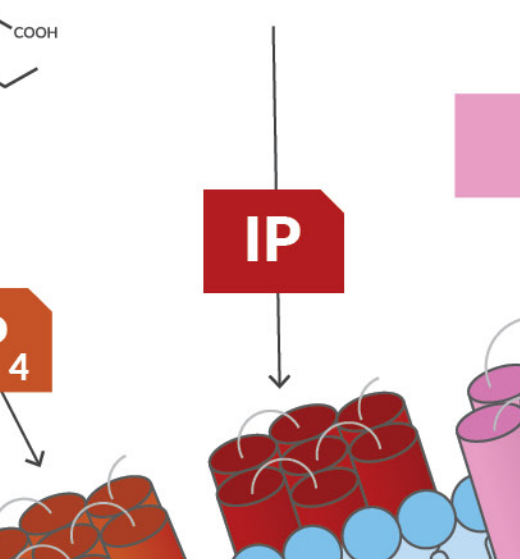
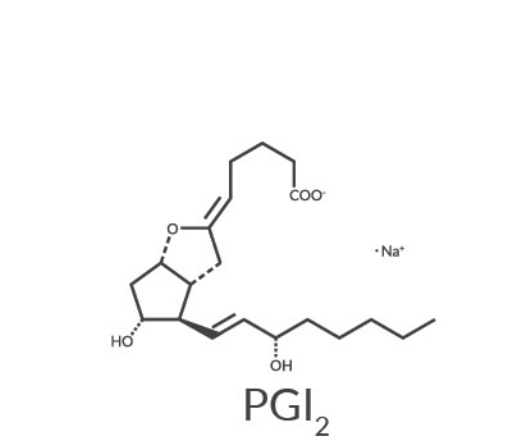


EP₂

- Smooth muscle relaxation, dilation
- Bone formation
- Suppression of leukocyte function
- Mediation of spinal inflammatory hyperalgesia
- Inhibition of sleep
- Promotion of ovarian follicle growth
- Stimulation of renin release
- Neuroprotection

Agonists:
PGE₂ (14010), Butaprost (13740/13741),
19(R)-hydroxy PGE₂ (14910),
11-deoxy-16,16-dimethyl PGE₂ (14570),
11-deoxy PGE₂ (13510),
Misoprostol (13820/13821)

Antagonists:
AH 6809 (14050), TG4-155 (17639),
PF-04418948 (15016), TG6-129 (19085)

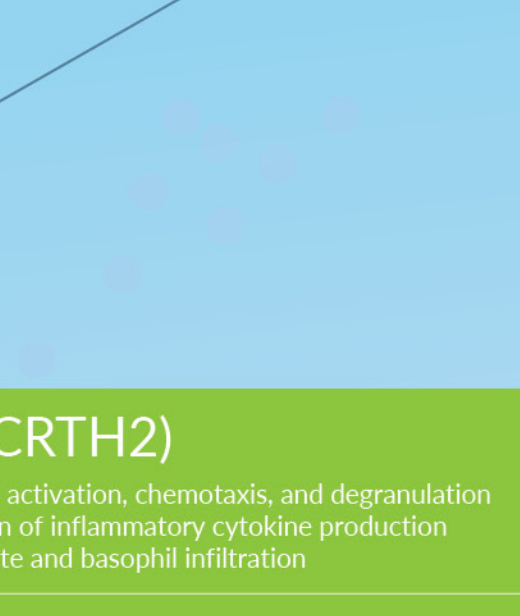
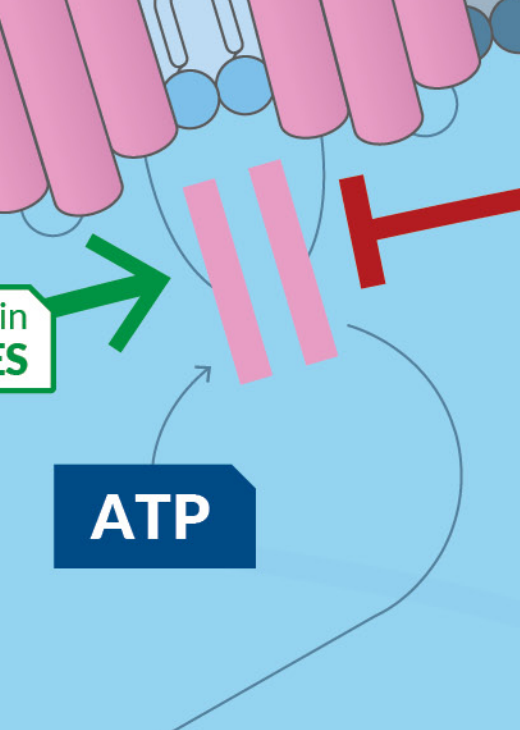
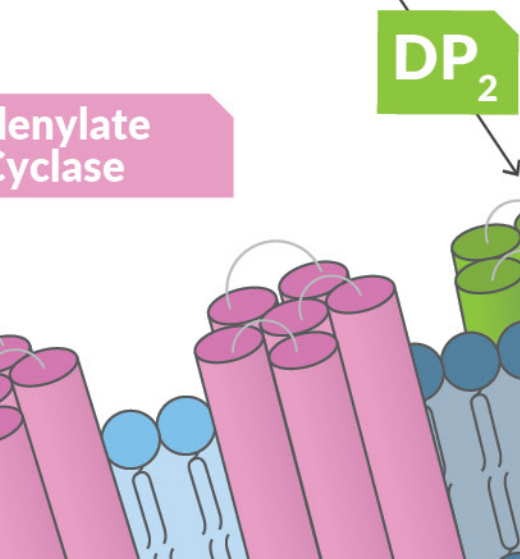
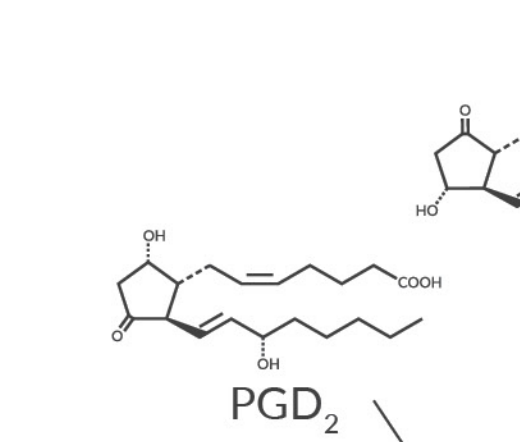


EP₄

- Renal vasodilation
- Bone production
- Suppression of leukocyte function
- Promotion of sleep
- Promotion of ovarian follicle growth
- Stimulation of renin release, salt and water excretion
- Regulation of gastric acid secretion, duodenal HCO₃⁻ secretion

Agonists:
PGE₂ (14010), CAY10580 (16835),
KMN-80 (15435), CAY10684 (15966),
Rivenprost (13618), L-902,688 (10007712),
CAY10598 (13281), Misoprostol (13820/13821)

Antagonists:
L-161,982 (10011565),
GW 627368X (10009162), AH 23848 (19023),
ONO-AE3-208 (14522), CJ-023423 (10010355),
CJ-42794 (10010428), MF498 (15973)



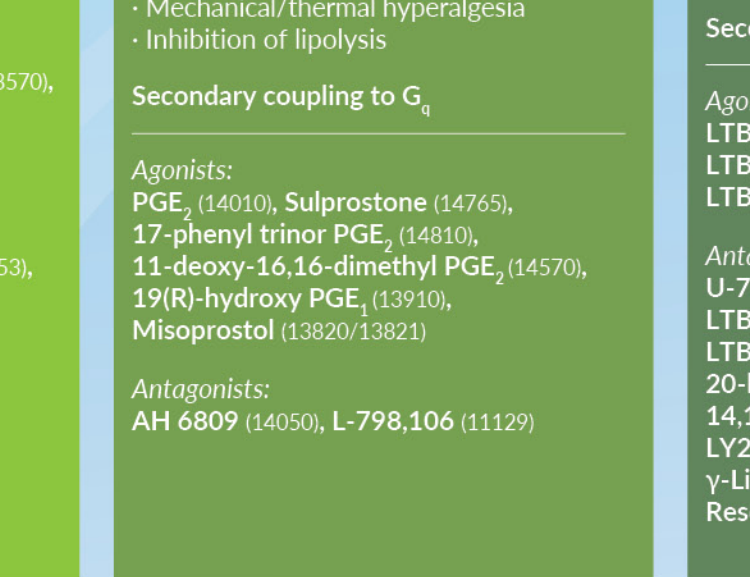
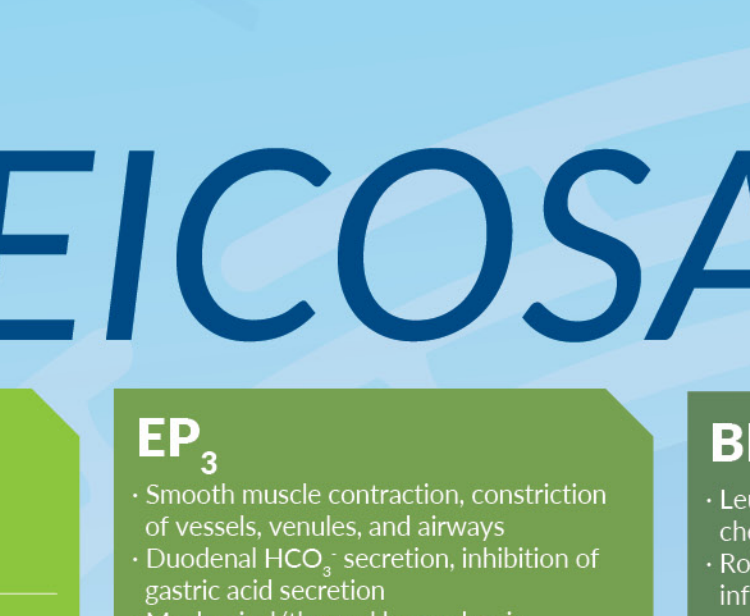
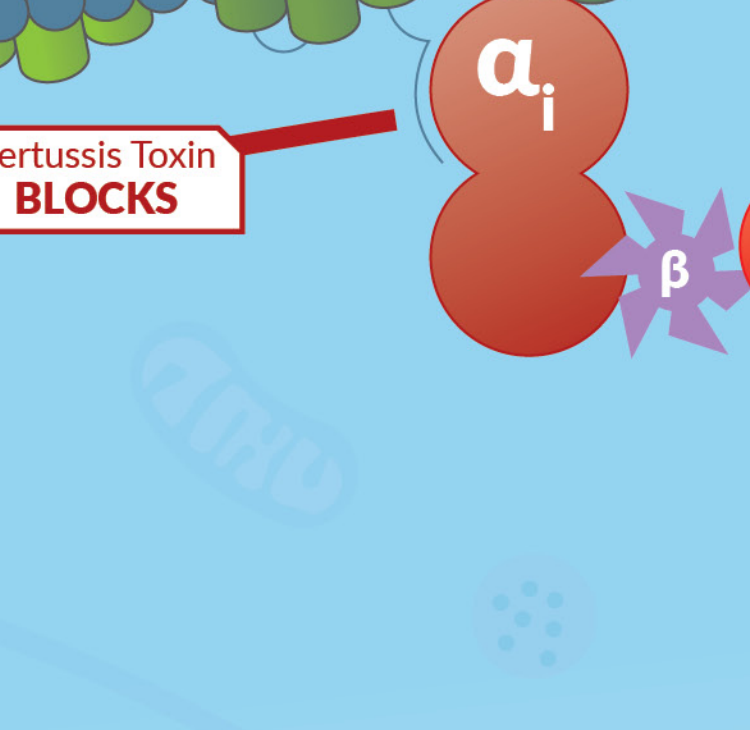
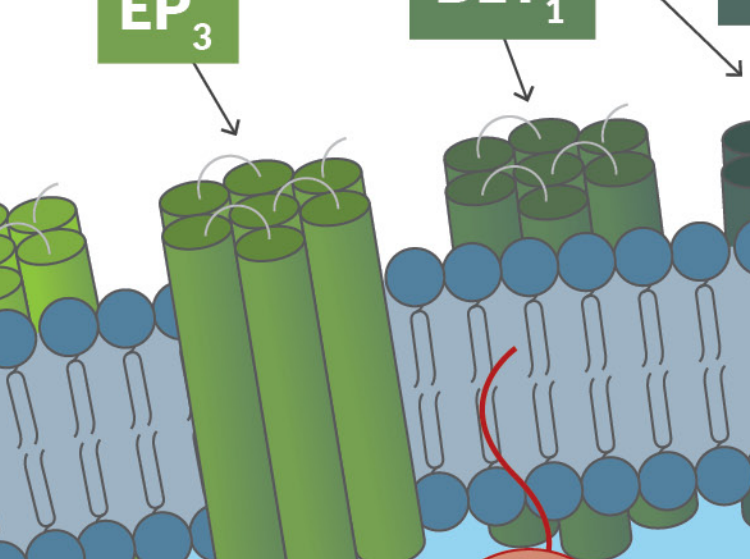
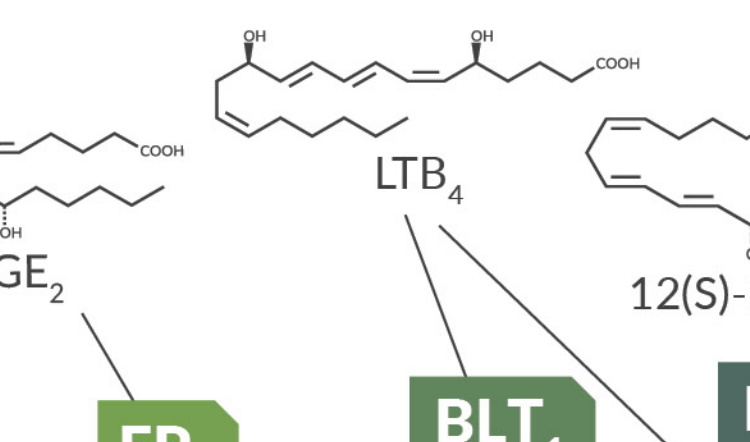
IP

- Relaxation of pulmonary arterial, bronchial smooth muscle
- Inhibition of platelet aggregation
- Suppression of cardiomyocyte hypertrophy

Secondary coupling to G_i

Agonists:
PGI₂ (18220), MRE-269 (10010412), Iloprost (18215),
Beraprost (18230), NS-304 (10010411), Ciprostone (18216),
Carbaprostacyclin (18210),
13,14-dehydro-15-cyclohexyl Carbaprostacyclin (18212),
Treprostinil (10162), Taprostene (10011348), Cicaprost (16831),
AFP 07 (13626), PGI₂ (18300)

Antagonists:
CAY10441 (10005186), CAY10449 (10005913)



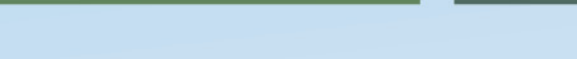
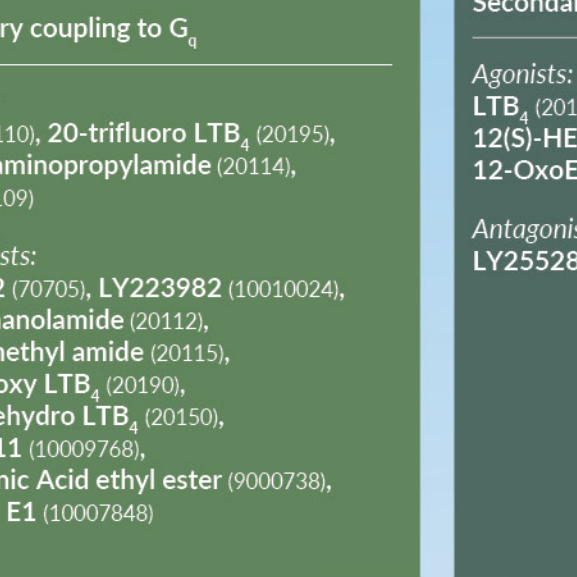
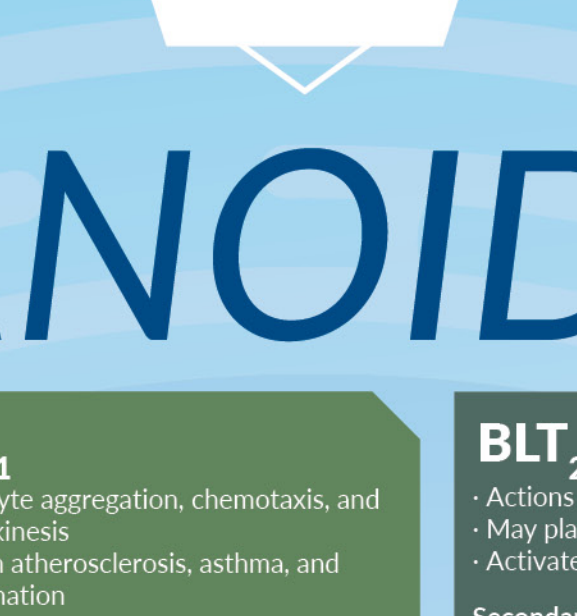
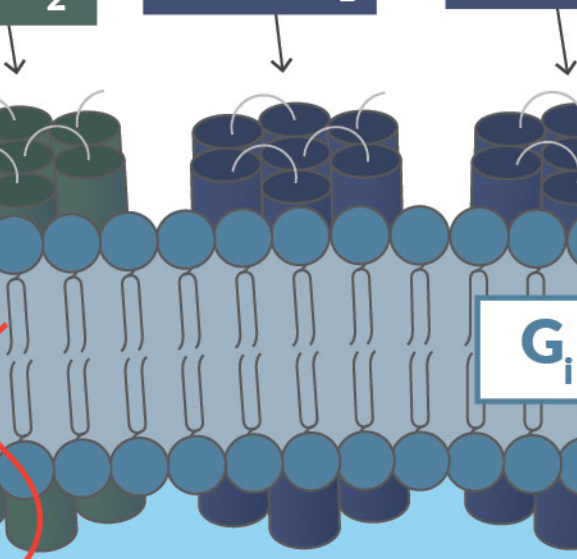
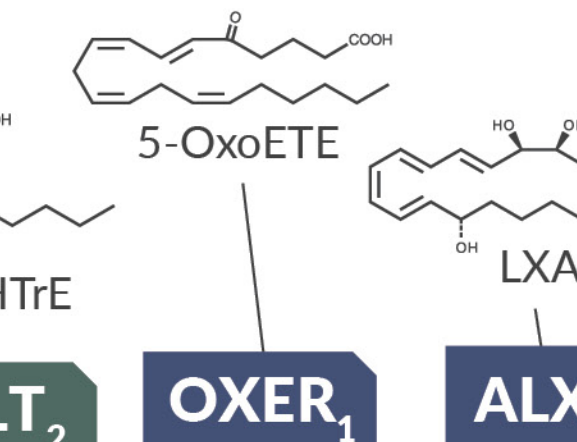
EP₁

- Renal vasoconstriction, airway constriction
- Hyperalgesia and allodynia, mechanical/thermal analgesia
- Circadian clock regulation
- Gastric protection
- Hyperthermia
- Sleep inhibition

Secondary coupling to G_i

Agonists:
PGE₂ (14010),
17-phenyl trimer PGE₂ (14810),
Iloprost (18215),
19(R)-hydroxy PGE₂ (13910)

Antagonists:
SC-19220 (14060), AH 6809 (14050),
ONO-8711 (14070), ONO-8130 (19118),
SC-51089 (10011561), SC-51322 (10010744),
GW 848687X (10010410)



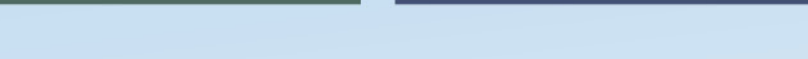
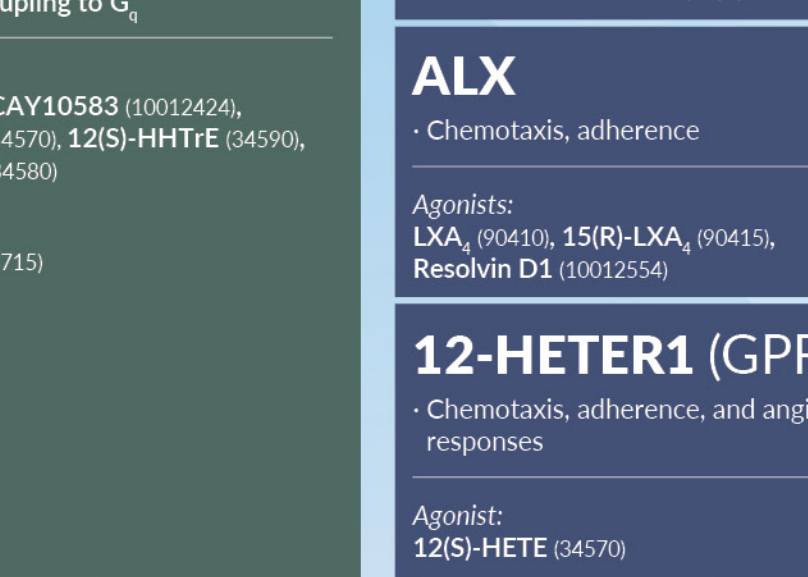
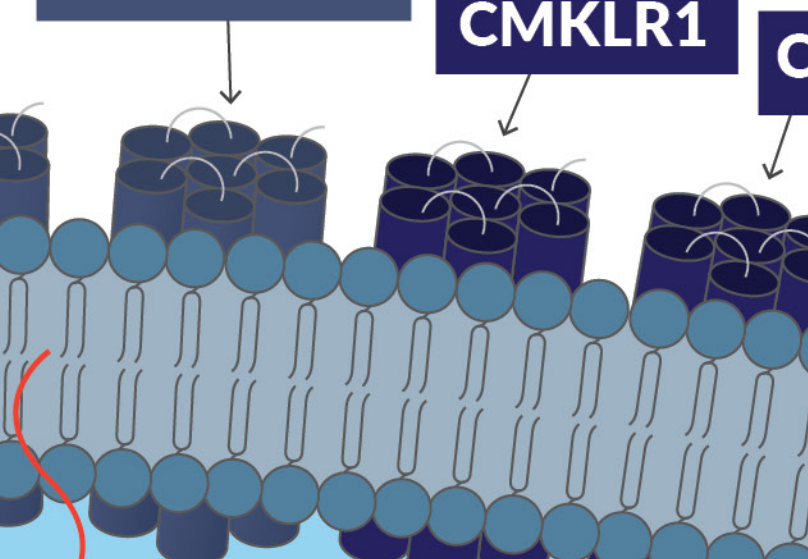
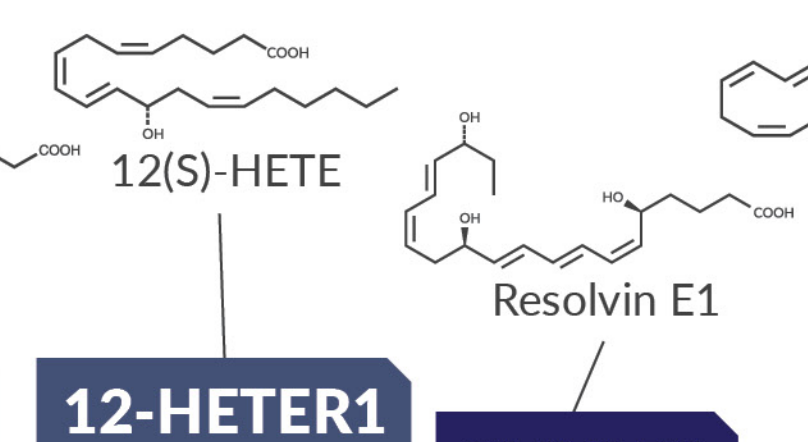
FP

- Luteolysis, muscle contraction
- Decrease in intraocular pressure
- Inhibition of prolactin receptor expression in corpus luteum

Secondary coupling to G_i

Agonists:
PGF_{2α} (16010), Latanoprost (16812/16811), Fluprostenol (16768/16769),
17-phenyl trimer PGF_{2α} (16810/16820),
Cloprostenol (16764/16765/16766), 15(S)-15-methyl PGF_{2α} (16743),
16,16-dimethyl PGF_{2α} (16750), 16-phenoxo tetranor PGF_{2α} (16760),
Tafluprost (10005440/10005439), Unoprostone (16680),
CAY10509 (10009167), CAY10510 (10009168),
20-ethyl PGF_{2α} (16940)

Antagonists:
AL 8810 (16735/10113), PGF_{2α} dimethyl amide (16032),
PGF_{2α} dimethyl amine (16033)



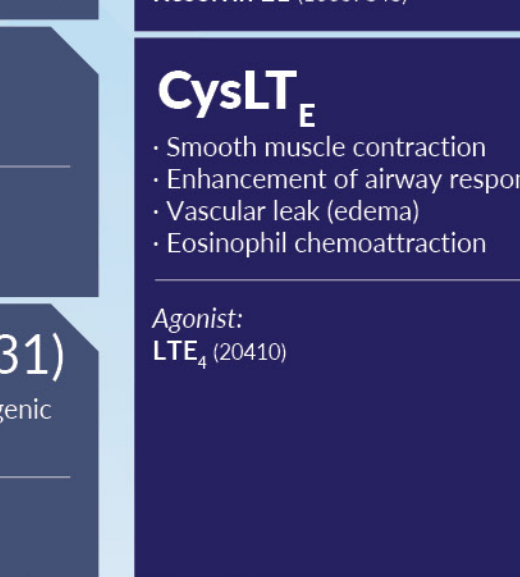
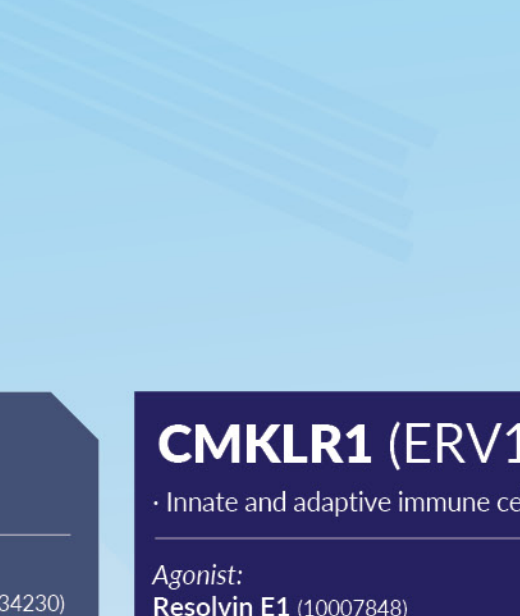
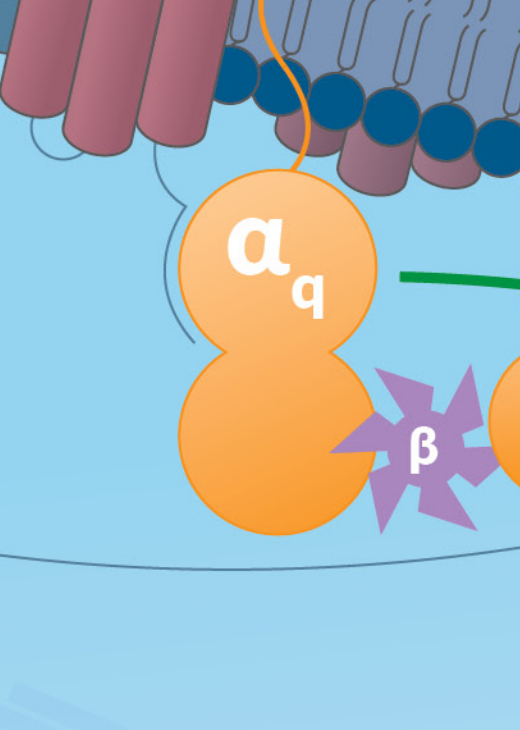
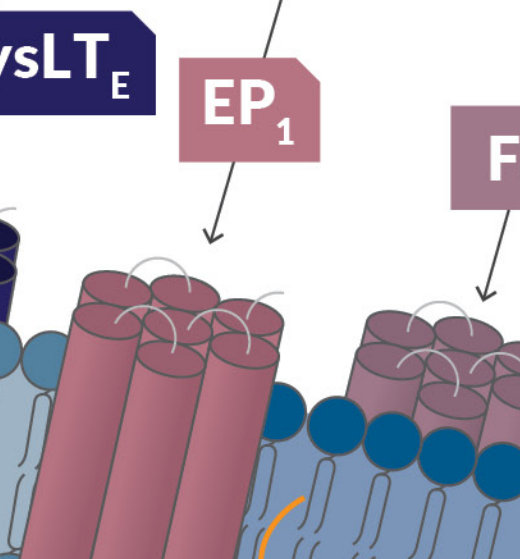
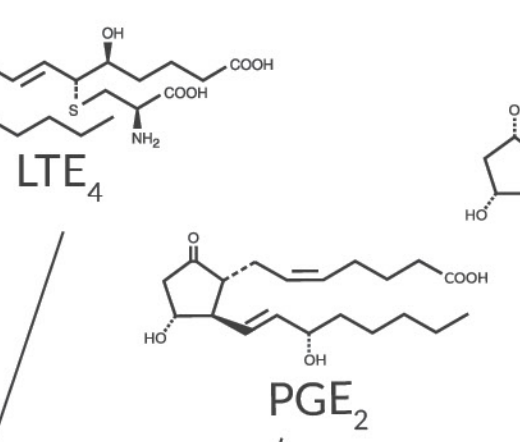
TP

- Platelet aggregation
- Smooth muscle contraction, broncho- and vasoconstriction
- Mediation of cellular immune responses

Agonists:

U-46619 (16450), Carbocyclic TXA₂ (19010),
I-BOP (19600), U-44069 (16440),
U-51605 (16465)

Antagonists:
SQ 29,548 (19025), BAY u3405 (10156),
I-SAP (19021), Pinane TXA₂ (19020),
GW 627368X (10009162), BM 567 (10155),
CAY10535 (10010396), AH 23848 (19023),
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518886 (14059)



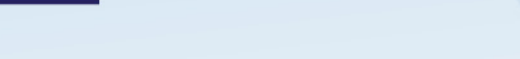
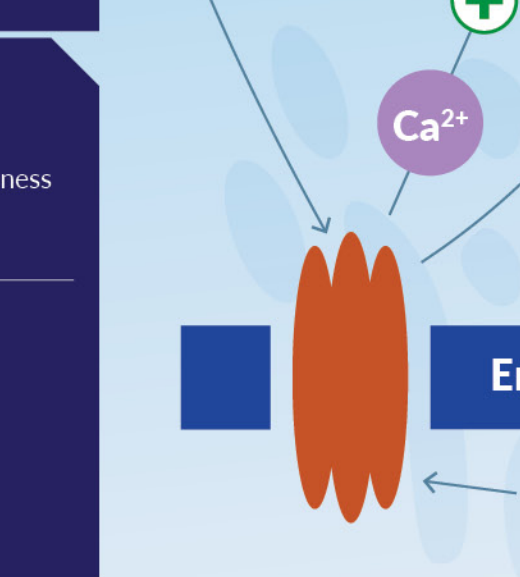
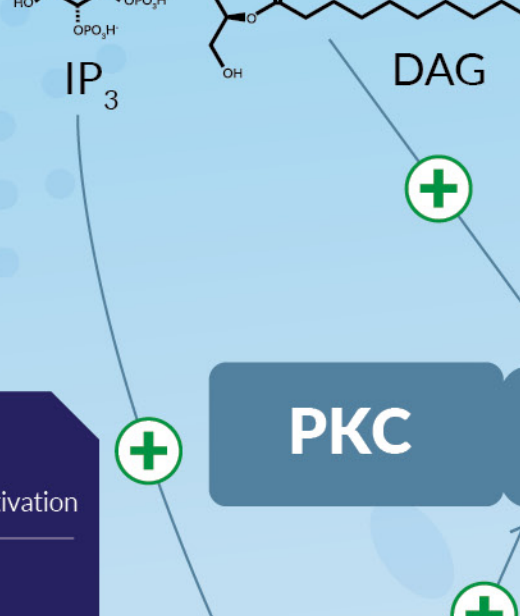
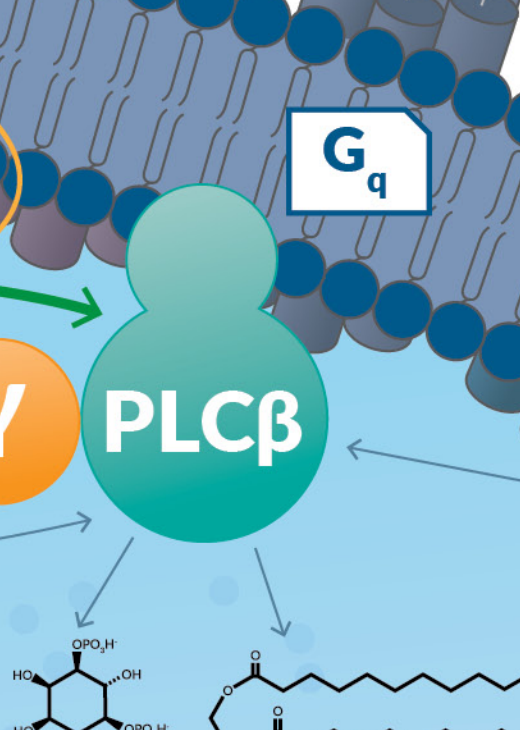
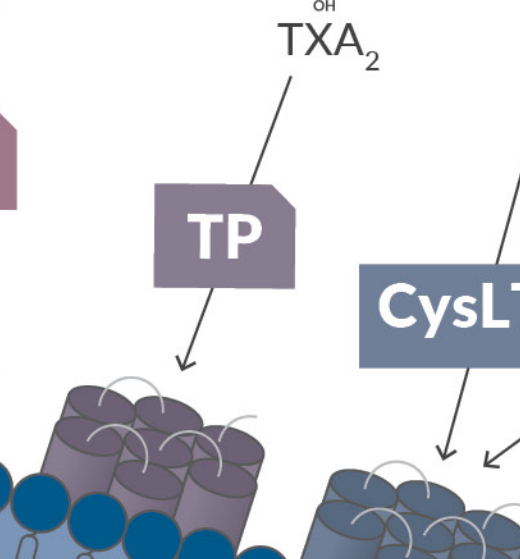
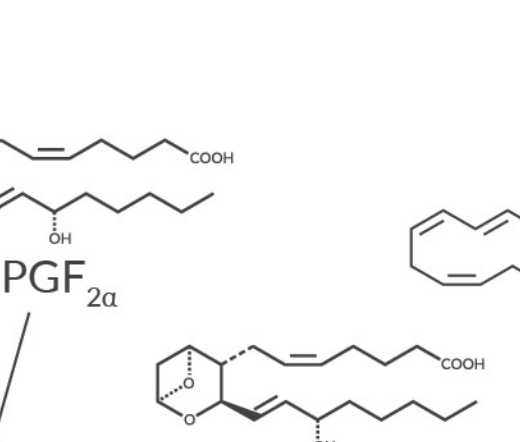
CysLT₁

- Roles in asthma and allergic rhinitis
- Vaso- and bronchoconstriction
- Airway hyper-responsiveness
- Hematopoietic cell trafficking
- Proliferation of mast cells

Agonists:

LTC₄ (20210), LTD₄ (20310), LTE₄ (20410),
11-trans LTC₄ (20230), N-methyl LTC₄ (13390)

Antagonists:
MK-571 (10029/70720), BAY u9773 (70770),
Zafirlukast (10008282),
Montelukast (10008318),
Pranlukast (10008319),
LY171883 (70710), REV 5901 (70600)



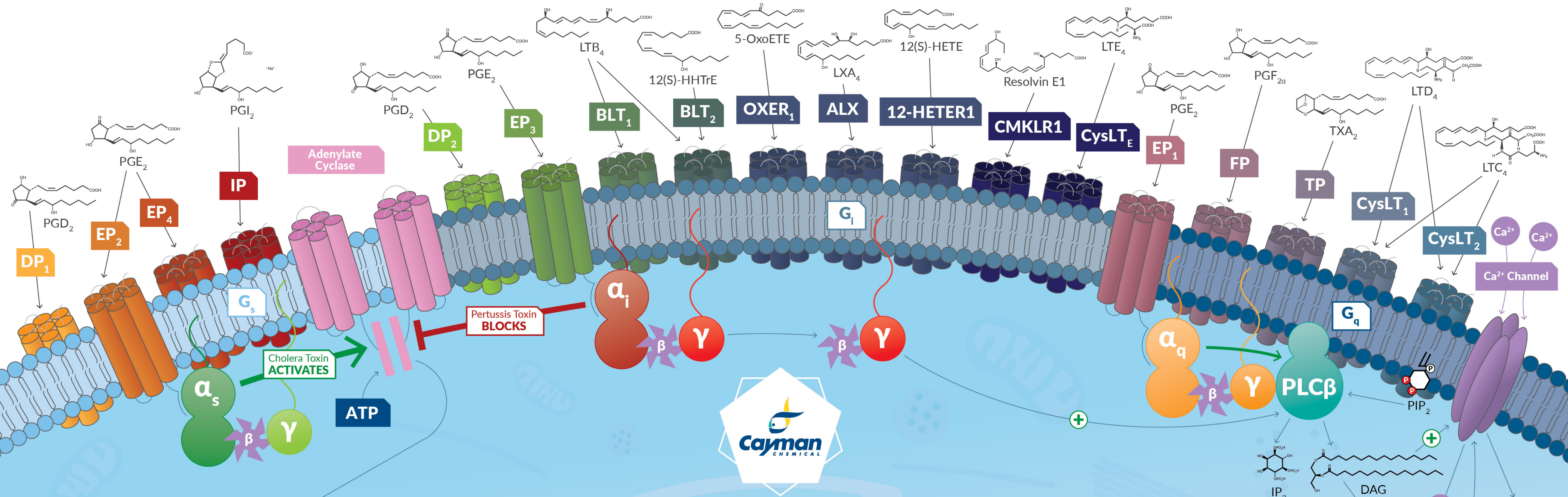
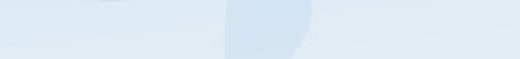
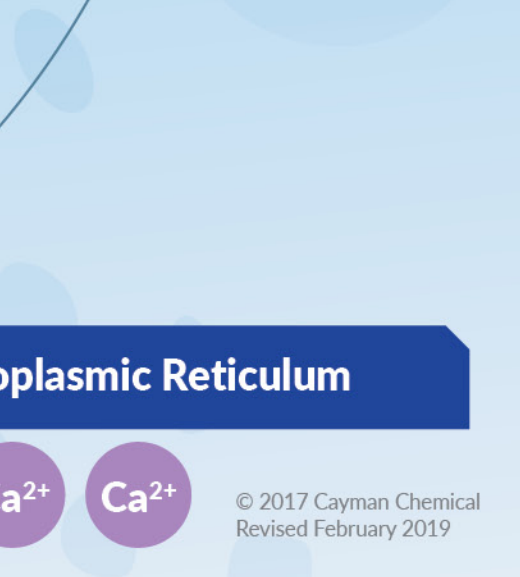
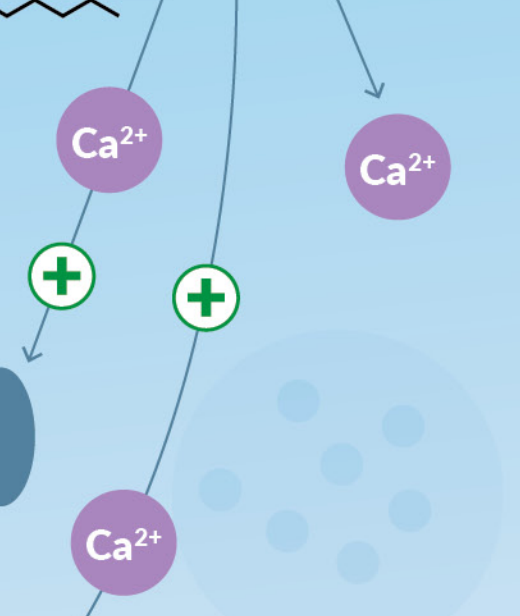
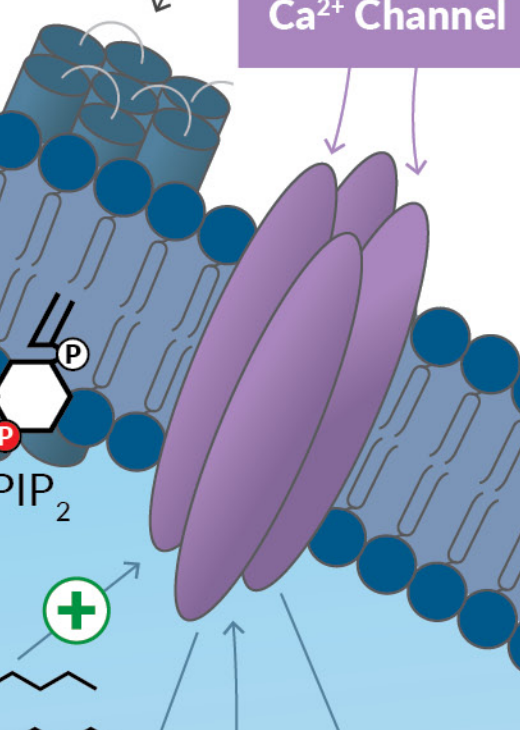
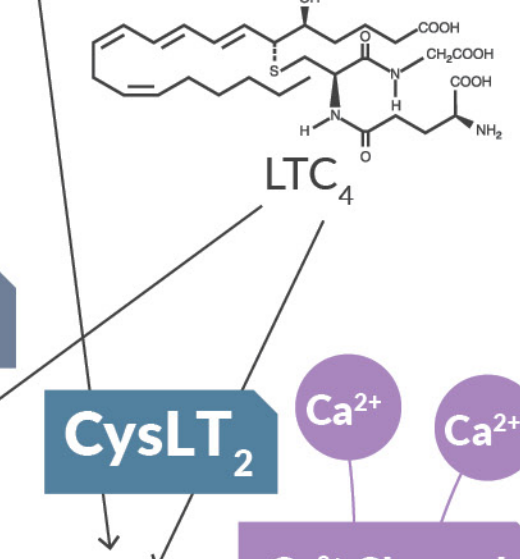
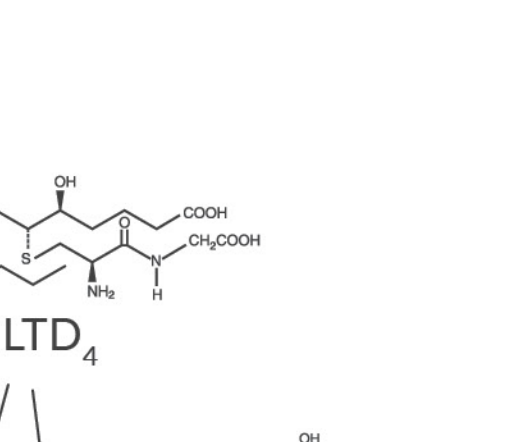
CysLT₂

- Role unclear, may cause increased vascular permeability
- Potentially influences brain and cardiac function
- May limit membrane expression and action of CysLT₁

Agonists:

LTC₄ (20210), LTD₄ (20310), LTE₄ (20410),
11-trans LTC₄ (20230), N-methyl LTC₄ (13390)

Antagonists:
BAY u9773 (70770), HAMI3379 (10580),
BayCysLT₂ (10532)



EICOSANOID GPCRs

DP₂ (CRTH2)

- Eosinophil activation, chemotaxis, and degranulation
- Stimulation of inflammatory cytokine production
- Lymphocyte and basophil infiltration

Agonists:
PGD₂ (12010), 15(R)-15-methyl PGD₂ (12720),
13,14-dihydro-15-keto PGD₂ (12610), 15-deoxy-Δ^{12,14}-PGJ₂ (18570),
Δ¹²-PGJ₂ (18550), 15-deoxy-Δ^{12,14}-PGD₂ (12700),
Indomethacin (70270), 11-keto Fluprostenol (16783),
17-phenyl trimer PGD₂ (12810), 15(R)-PGD₂ (10118)

Antagonists:
BAY u3405 (10156), CAY10471 (10006735), CAY10595 (10012553),
CAY10597 (10012539), OC000459 (1002027), Fevipiprant (20263),
AZD 1981 (20763), LAS191859 (20238)

EP₃

- Smooth muscle contraction, constriction of vessels, venules, and airways
- Duodenal HCO₃⁻ secretion, inhibition of gastric acid secretion
- Mechanical/thermal hyperalgesia
- Inhibition of lipolysis

Secondary coupling to G_q

Agonists:
PGE₂ (14010), Sulprostone (14765),
17-phenyl trimer PGE₂ (14810),
11-deoxy-16,16-dimethyl PGE₂ (14570),
19(R)-hydroxy PGE₂ (13910),
Misoprostol (13820/13821)

Antagonists:
AH 6809 (14050), L-798,106 (11129)

BLT₁

- Leukocyte aggregation, chemotaxis, and chemokinesis
- Roles in atherosclerosis, asthma, and inflammation

Secondary coupling to G_q

Agonists:
PGE₂ (14010), 20-trifluoroluto LTB₄ (20195),
LTB₄-3-aminopropylamide (20114),
LTB₄ (20109)

Antagonists:
U-75302 (70705), LY223982 (10010024),
LTB₄ ethanolamide (20112),
LTB₄ dimethyl amide (20115),
20-hydroxy LTB₄ (20190),
14,15-dehydro LTB₄ (20150),
LY293111 (10009768),
γ-Linolenic Acid ethyl ester (9000738),
Resolvin E1 (10007848)

BLT₂

- Actions redundant to BLT₁
- May play a role in itch-induced scratching
- Activated by HETEs

Secondary coupling to G_q

Agonists:
LTB₄ (20110), CAY10583 (10012424),
12(S)-HETE (34570), 12(S)-HHTre (34590),
12-OxoETE (34580)

Antagonist:
LY255283 (70715)

OXER₁

- Chemotaxis, adherence

Agonists:
5-OxoETE (34250/26059), 5(S)-HETE (34230)

ALX

- Chemotaxis, adherence

Agonists:
LXA₄ (90410), 15(R)-LXA₄ (90415),
Resolvin D1 (10012554)

12-HETER1 (GPR31)

- Chemotaxis, adherence, and angiogenic responses

Agonist:
12(S)-HETE (34570)

CMKLR1 (ERV1)

- Innate and adaptive immune cell activation

Agonist:
Resolvin E1 (10007848)

CysLT_E

- Smooth muscle contraction
- Enhancement of airway responsiveness
- Vascular leak (edema)
- Eosinophil chemoattraction

Agonist:
LTE₄ (20410)

