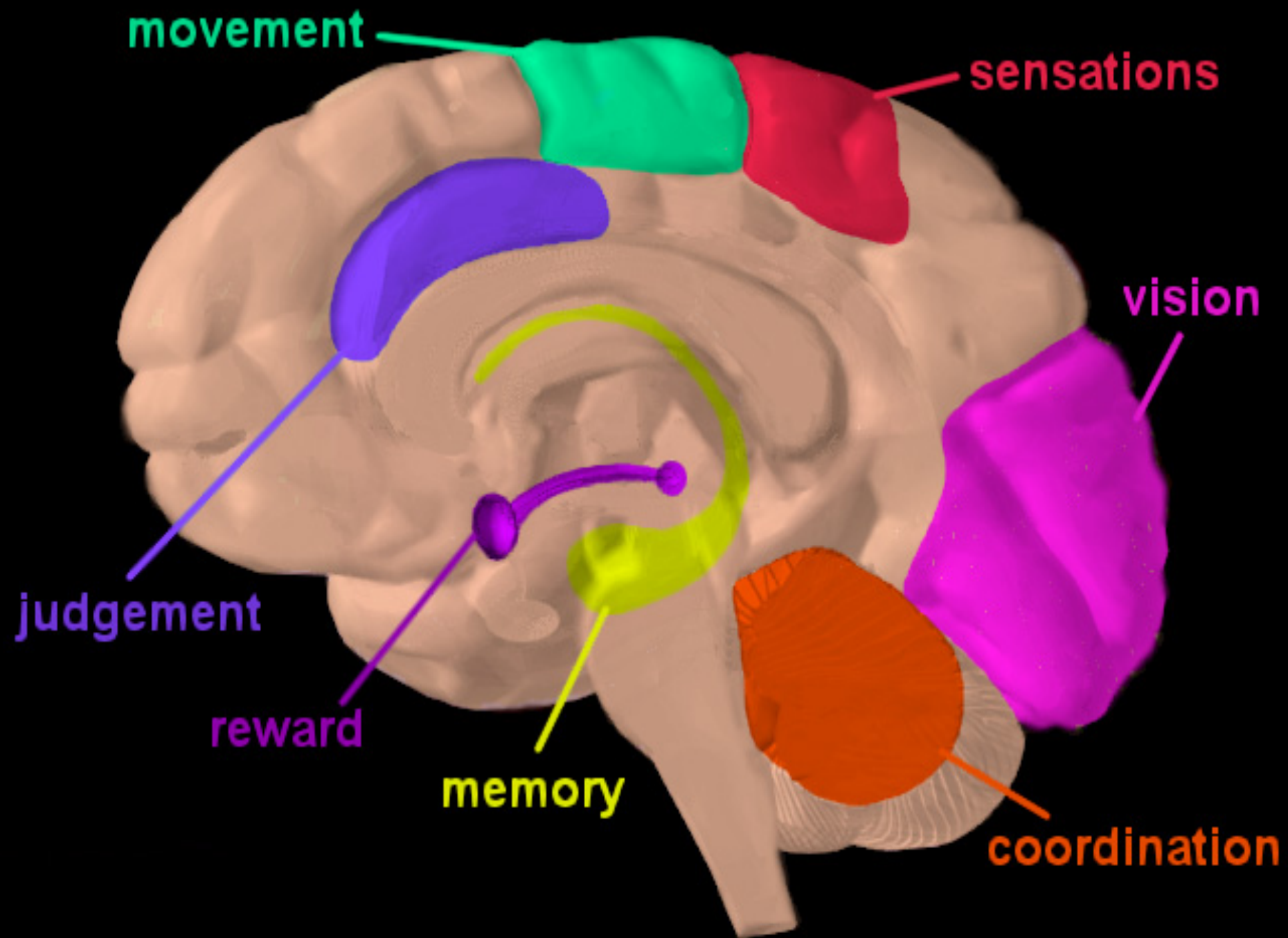




Opioid Addiction and Youth

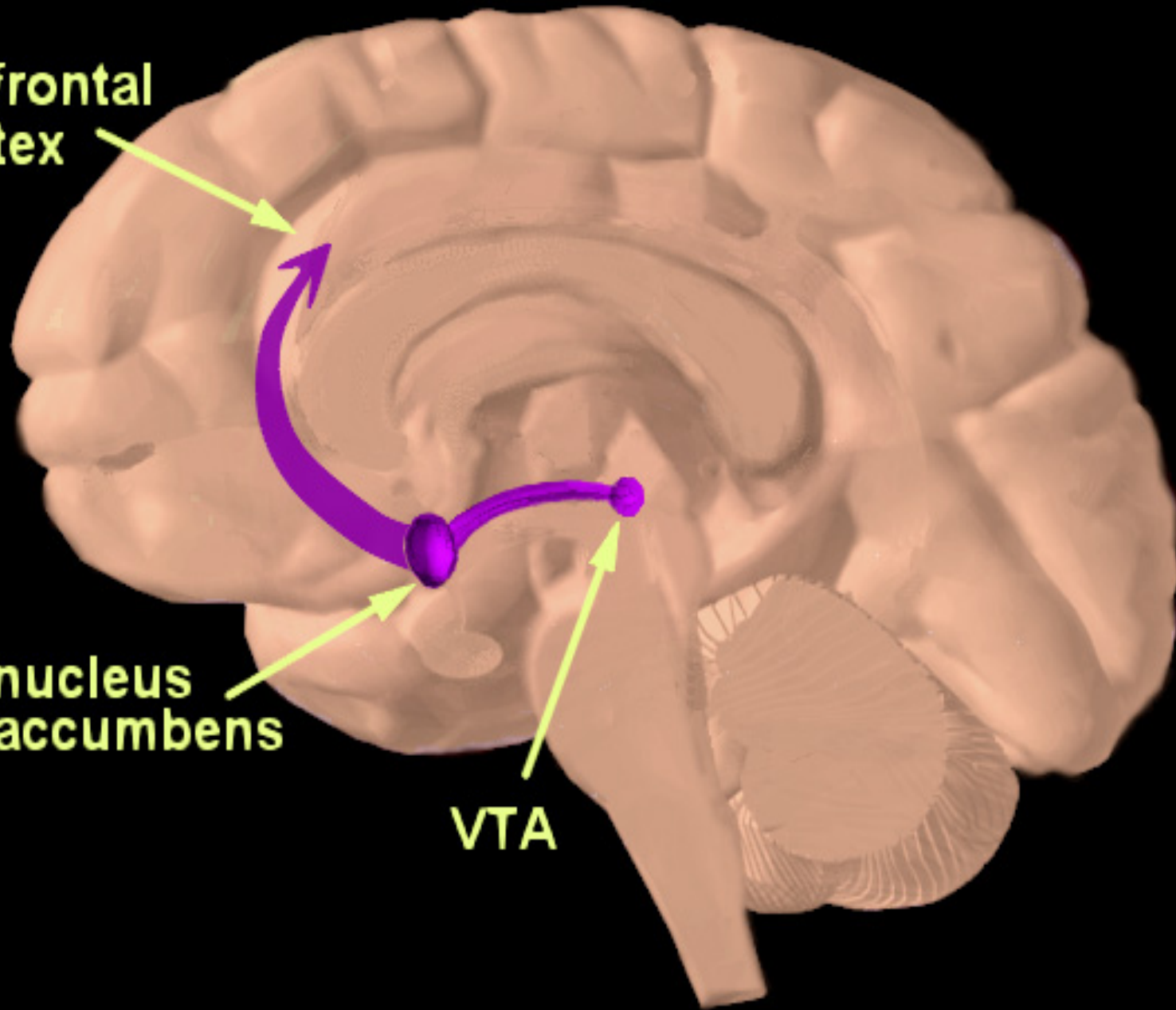
Brad Anderson, MD
Chief, Department of Addiction Medicine
Kaiser Permanente Northwest

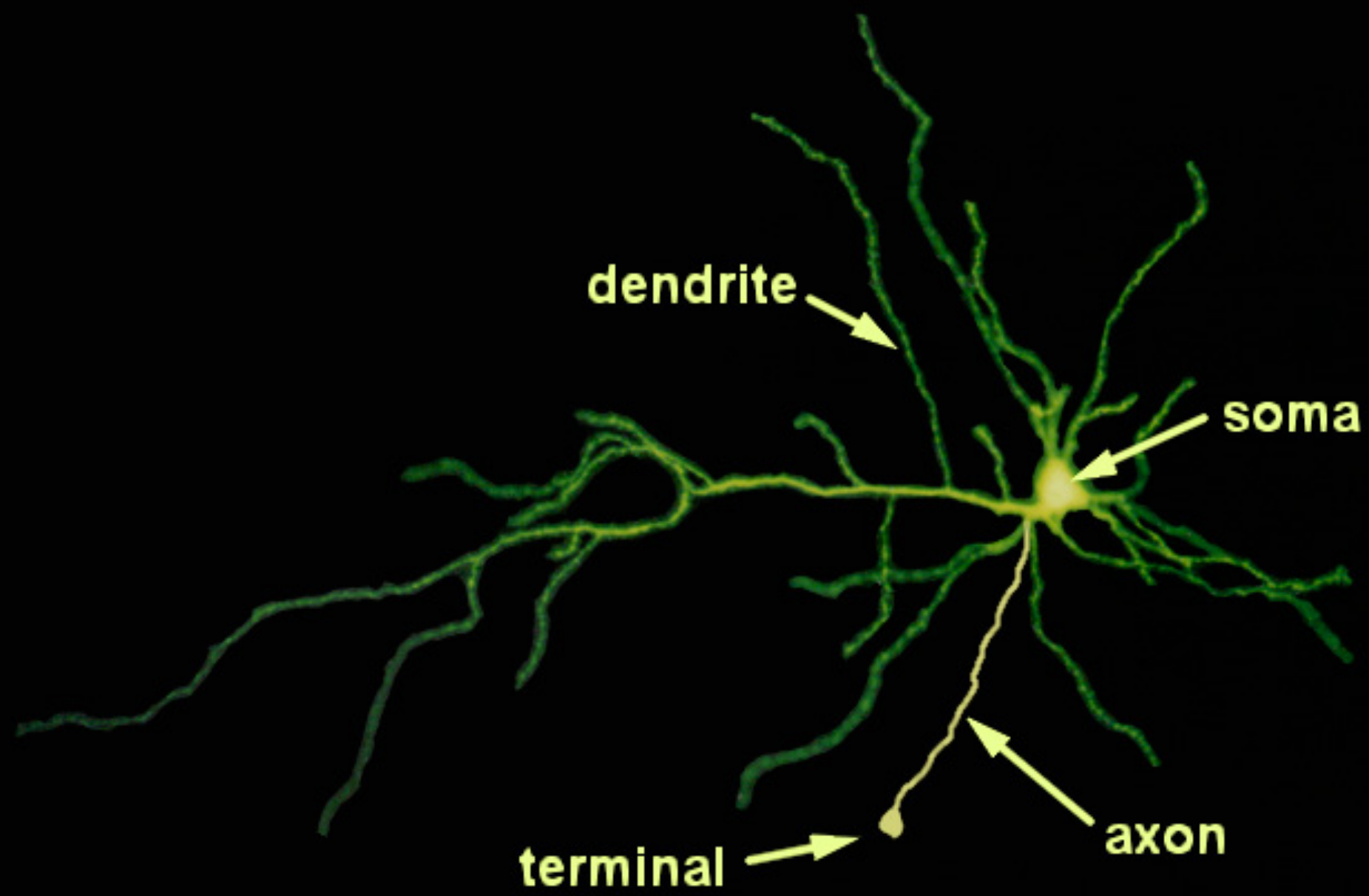


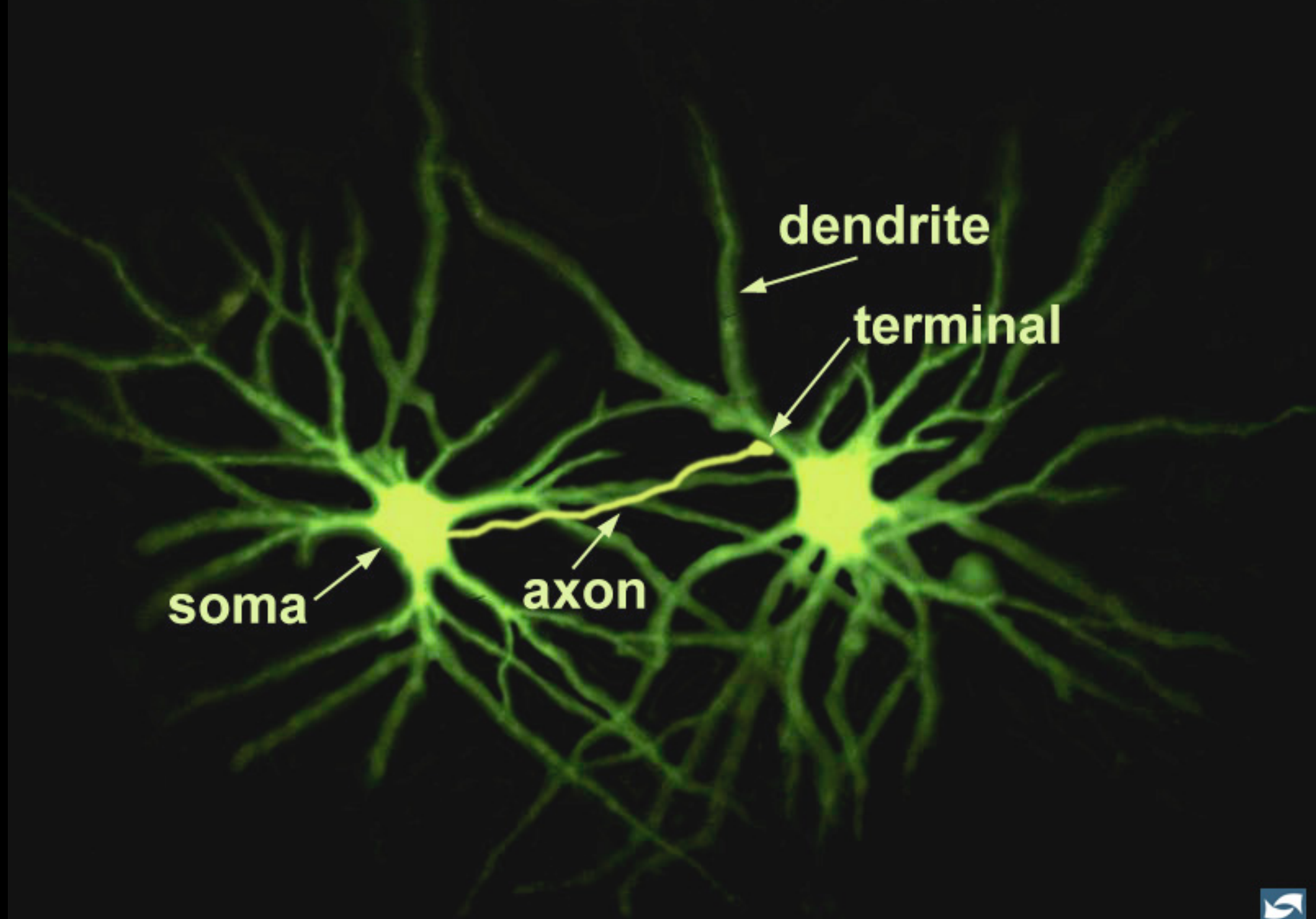
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cortex**

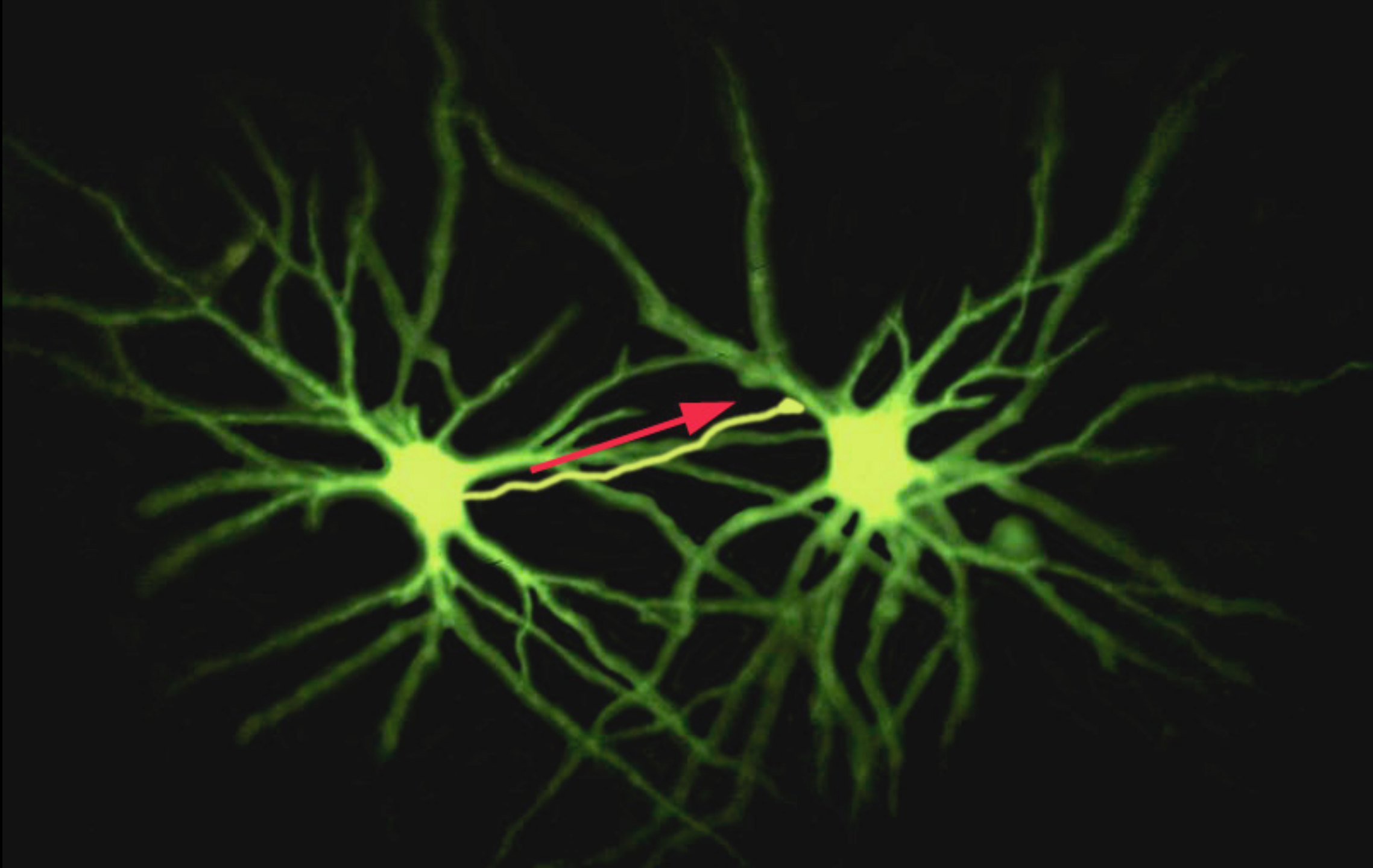
**nucleus
accumbens**

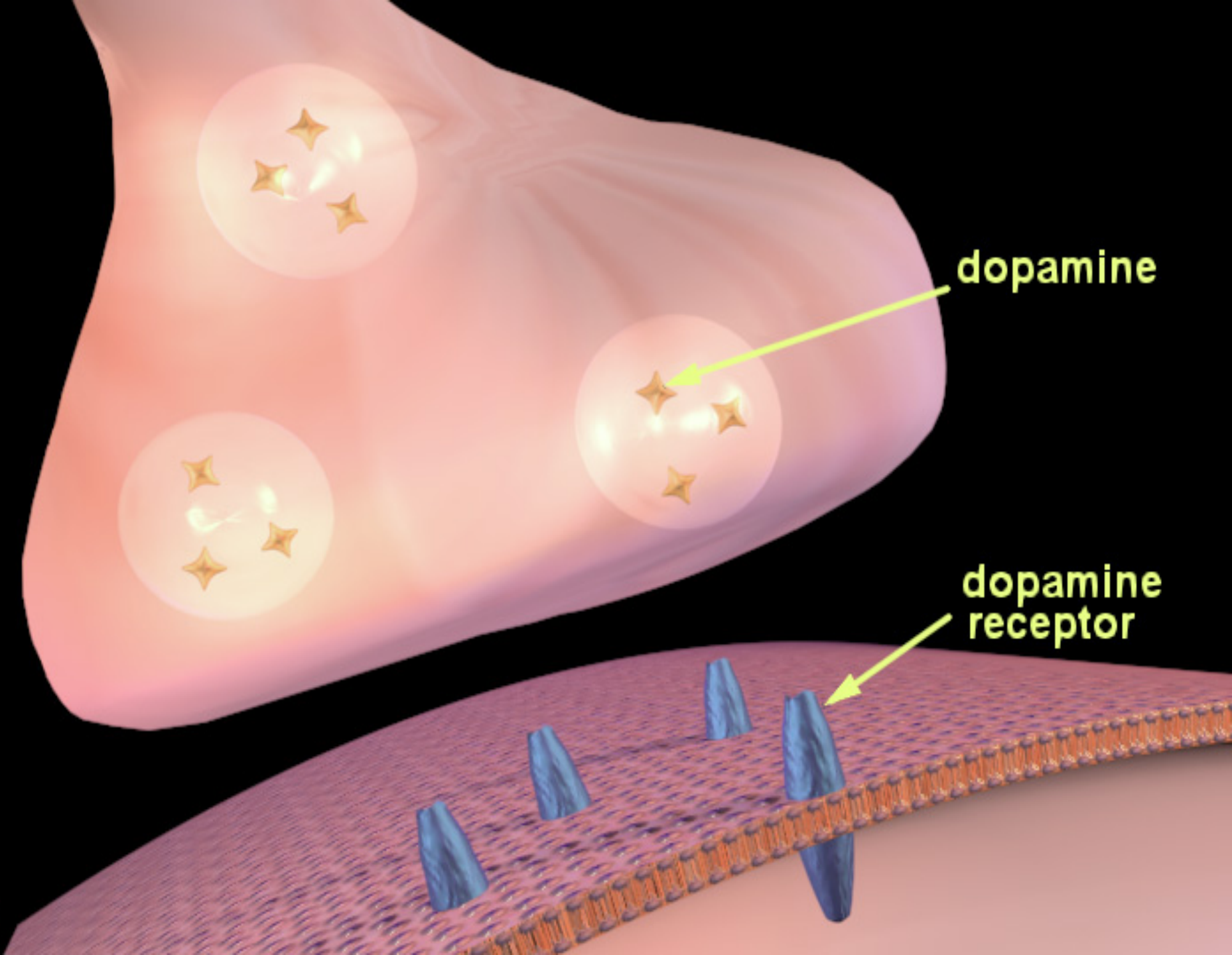
VTA

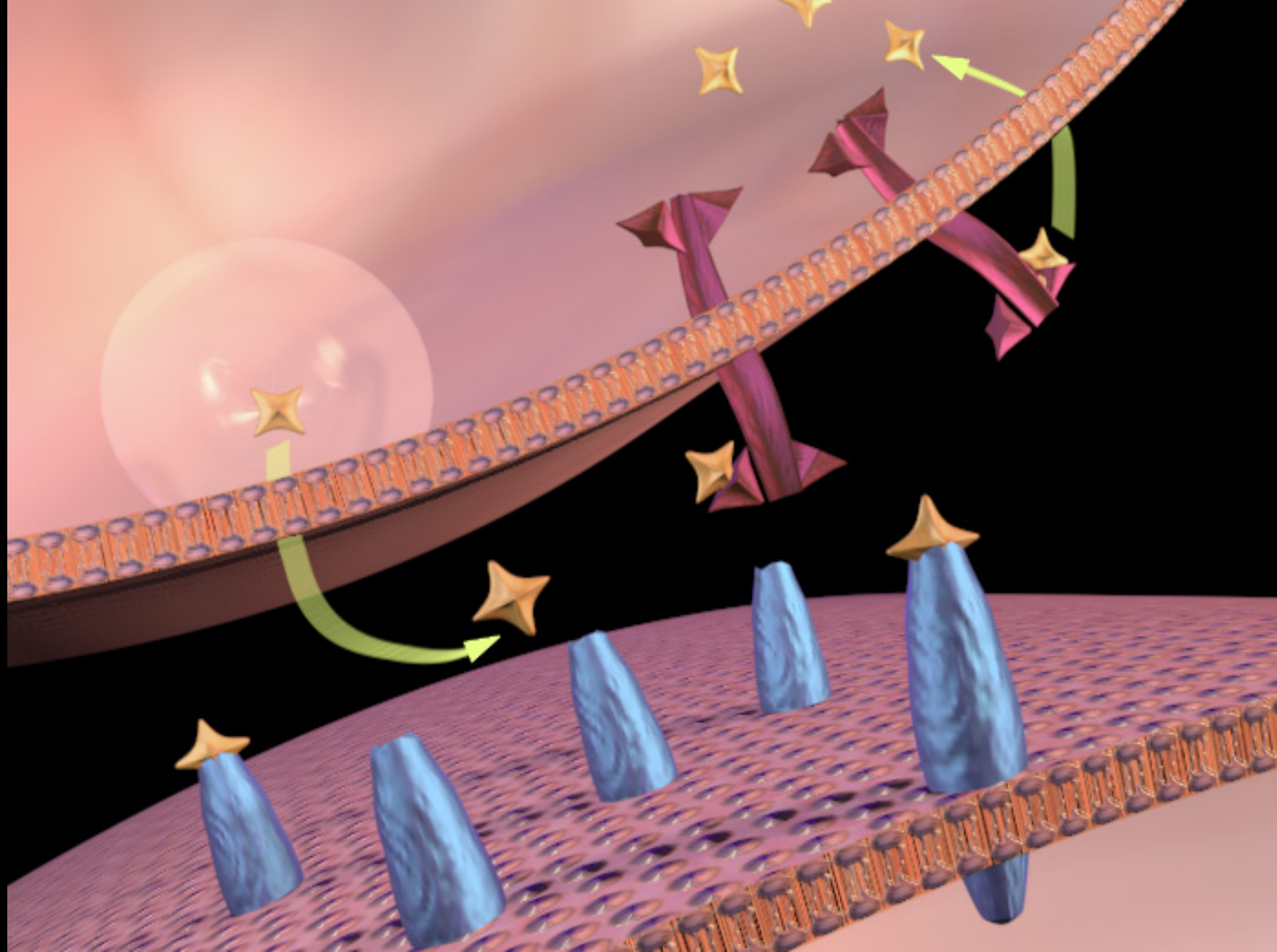


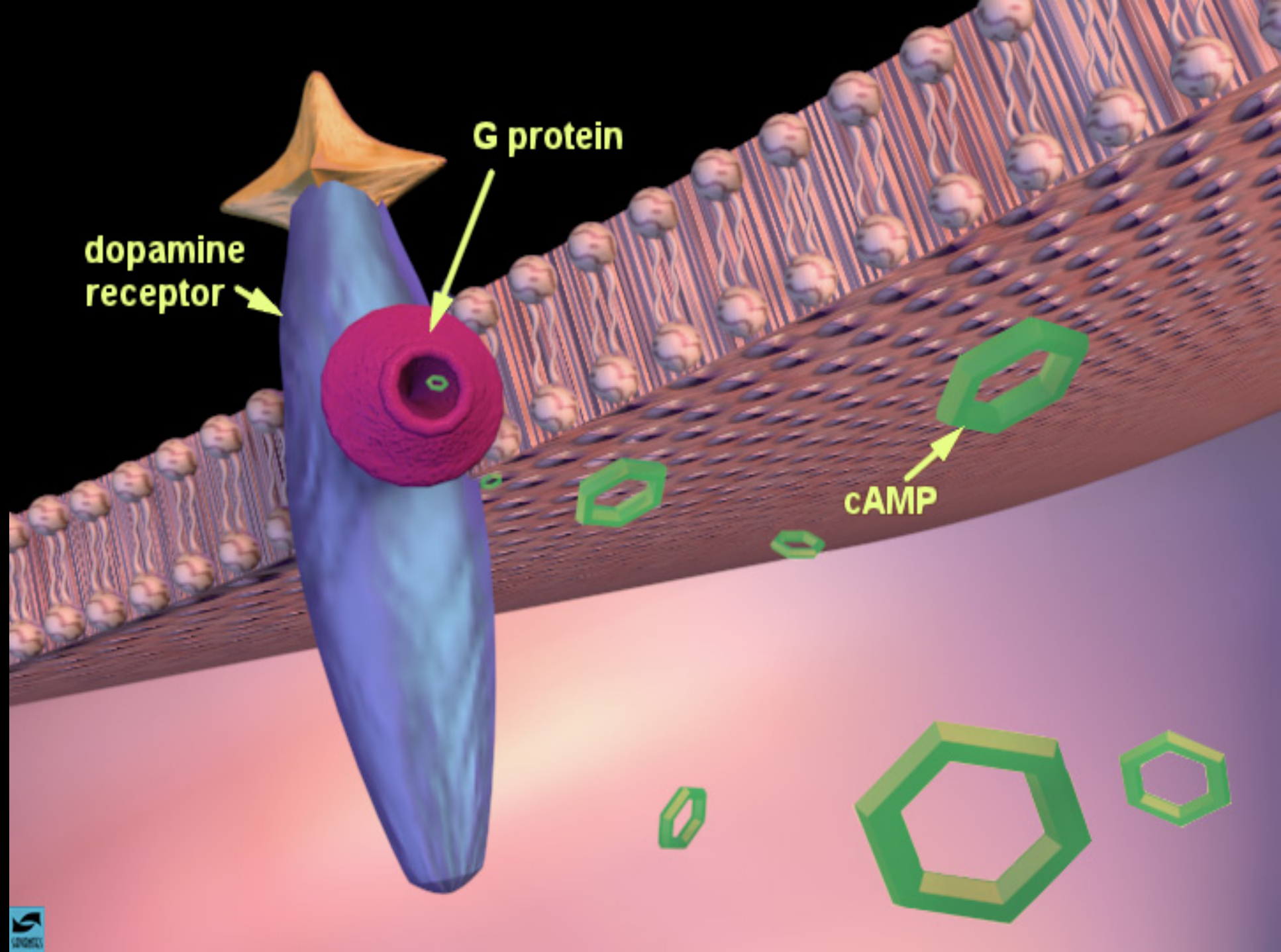


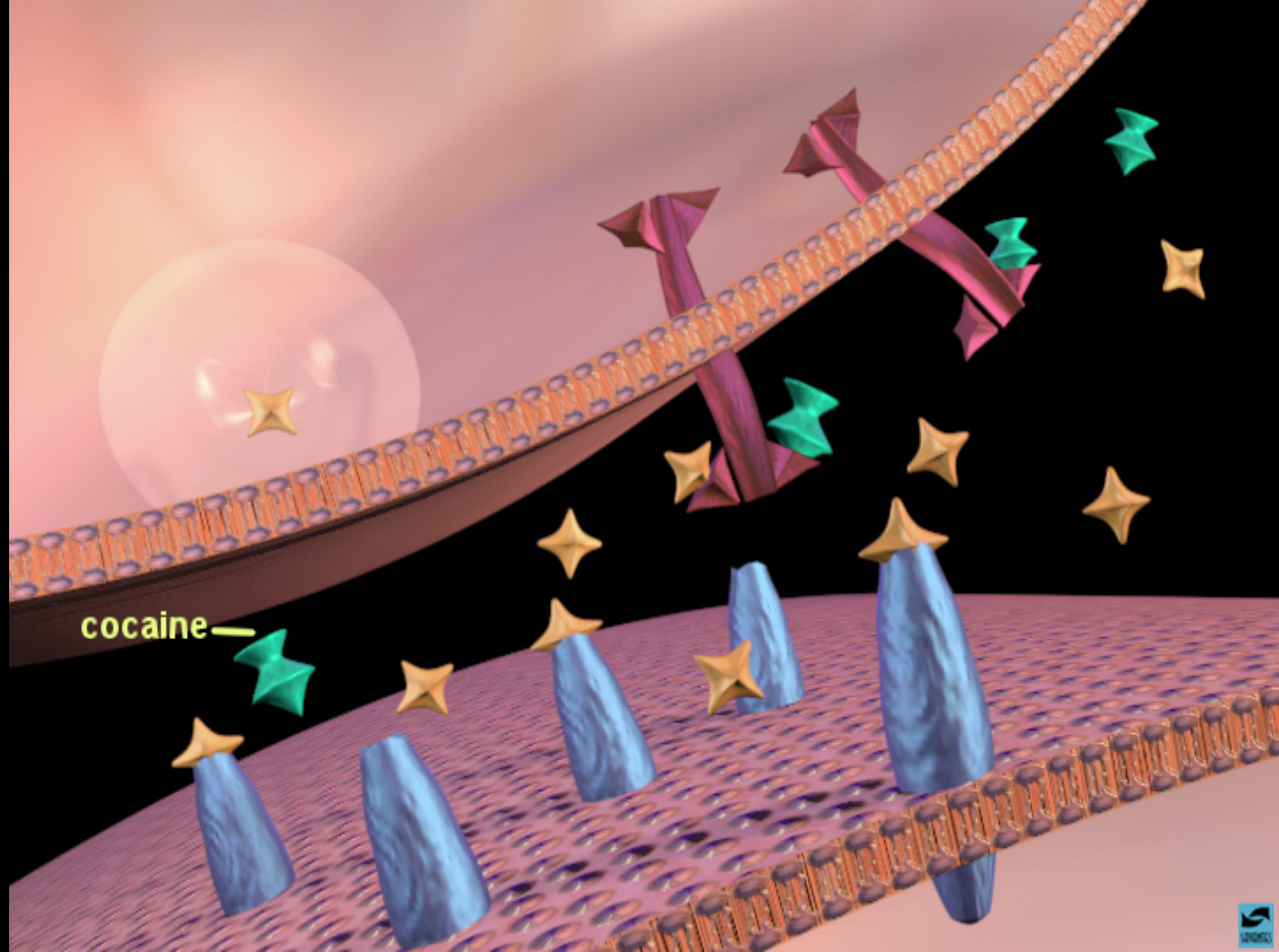


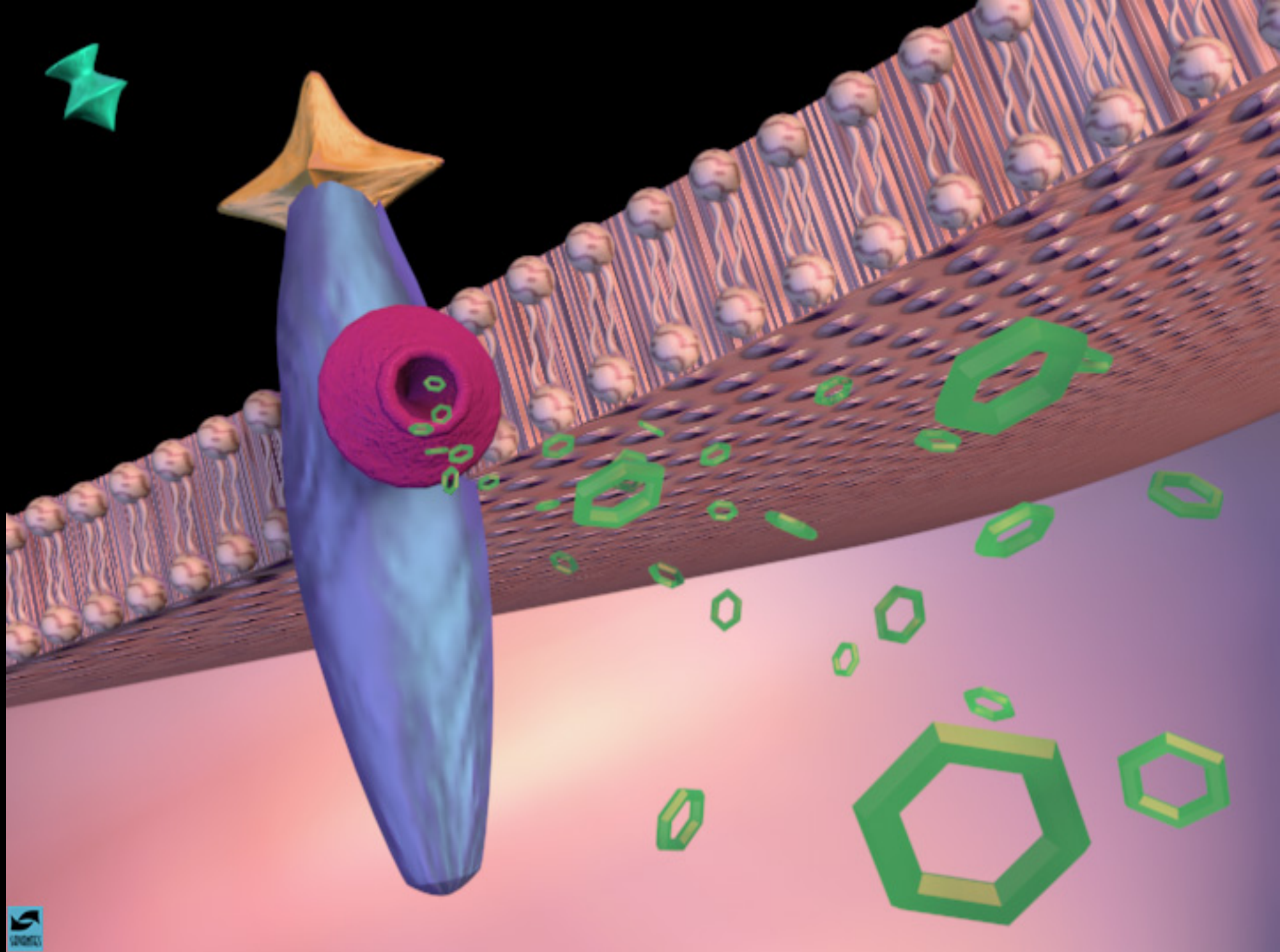












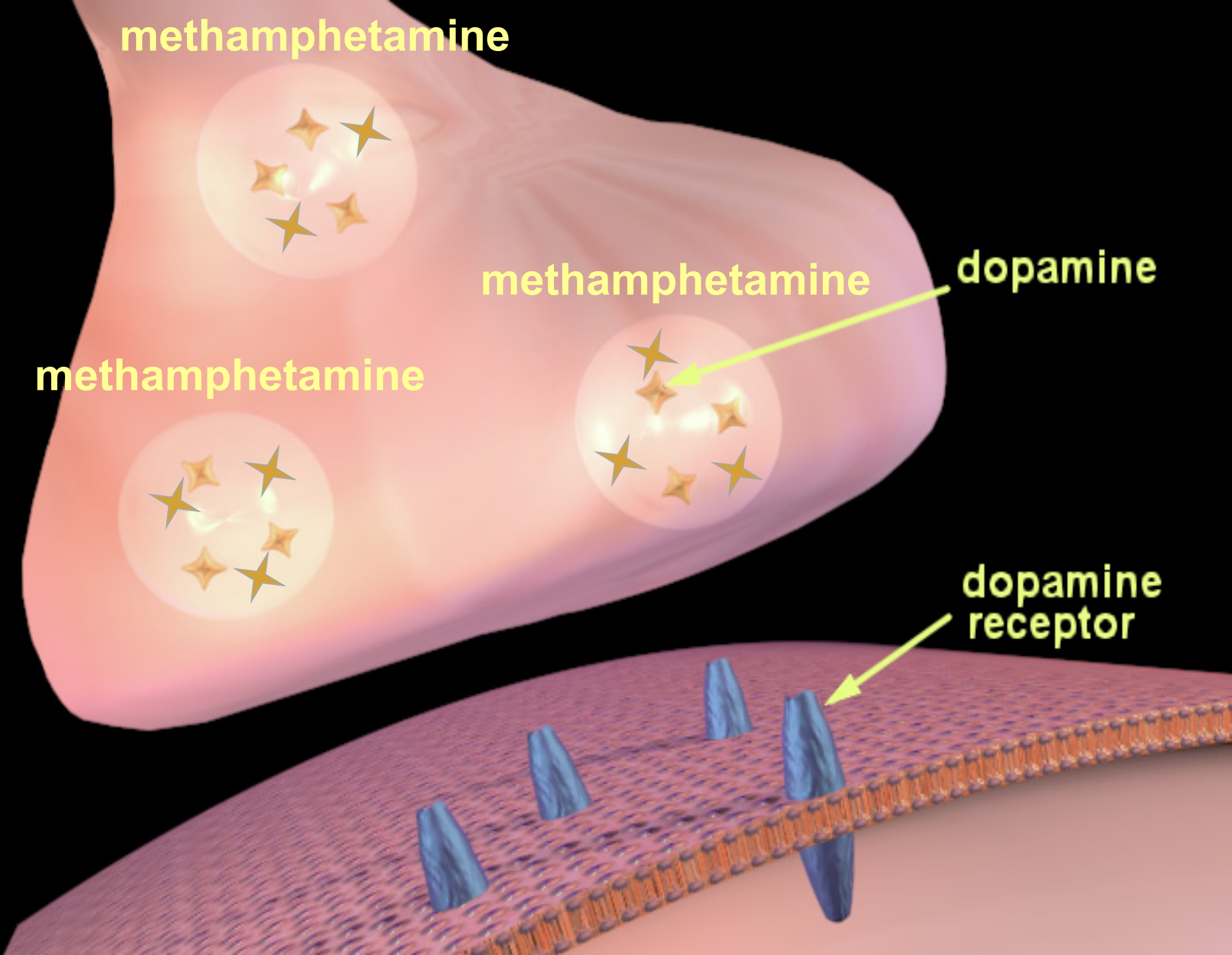
methamphetamine

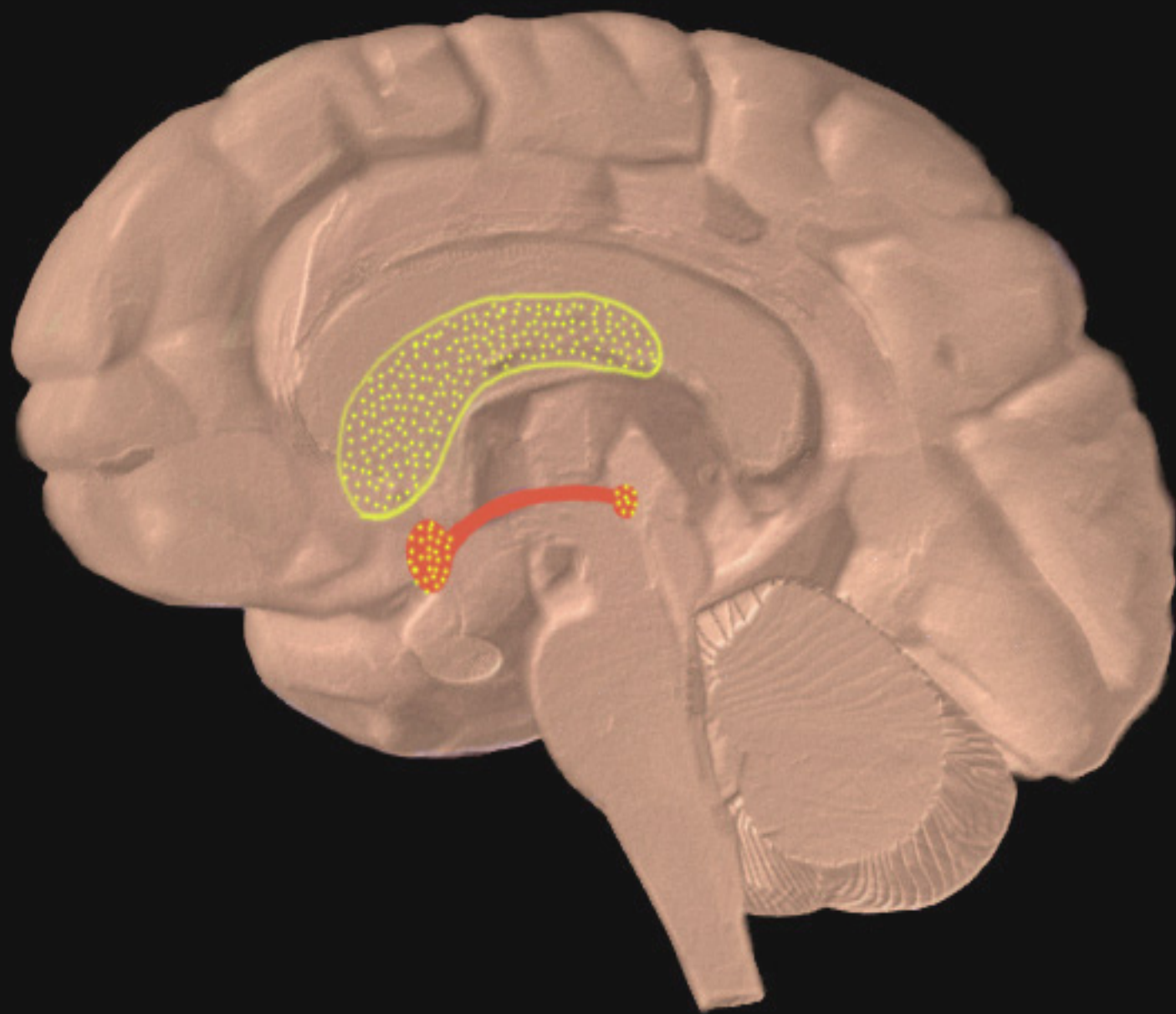
methamphetamine

dopamine

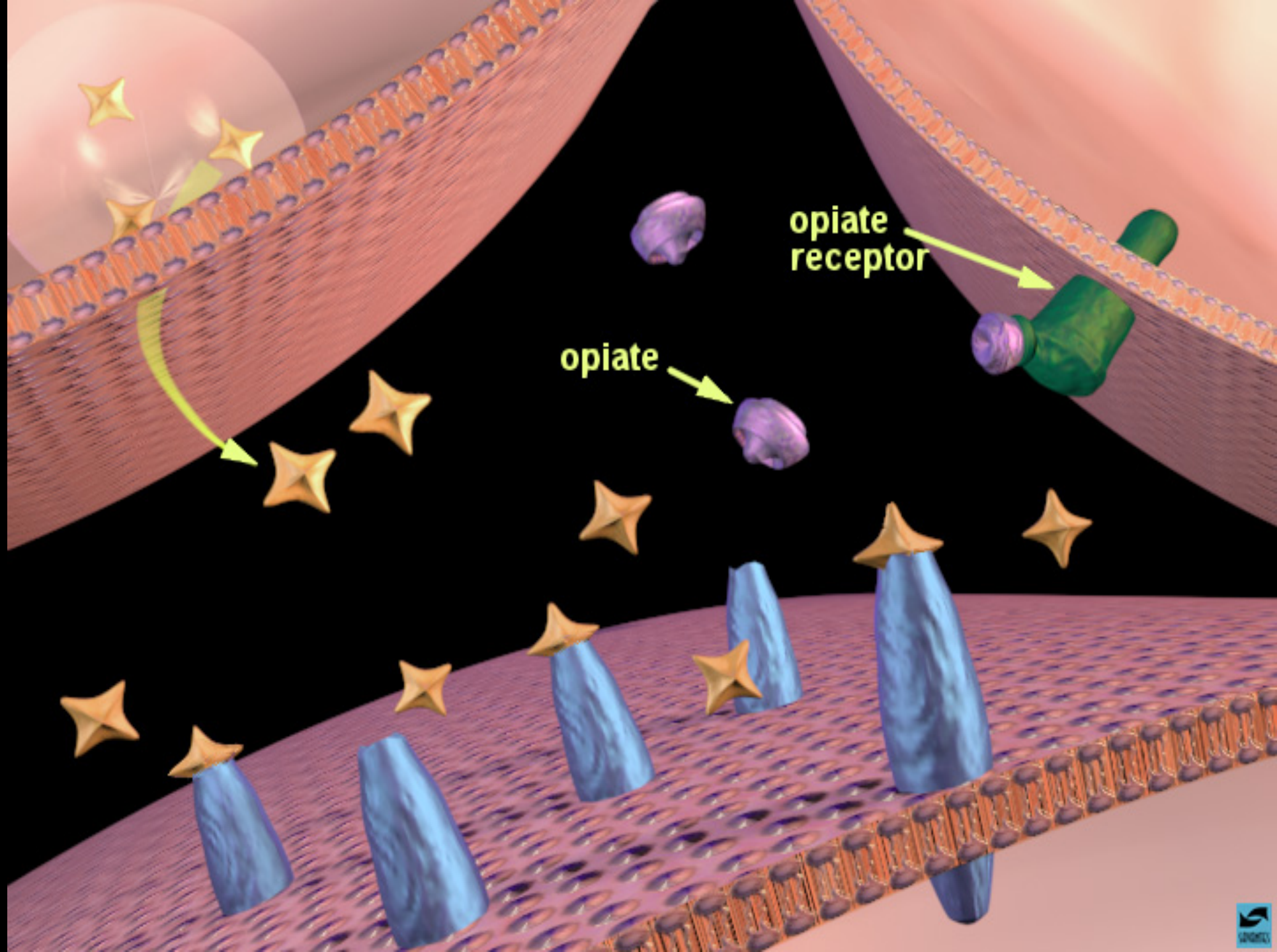
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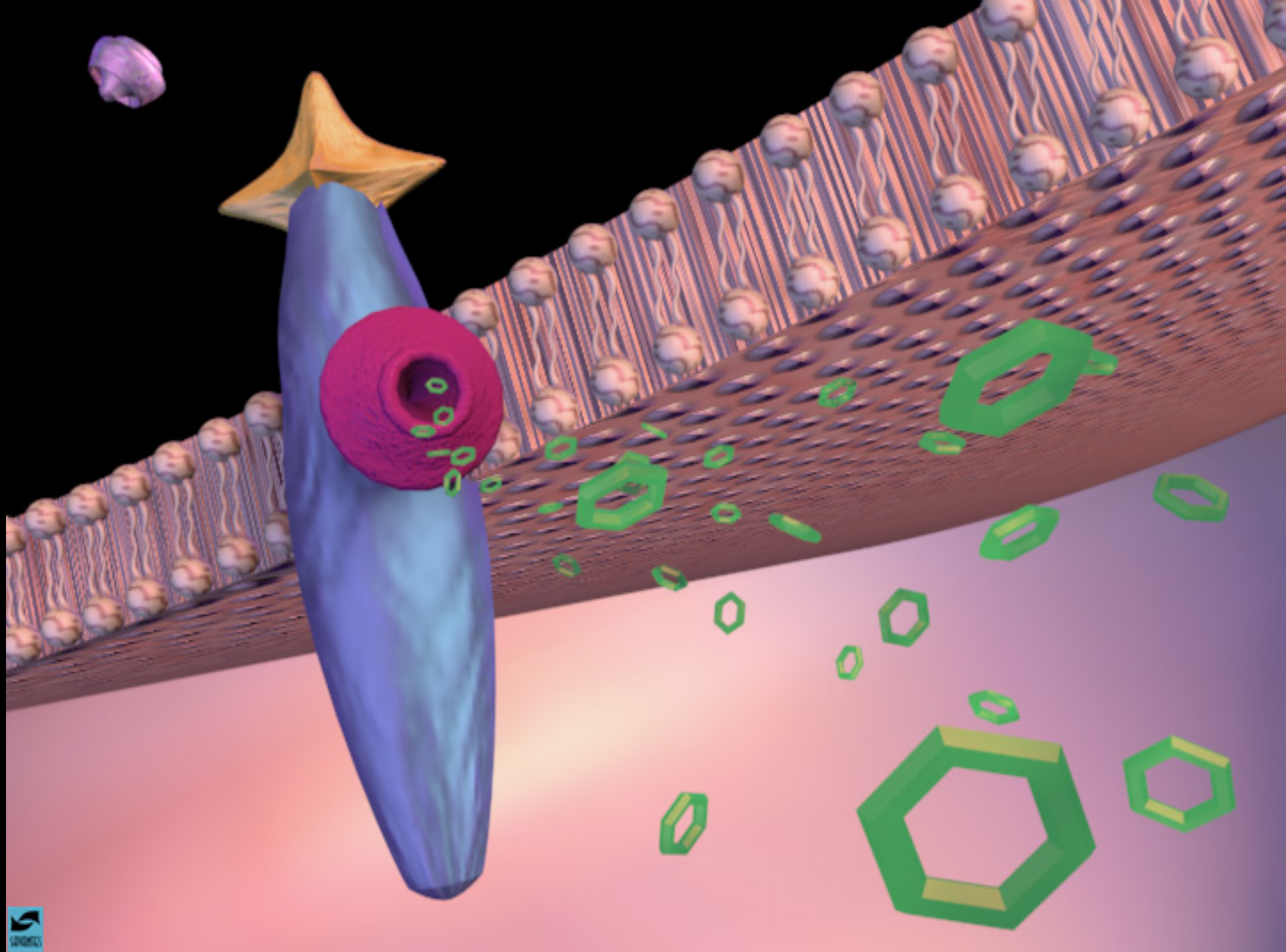
**dopamine
receptor**

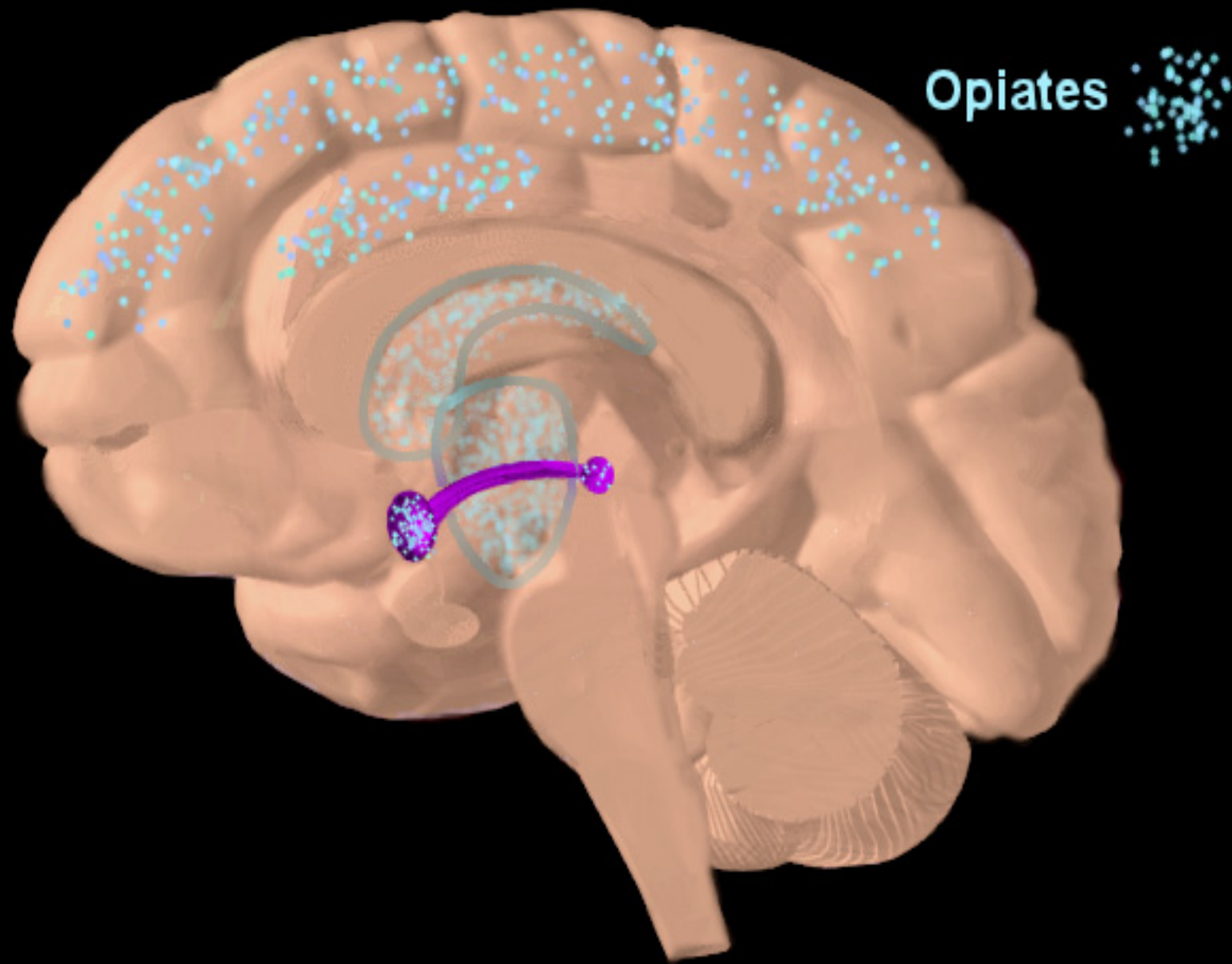


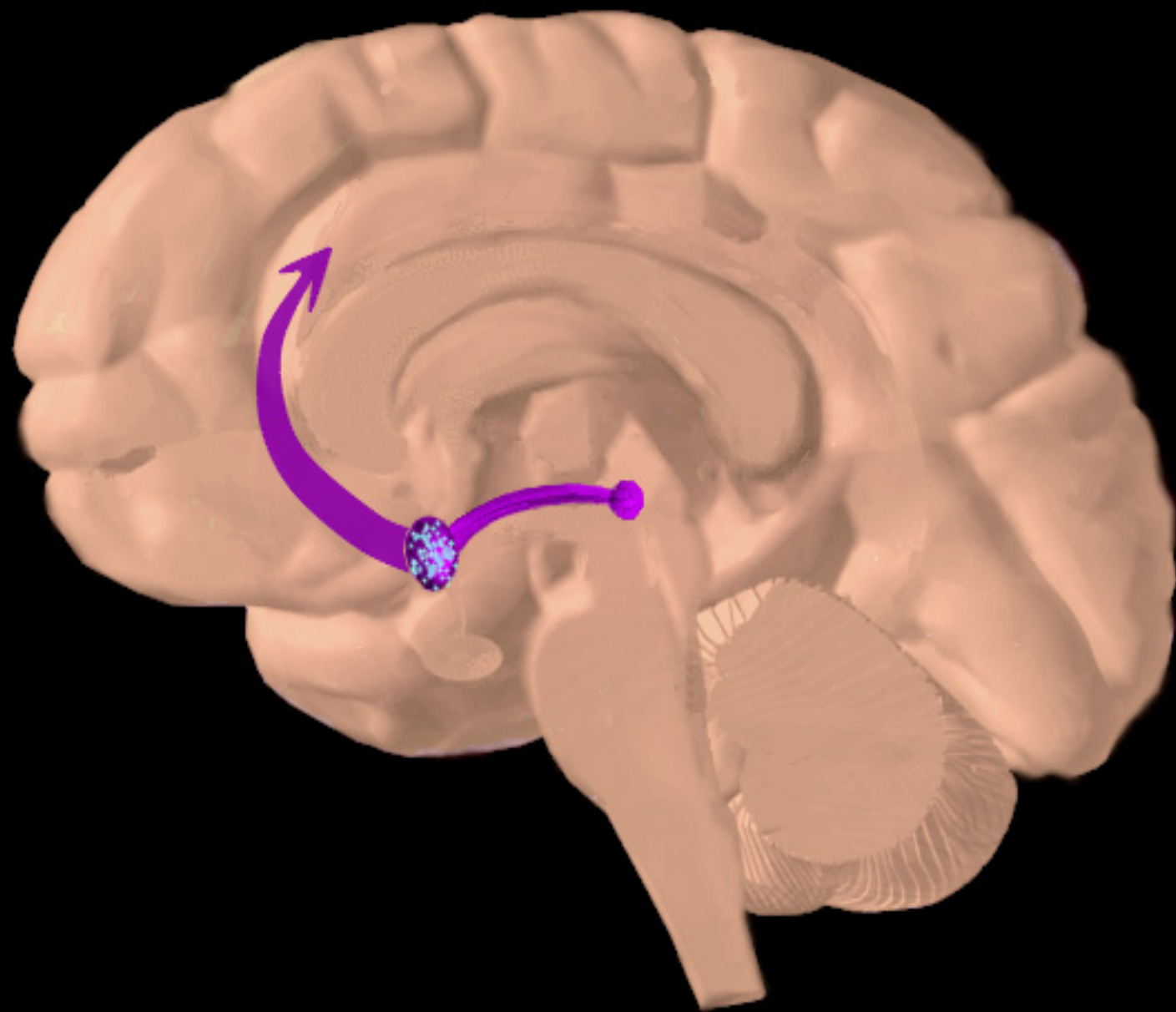


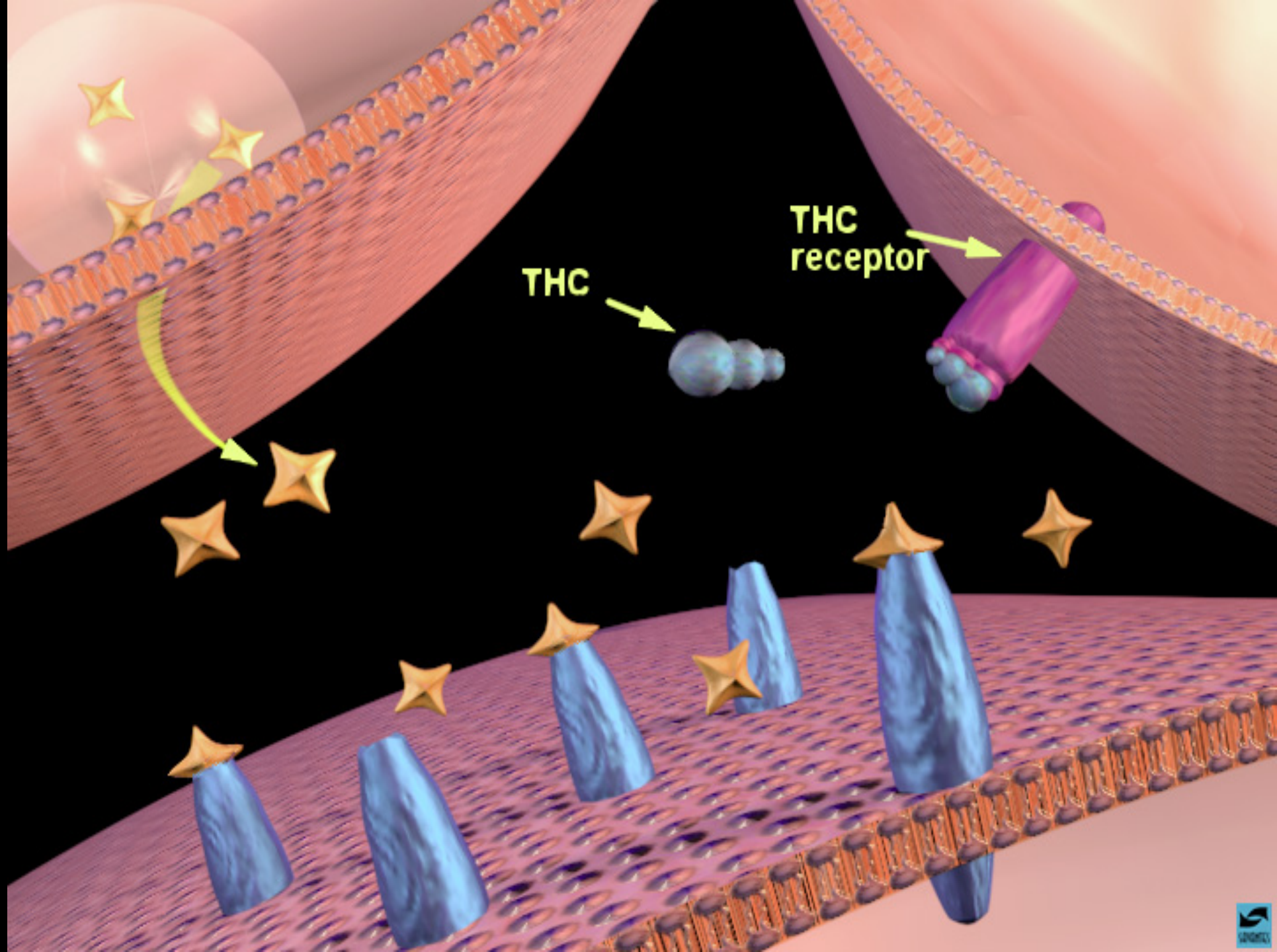


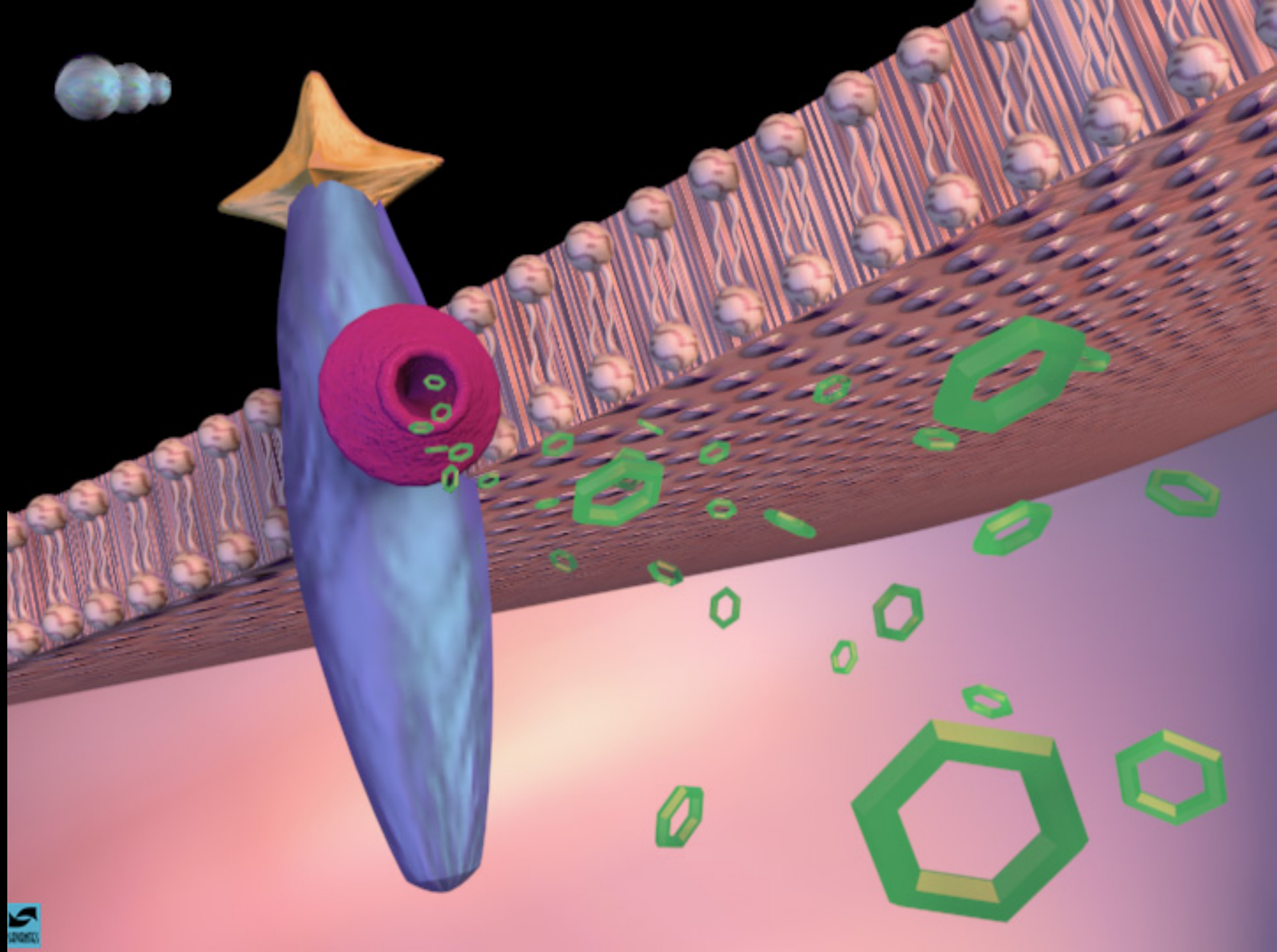












**prefrontal
cortex**

insular cortex

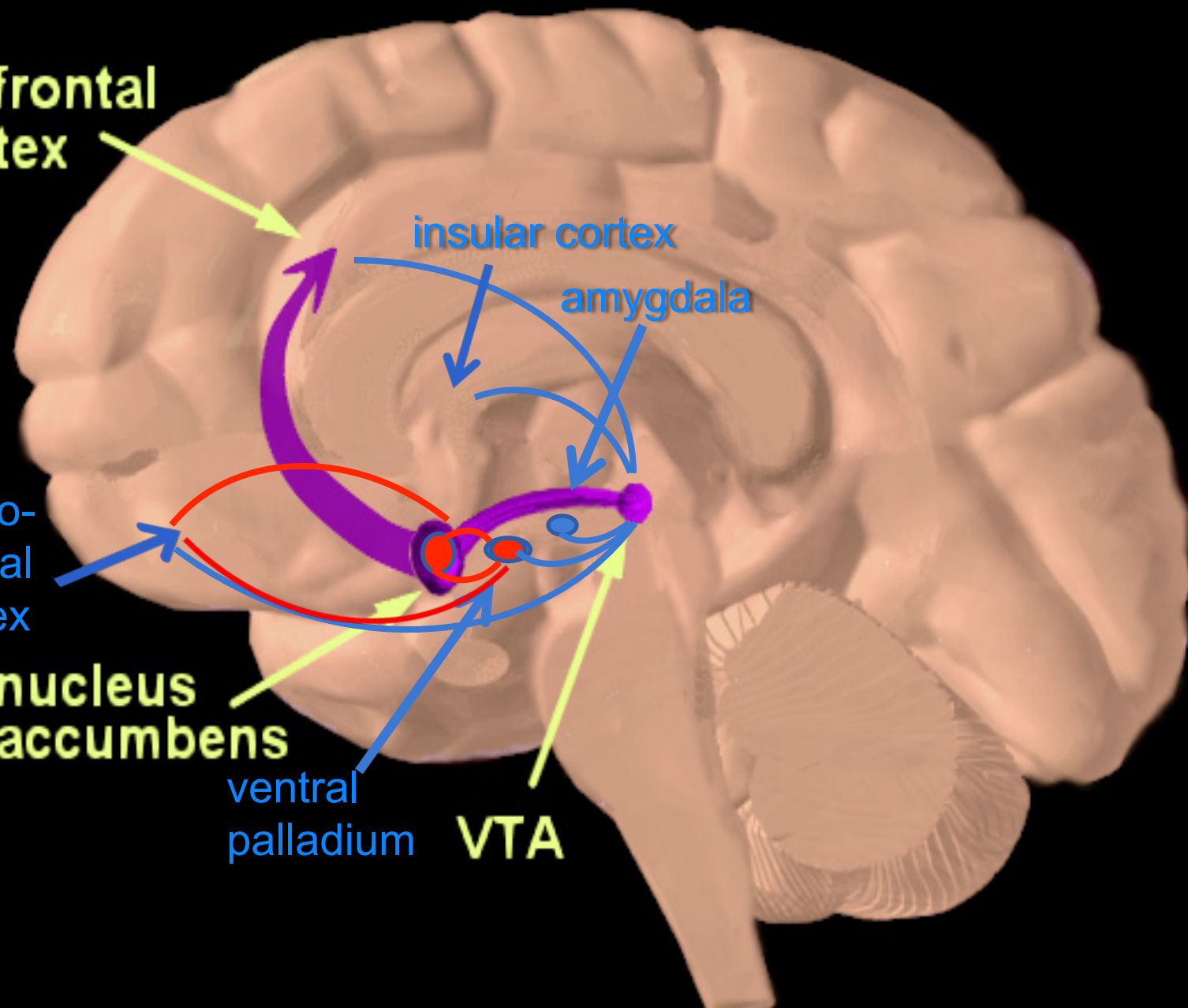
amygdala

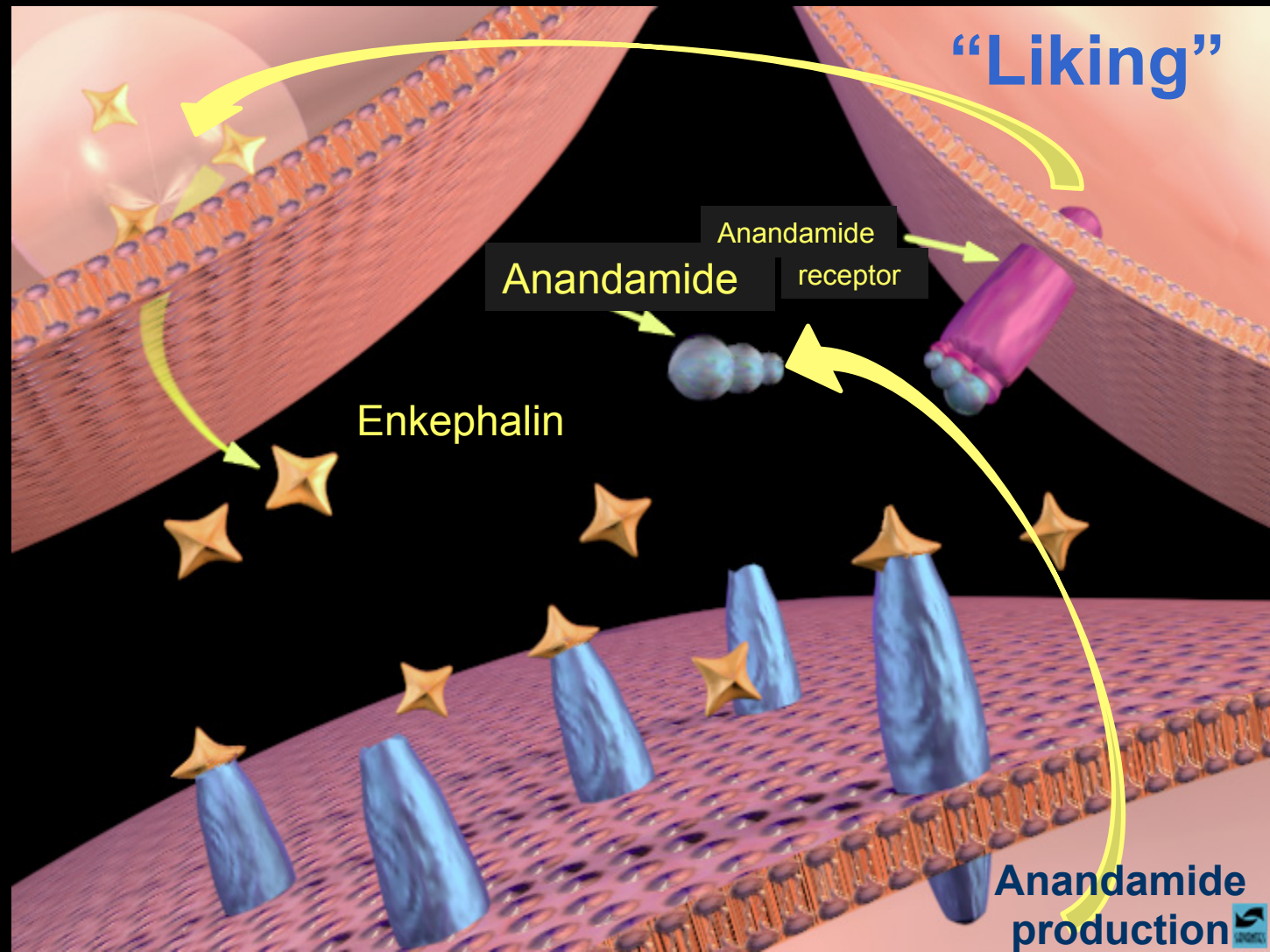
orbito-
frontal
cortex

**nucleus
accumbens**

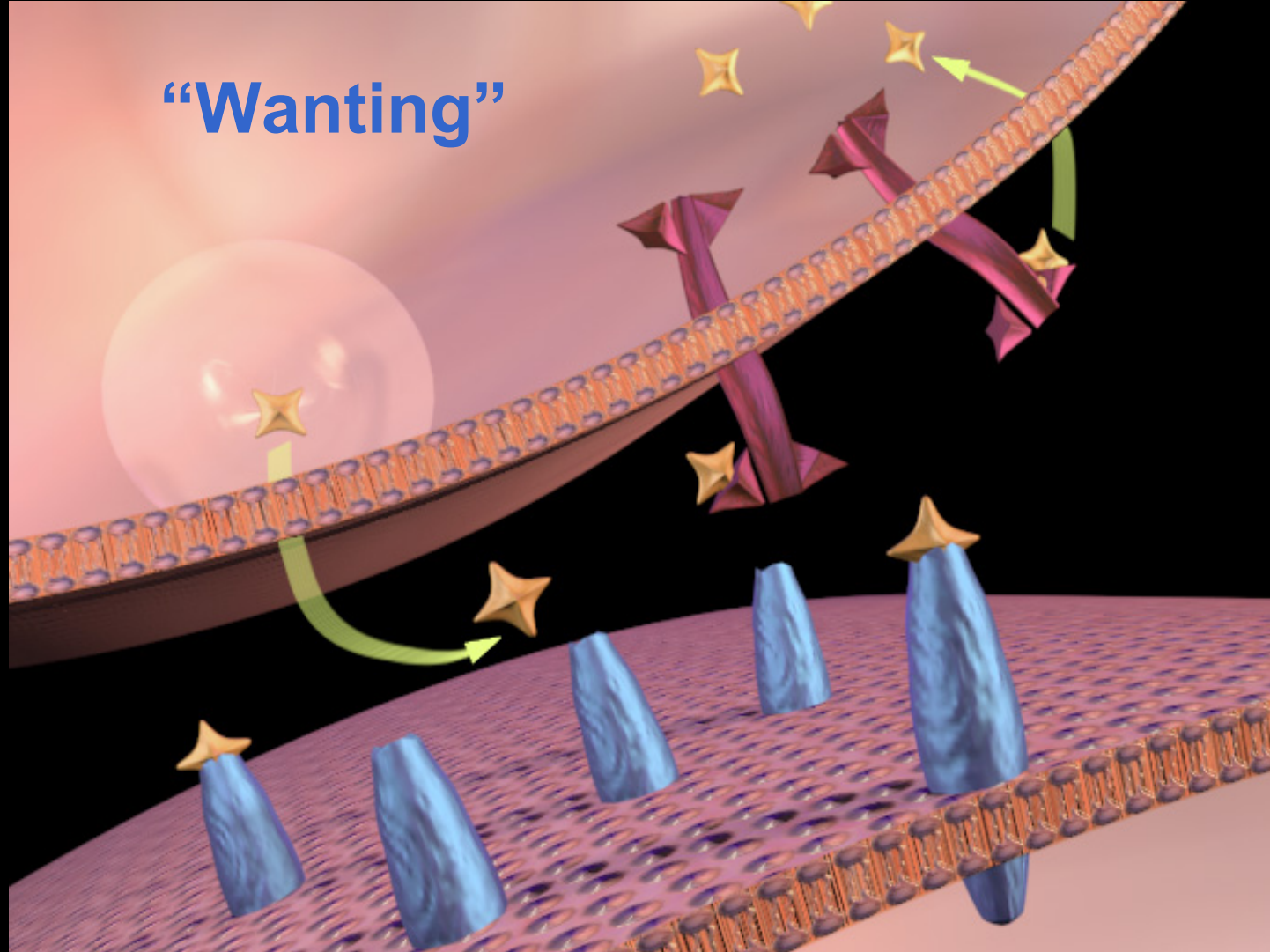
ventral
palladium

VTA





“Wanting”



“After a time, you may find that having is not so pleasing a thing after all as wanting.
It is not logical, but it is often true.”



“Wanting” and “Liking” are controlled by different mechanisms in the brain

Dopamine levels are more closely associated with how much something is “wanted” than with how much it is “liked”.

Animal models have demonstrated that a strong desire can be created for something that is not liked.

Usually these systems are linked so that we desire what we like.

Addiction may represent an uncoupling of the systems so we continue to desire things which no longer bring pleasure.

Addiction

A primary, chronic disease with

- genetic,
- psychosocial and
- environmental factors

influencing its development and manifestations.

It is often progressive, fatal and characterized by

- impaired control,
- preoccupation with use and
- continued use despite adverse consequences.

These symptoms may be continuous or periodic.

Addiction

- Latin for “*given over*” or “*awarded to*”, from *ad* - “to” + *dicere* - “say, pronounce”
- U2 - “*lifeless lifeline*”, “*running to stand still*”
- C.S. Lewis - “*an ever increasing craving for an ever diminishing pleasure*”.

Some Explanatory Models of Addiction

- Impaired model
- Dry moral model
- Wet moral model
- Self medication hypothesis
- Psychoanalytic model
- Family interaction model
- Old and new medical models
- Bio-psycho-social model

The Three C's of Addiction

- **What can happen when you drink/use?**
 - Adverse **CONSEQUENCES**
 - Medical, legal, relational, vocational, financial
 - Loss of **CONTROL**
 - Drink/use more than intended
- **What can happen when you stop drinking/using?**
 - Withdrawal
 - **COMPULSION** to drink/use

The Language of Addiction

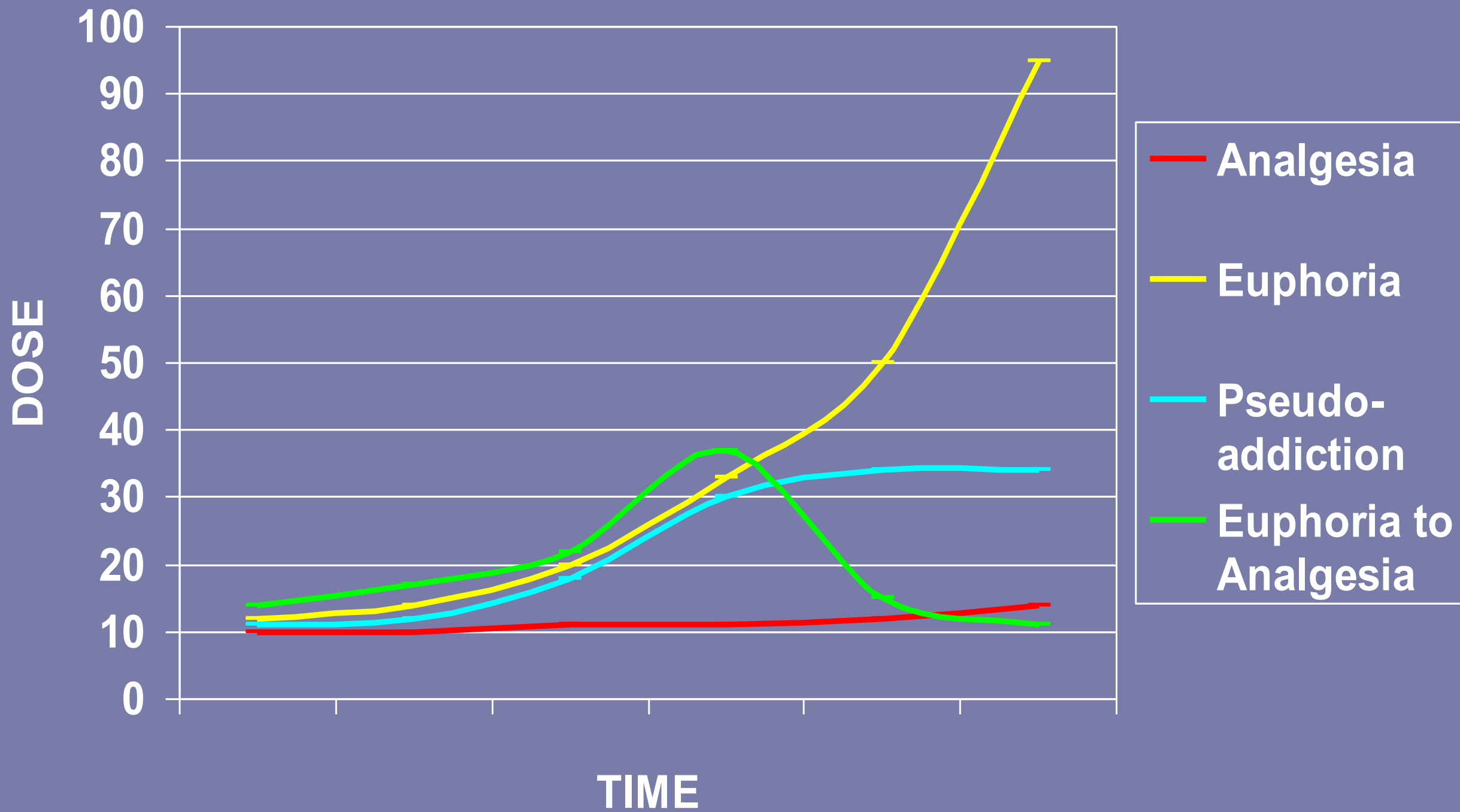
Listen to what people say, our language
betrays what we think and feel

- Patients take lisinopril but the doctor “has them on” oxycodone
- Taking other meds vs “eating” opiates
- Refer to opiates with personal pronoun, “My Vicodin”
- Use slang names for opiates
- Use “supposed to”, “try to”, etc when describing how they take opiates as opposed to what they actually do

The Language of Addiction

Listen to what people say, our language
betrays what we think and feel

- Patient says med “gives me energy”
- Use to treat non-targeted symptoms
- Unsanctioned dosage increases
- Meds eaten by dog, fell in toilet, left in Seaside, picked up by ex-wife, etc...





Opium poppy – *Papaver somniferum*

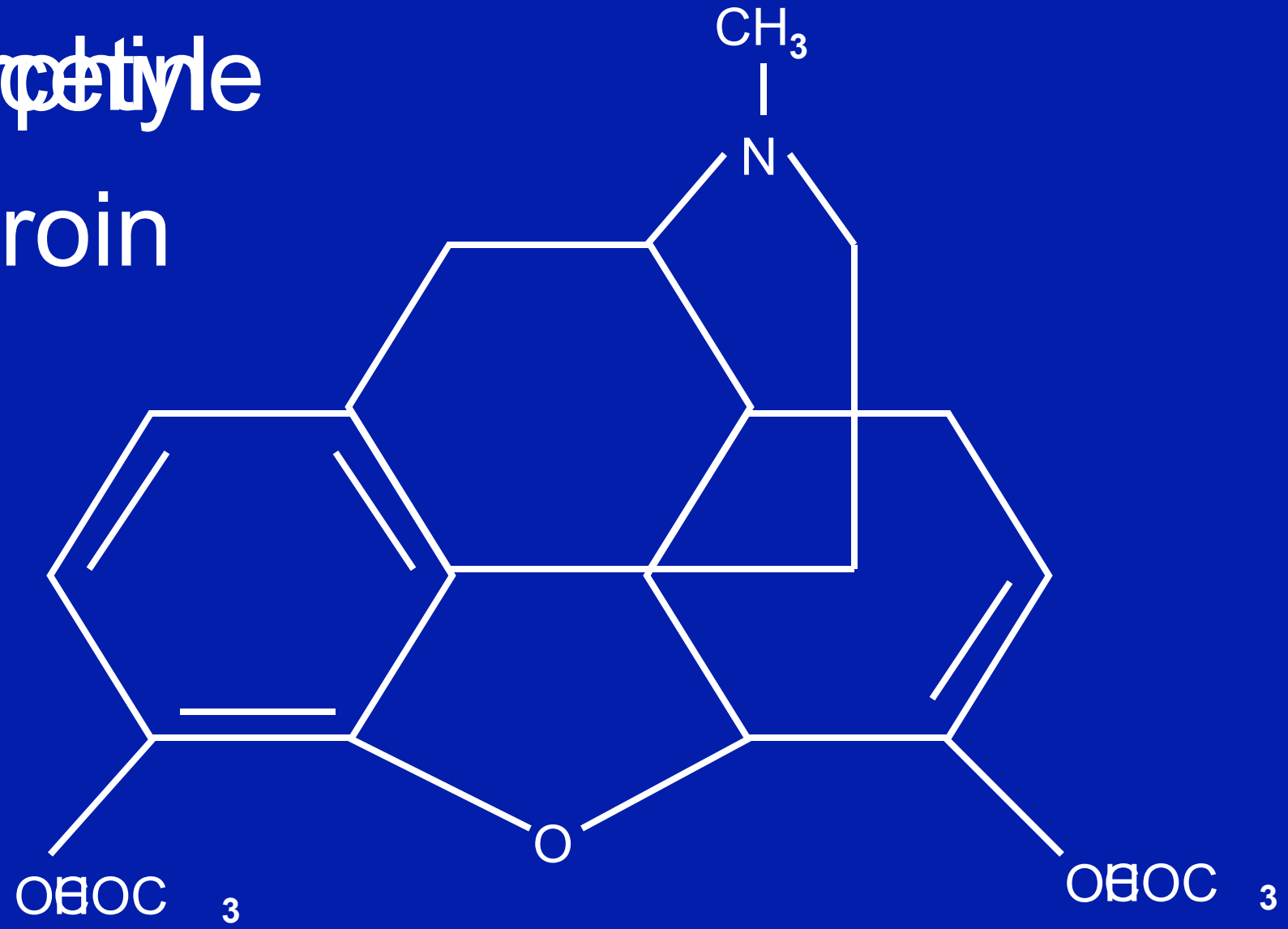




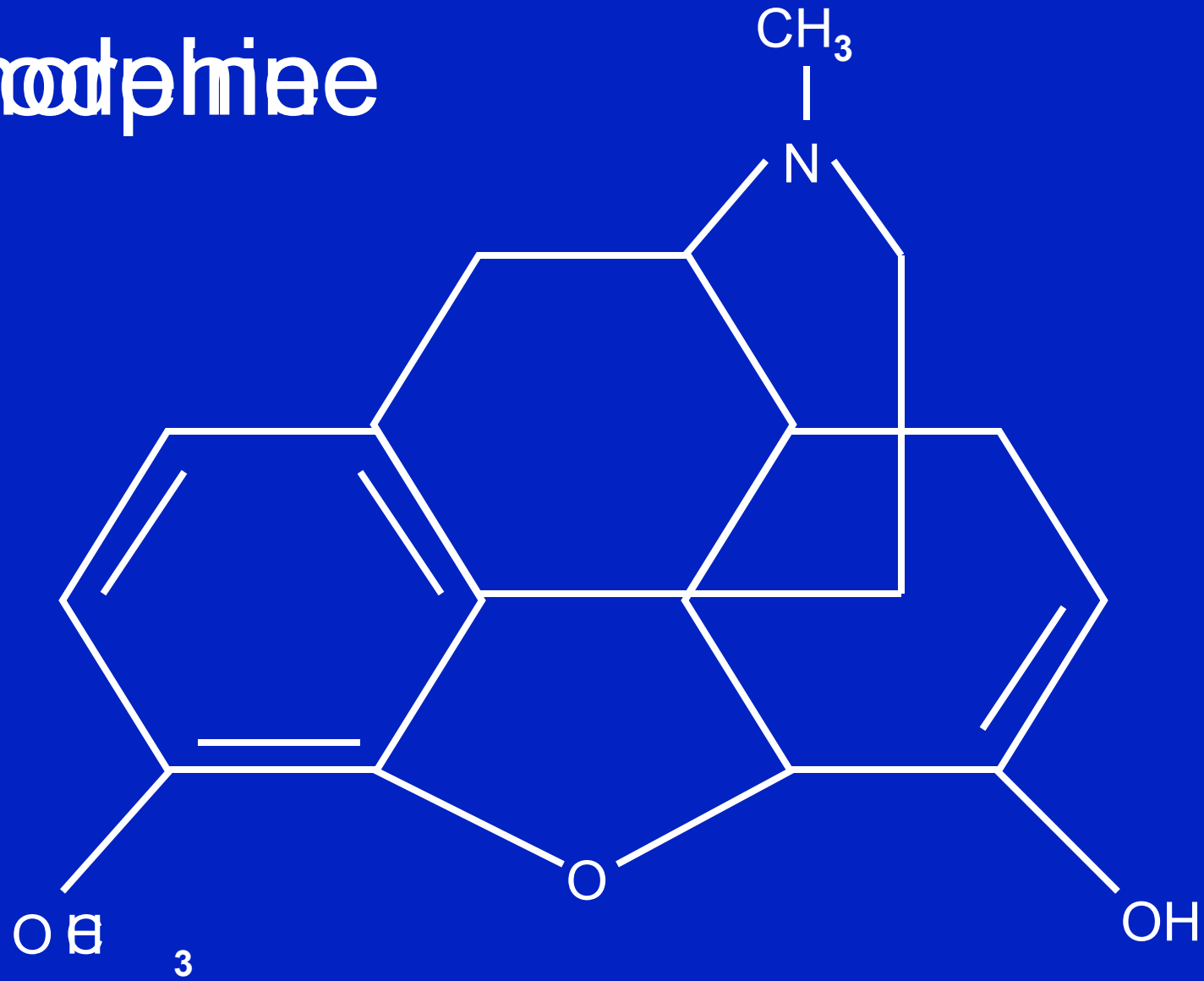




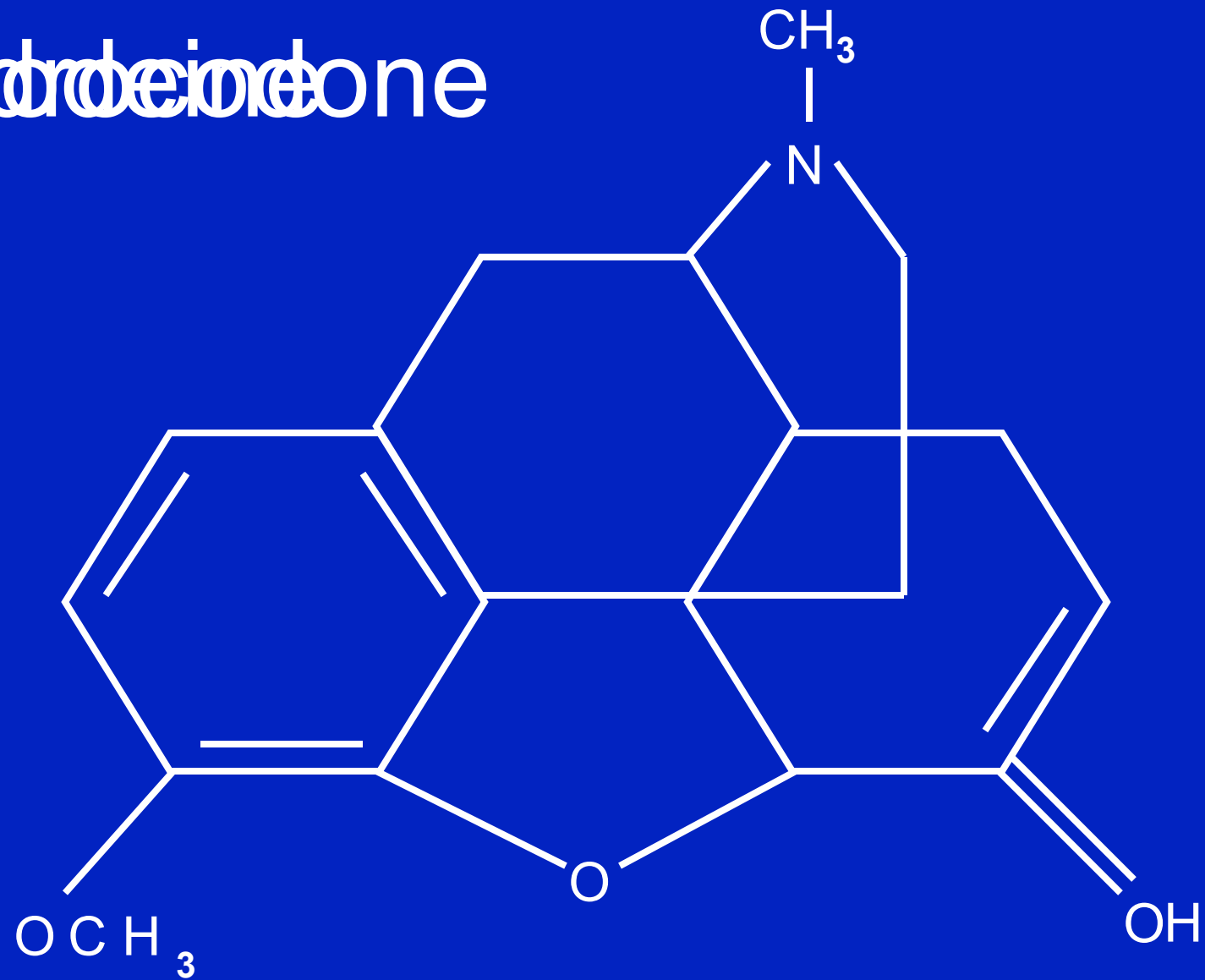
diacetylmorphine
heroin



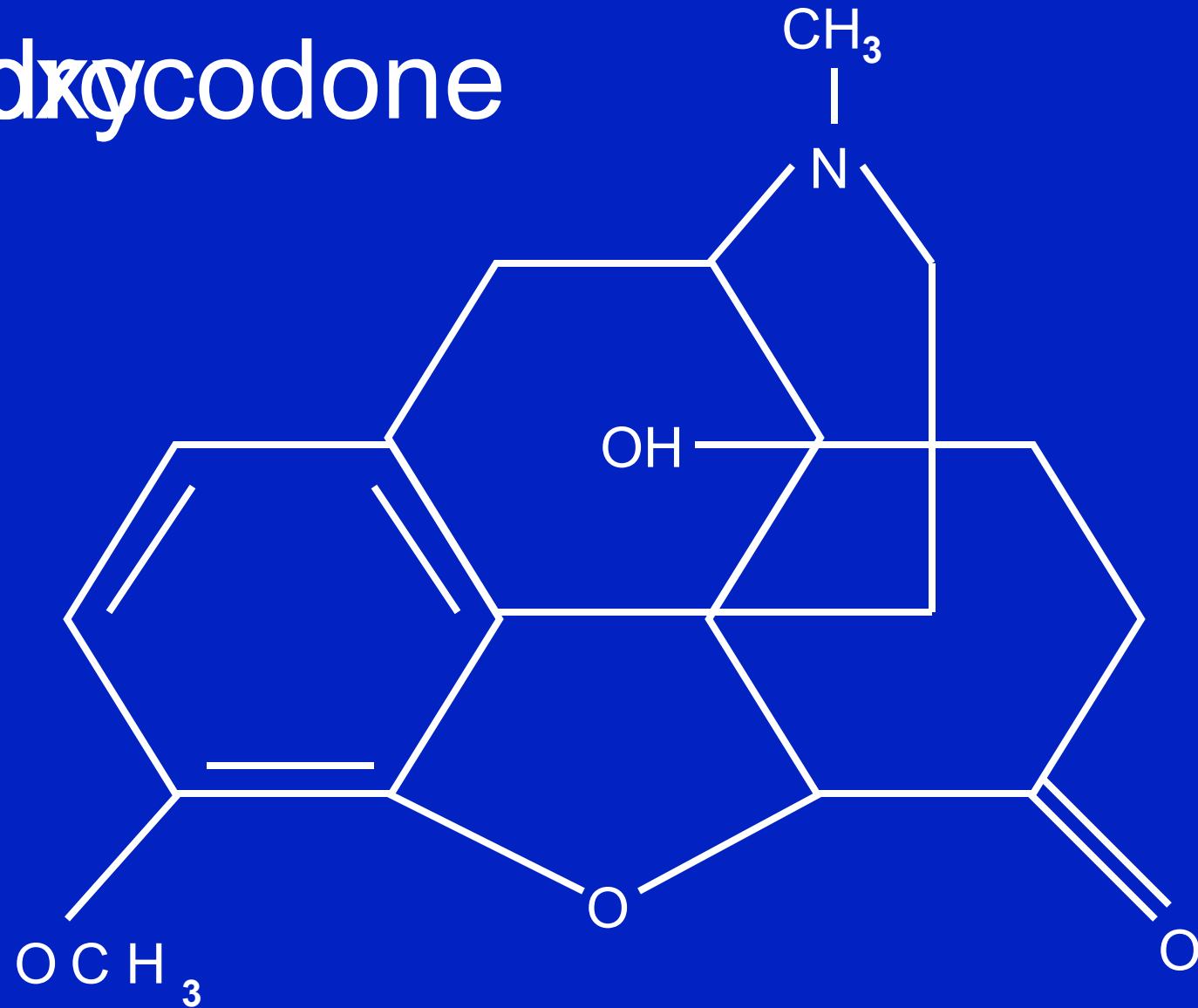
morphine



hydrocortisone



hydrocodone



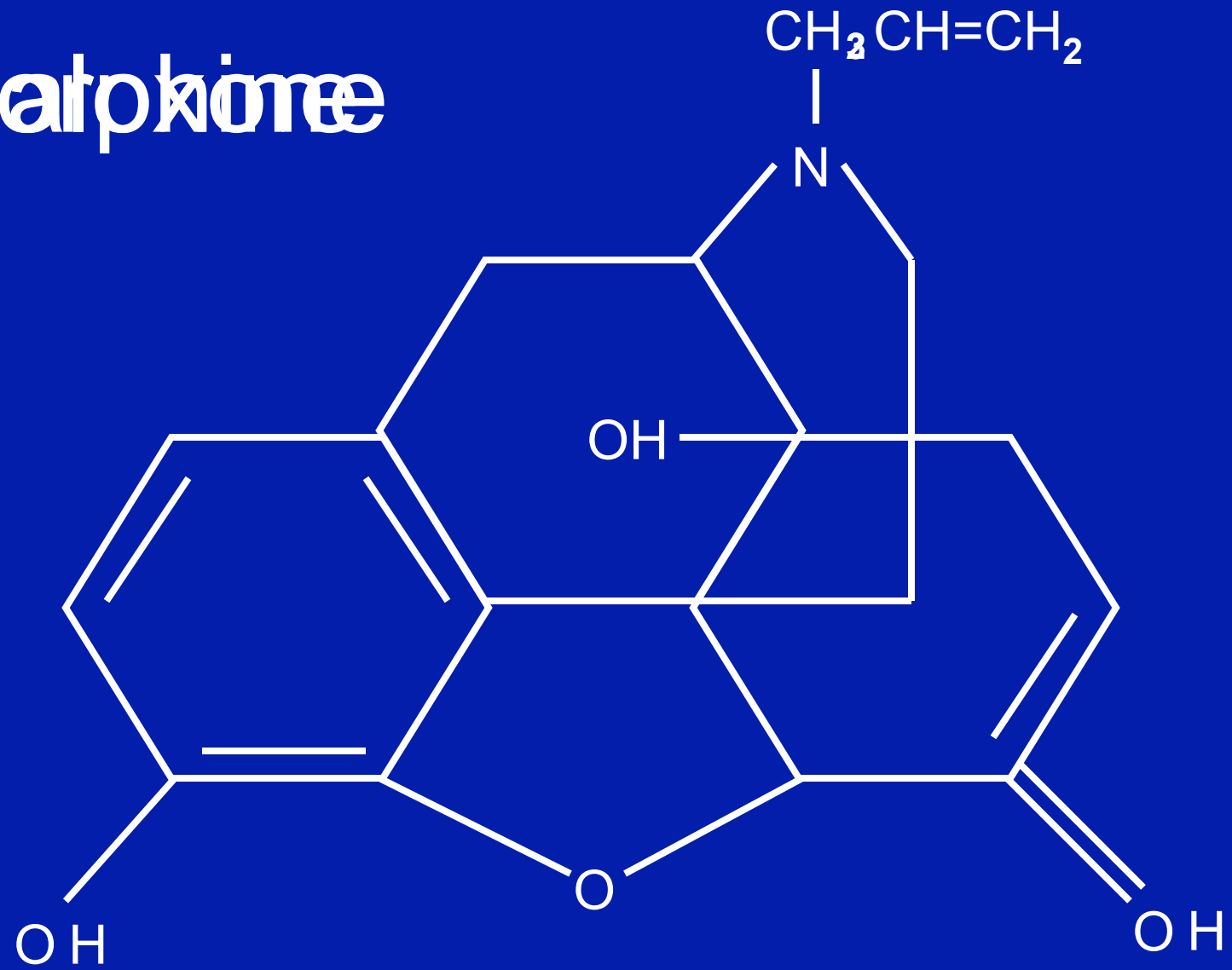
hydrophorphone



hydroxymorphine

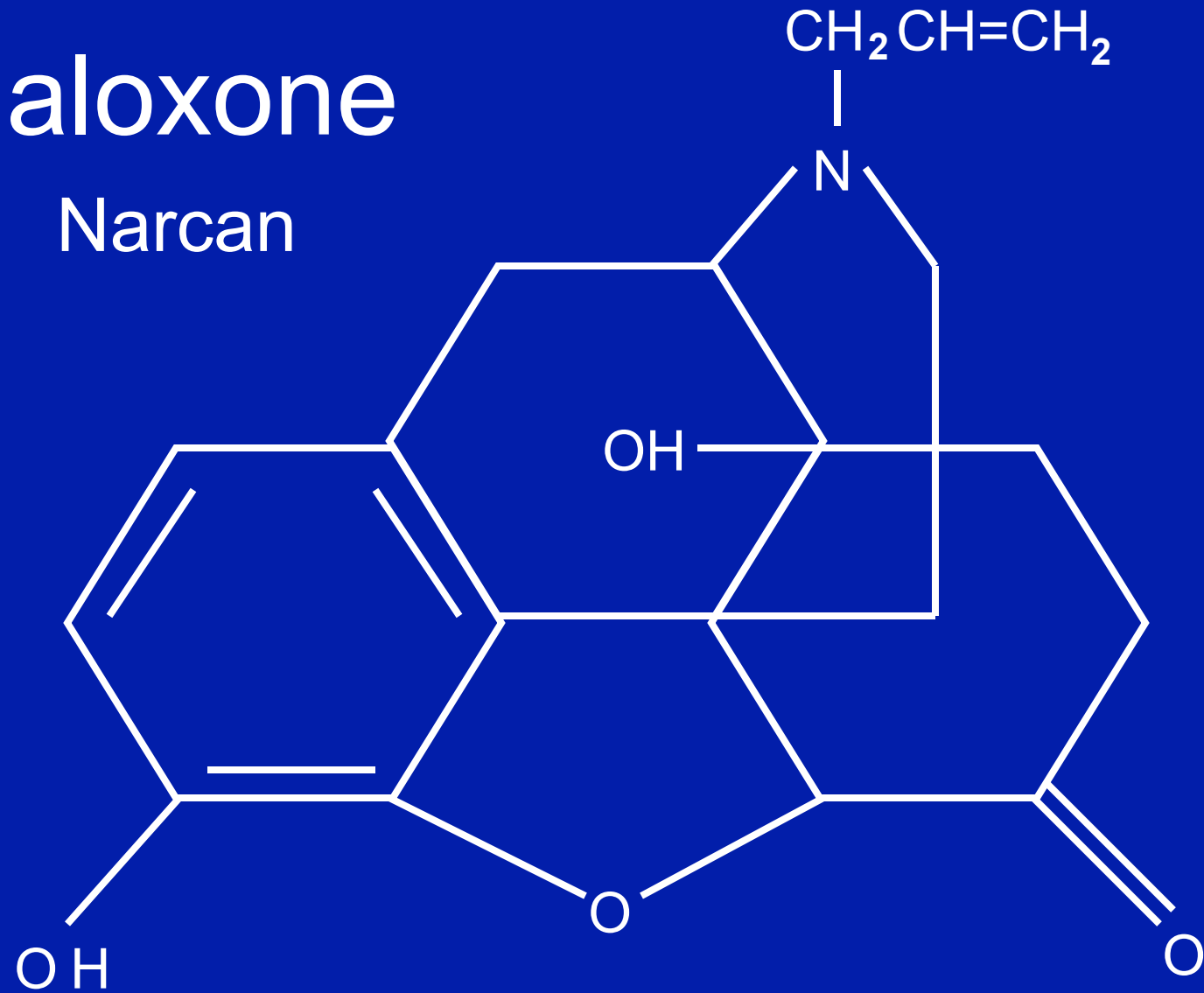


matrine

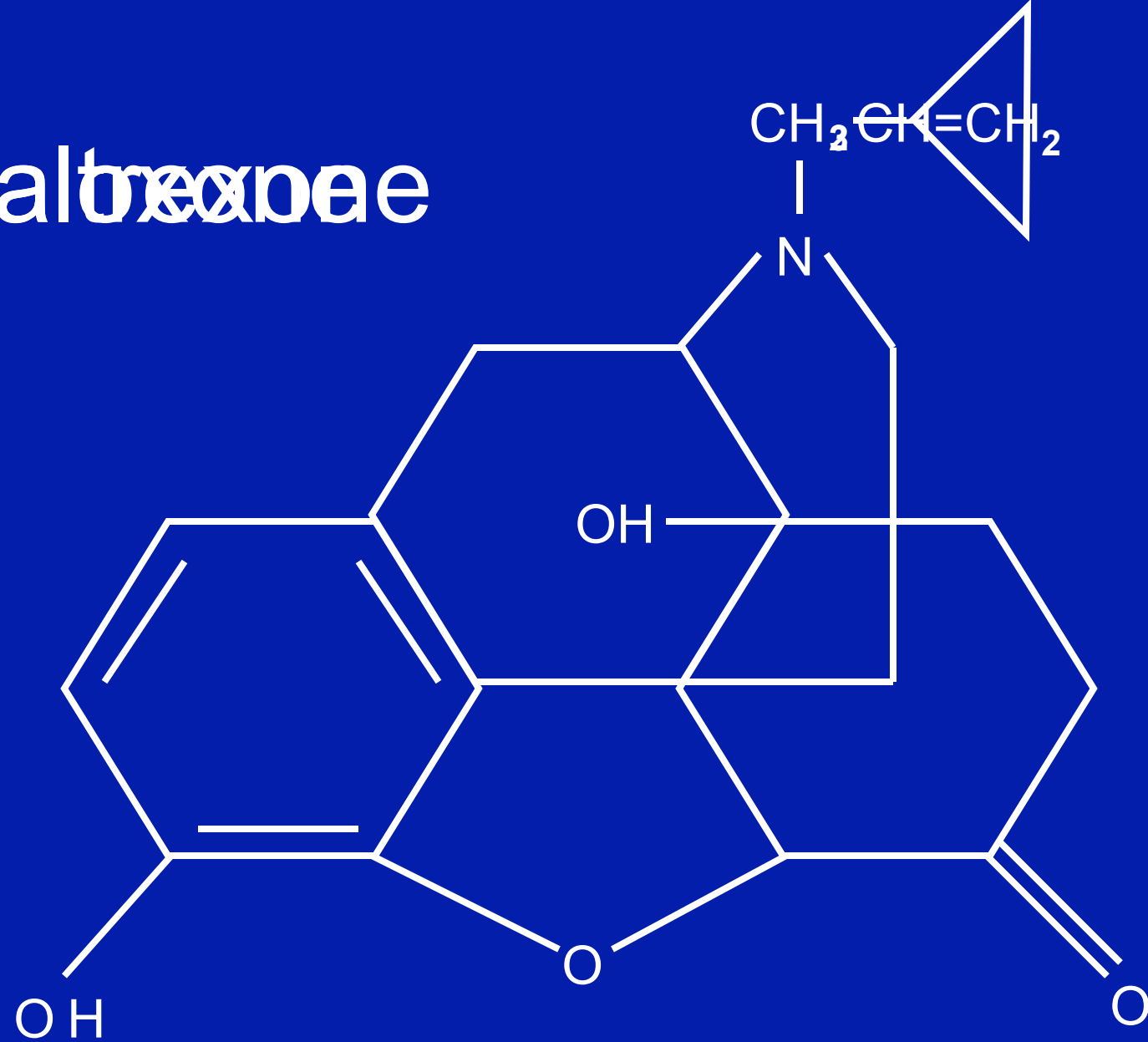


naloxone

Narcan



naltrexone

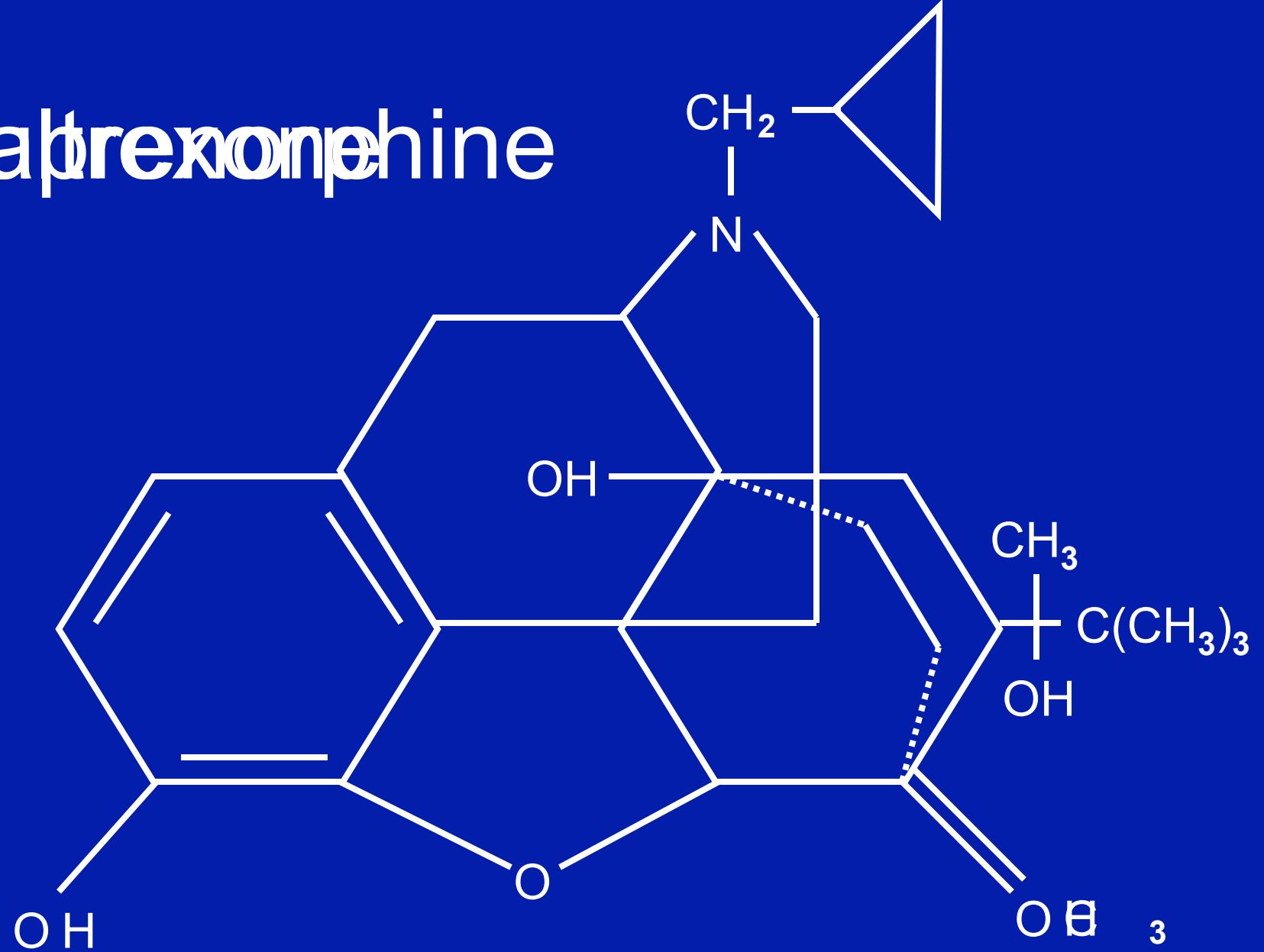


naltrexone

Revia, Vivitrol

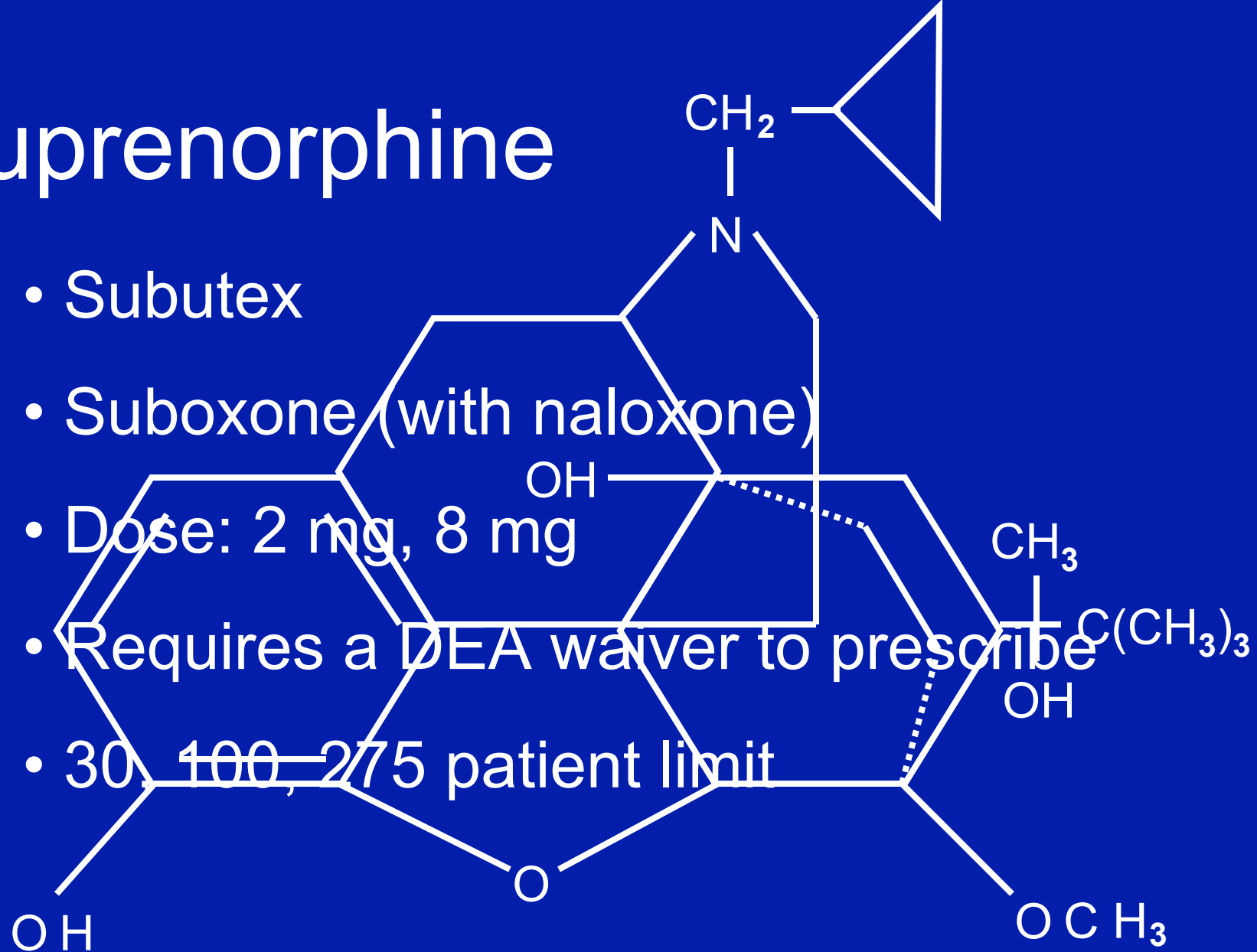


buprenorphine

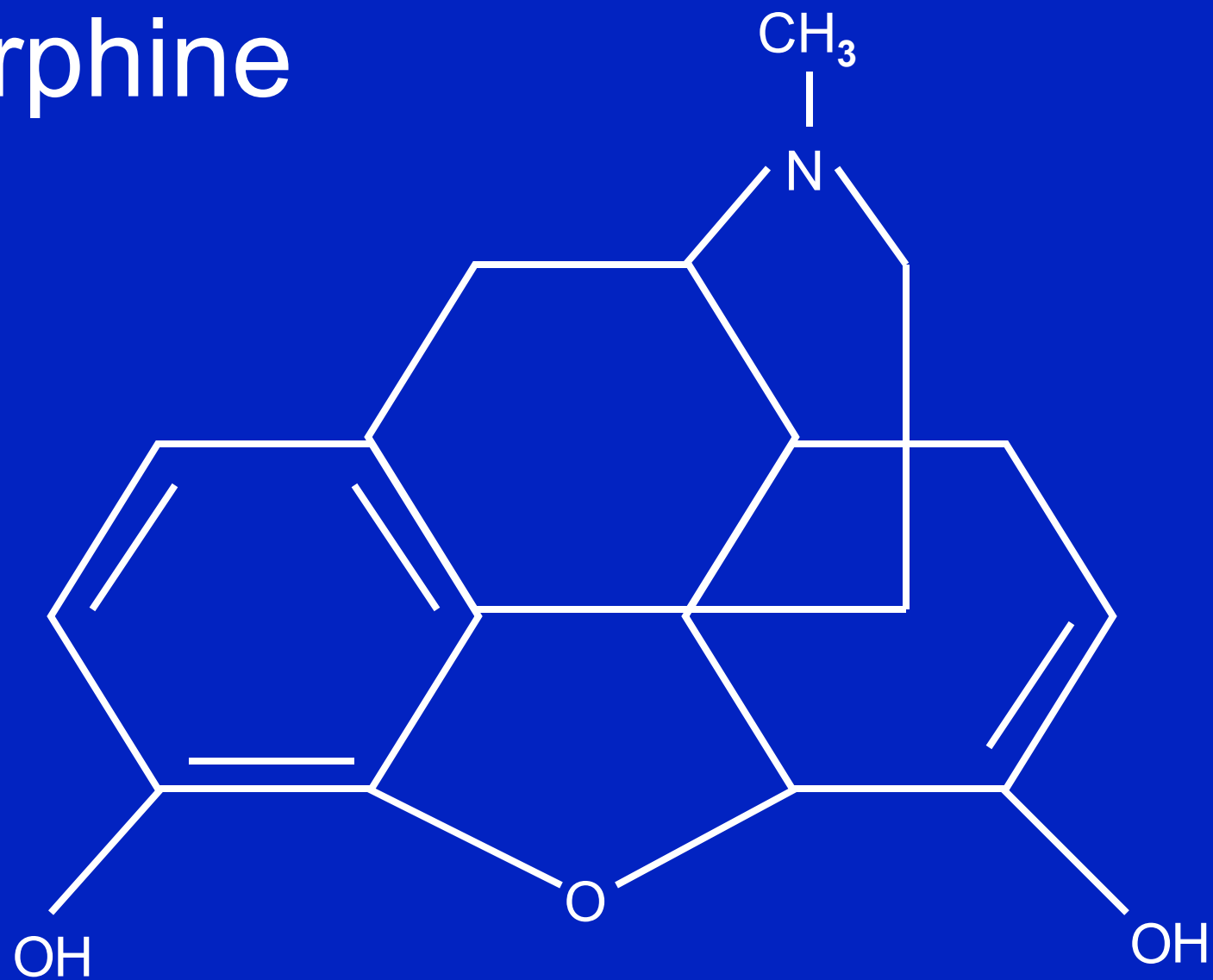


buprenorphine

- Subutex
- Suboxone (with naloxone)
- Dose: 2 mg, 8 mg
- Requires a DEA waiver to prescribe
- 30, 100, 275 patient limit



morphine



methadone



Medication Comparison

	Suboxone	Methadone	Naltrexone
Withdrawal management	Excellent – inpatient or ambulatory	Good – clinic based only unless done in acute care hospital	No current recommended role unless (has been used to precipitate withdrawal)
Maintenance – office based	Yes - preferred	Not allowed	Yes
Maintenance – clinic based	Yes	Yes – only option	No
Craving management	Excellent	Good to very good	Moderate - indirect
Side effects	Minimal	Minimal to moderate	Minimal
Respiratory depression	Mild with ceiling effect	Definite concern with other sedative-hypnotics	None
Street value	Moderate to high	Moderate to high	None
Potential for abuse	Moderate	High	None
Withdrawal syndrome	Mild	Moderate to severe	None

Light switch “ON” – opiate receptor occupied



Activity – how high the drug turns on the light switch

Affinity – how tightly a drug holds on to the light switch

Light switch “OFF” – opiate receptor unoccupied



2 ways to turn off the switch

- stop using the drug**
- take a drug with a higher affinity but less activity**

Naloxone – no activity

Naltrexone – no activity



Suboxone

Puts switch in the
halfway position



WITHDRAWAL

RELIEF



Clinical Opiate Withdrawal Scale – C.O.W.S.

Patients are given a score based upon the severity of eleven different withdrawal symptoms.

1. Pulse

5. Restlessness

9. Muscle/joint/bone aches

2. GI symptoms

6. Yawning

10. Goosebumps

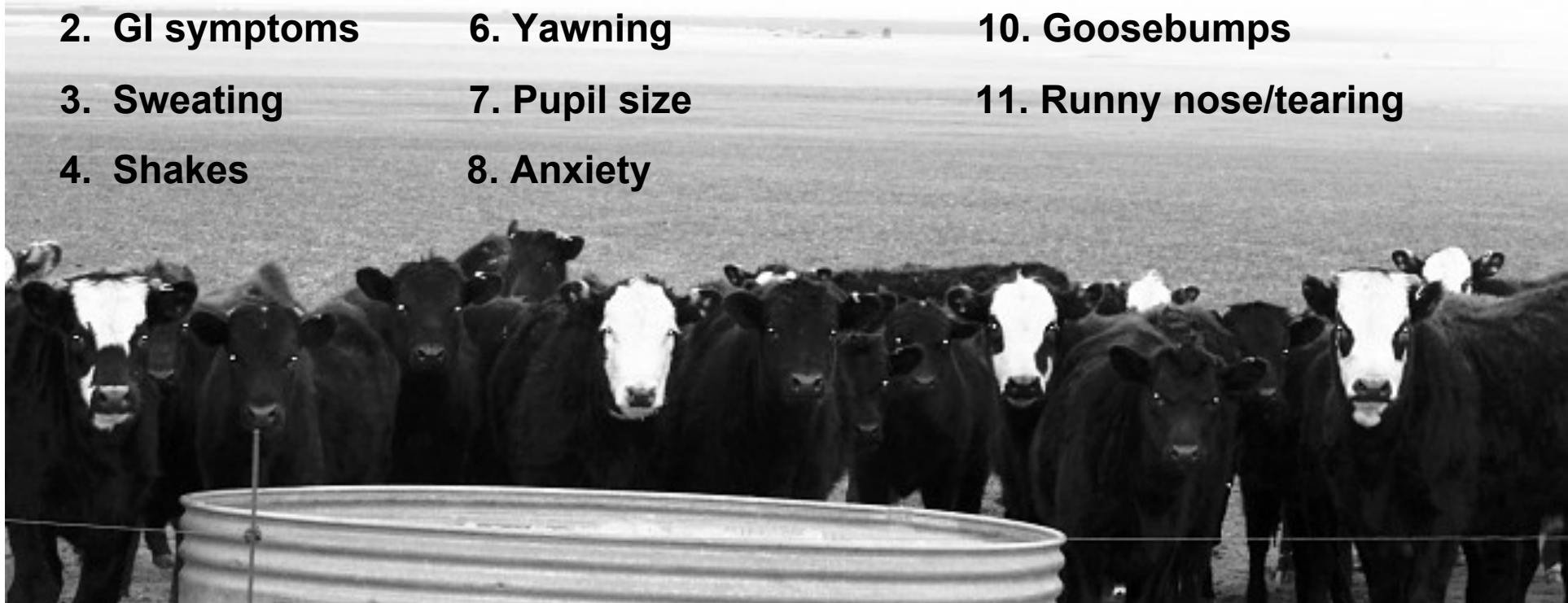
3. Sweating

7. Pupil size

11. Runny nose/tearing

4. Shakes

8. Anxiety





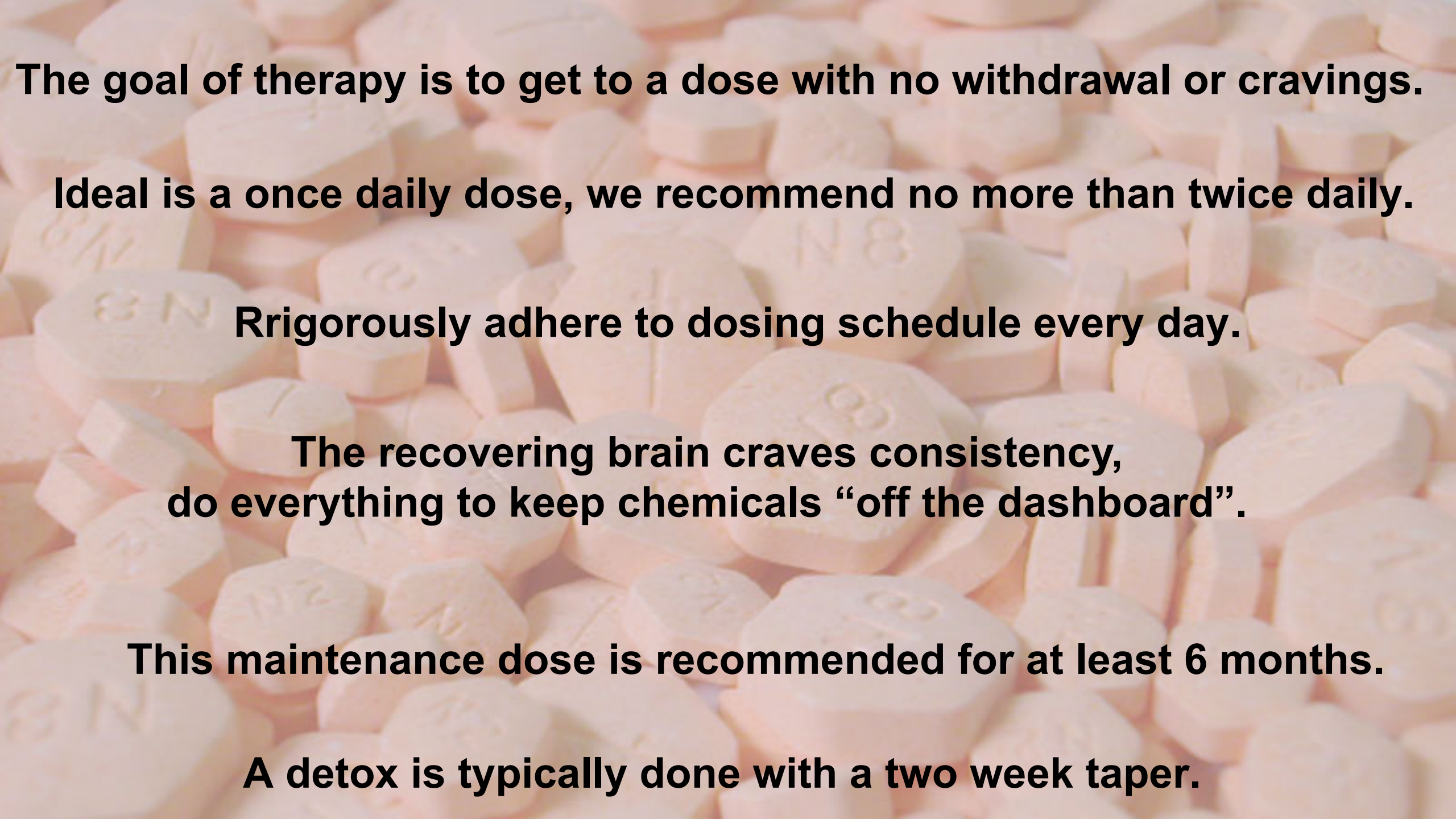
Begin Suboxone when light switch is at least halfway off

COWS of 8 to 10

For short acting opiates, this is typically between 12 to 24 hours after last use.

For methadone it can take longer to reach this point, so “start low, go slow” is recommended with the last dose being at least 48 hours ago.

Daily dose should ideally be less than 30mg in order to switch to Suboxone.



The goal of therapy is to get to a dose with no withdrawal or cravings.

Ideal is a once daily dose, we recommend no more than twice daily.

Rigorously adhere to dosing schedule every day.

**The recovering brain craves consistency,
do everything to keep chemicals “off the dashboard”.**

This maintenance dose is recommended for at least 6 months.

A detox is typically done with a two week taper.



Is Suboxone addicting?

No, Suboxone doesn't CAUSE addiction, it TREATS addiction!

Physical dependence does develop so it has to be tapered, not stopped abruptly.

The brain never lets us off scot free, there is always a price to pay when stopping any of the opioids but Suboxone has the lowest price to pay.

“Brain Exercise”

- A key factor in patients’ understanding the role of medicines in treating addiction is the concept of “brain exercise”.
- In brief, this refers to the ACTIVE role they must take and not passively hope the medicine can do it all.
 - “You need Suboxone’s help and Suboxone needs your help”
 - “Naltrexone isn’t bullet proof armor, you still need to make good choices.”

Disease Model of Addiction

	What's the problem?	What can happen?	What's the treatment?	What's the cause?
Diabetes	Blood sugar control	Eye, kidney, nerve damage, heart disease, etc	Diet, weight loss, exercise, medications, quit smoking	Unknown*
Hypertension	Blood pressure control	Eye, kidney, nerve damage, heart disease, etc	Diet, weight loss, exercise, medications, quit smoking	Unknown*
Addiction	Drug and/or alcohol use control	Medical, family, legal, job, financial dysfunction	Residential, IOP mutual-help groups, medications	Unknown*

*Obviously not entirely factual. This is a good example of what Stephen Colbert refers to as a 'non-fact based truth'.

Disease Model of Addiction

- Even though the cause of a disease may not be entirely known, this doesn't stop us from treating it and preventing complications
- Most of the treatment for chronic diseases is the responsibility of the patient
- Addiction has a better treatment “track record” than diabetes, hypertension or asthma

Disease Model of Addiction

- Chronic diseases can also be thought of as “daily” diseases.
- That is, you need to ask every day:

“Am I going to treat this disease today?”

“If so, how am I going to treat it?”

- With hard work and time, this daily treatment is called “life”.

Disease Model of Addiction

- Objection that addiction patients “brought it on themselves”, it’s not really a disease.
- However, most chronic disease in our country is due, at least in part, to our behaviors - poor diet, lack of exercise, smoking, etc.
- “We want to help remove the burden of this disease from your shoulders without removing the responsibility. You deserve better than this.”

Medications and the Recovering Community

- Jargon can be a problem
 - Meds are a “crutch”, not “true” sobriety, not “real” recovery, Suboxone is addictive
- Patients ambivalent about being honest
 - Expectation or experience of being judged by recovering peers
- Confusion between oral tradition and written tradition

Medications and the Recovering Community

- Emphasize chronic disease aspect
 - Suboxone treats addiction, it doesn't cause it
 - We don't talk of "true" vs "false" diabetes or hypertension treatment.
 - We utilize all the tools we have, including meds, to improve health.
- Medical information is private
 - Keeping medical information private isn't dishonesty.
 - There is a difference between privacy and honesty

Explanatory Models Affect Approach

Crime → Punishment → Deterrence

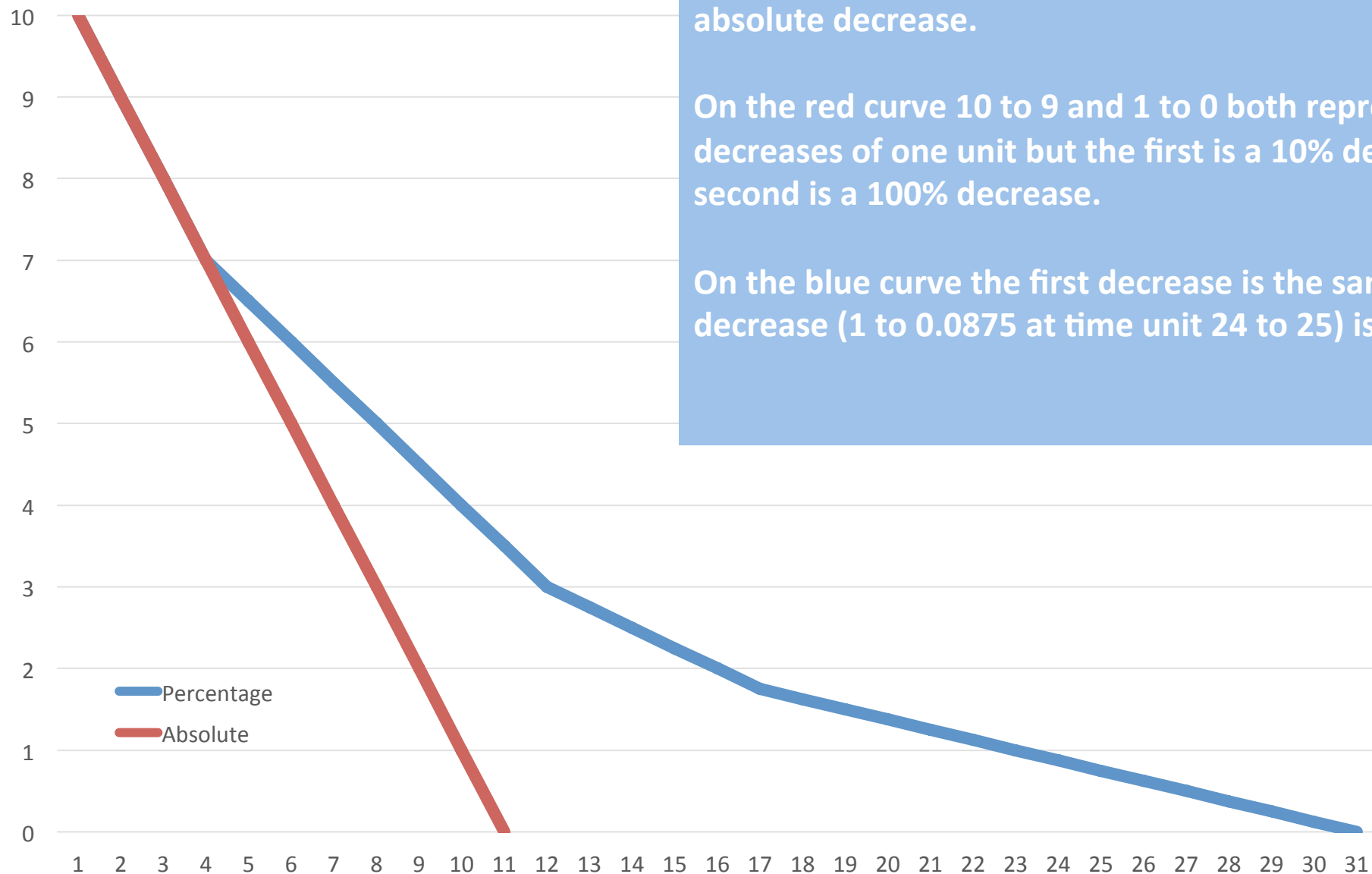
Sin → Repentance → Redemption

Diagnosis → Treatment → Recovery

Tapering Suboxone

- It HAS to be the patient's idea
- Go as slow as needed
- Take breaks from taper when needed
- The goal is to be and do well (not to be on or off Suboxone)
- Compare to medication management of other chronic conditions

DOSE

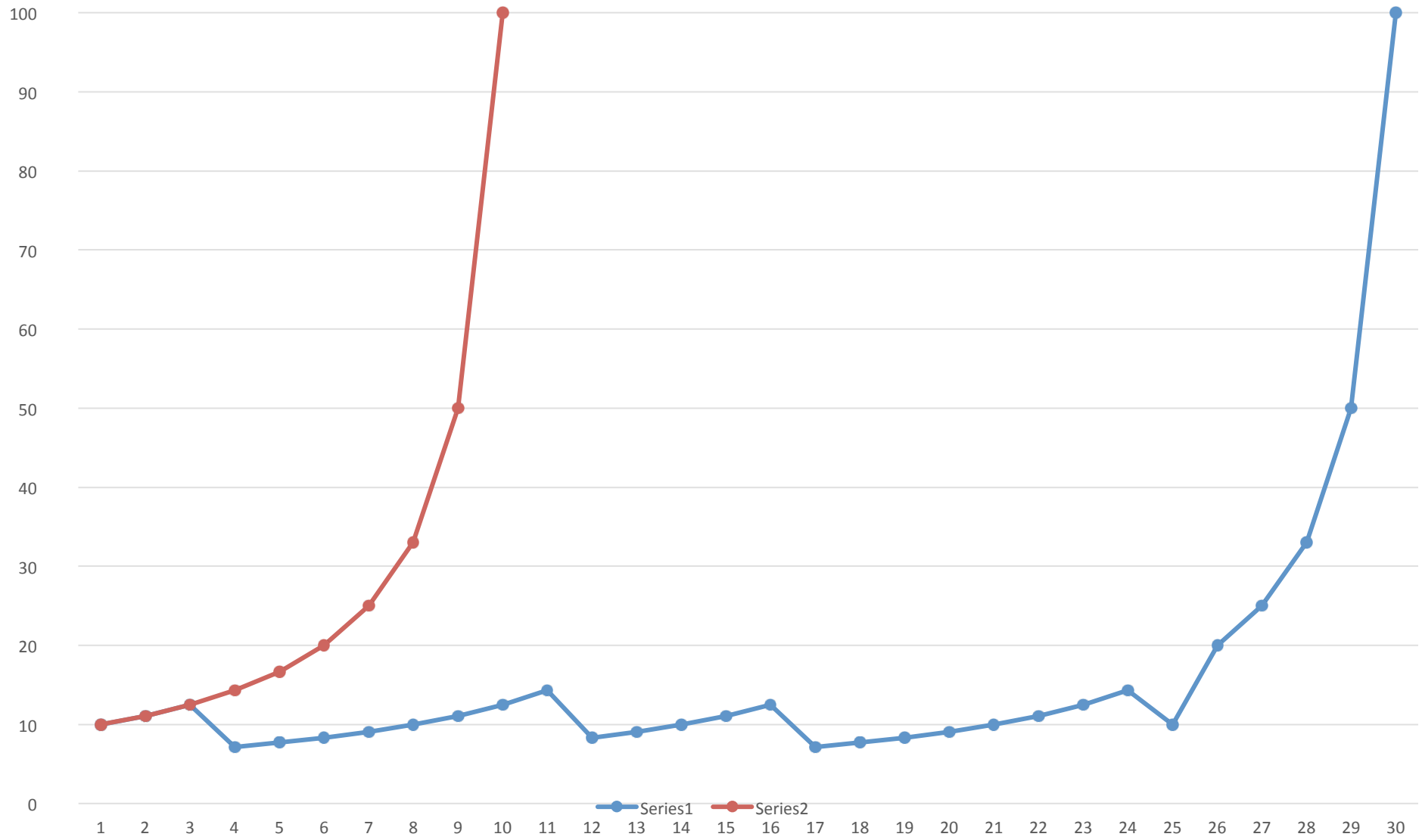


The brain cares more about the percentile decrease than the absolute decrease.

On the red curve 10 to 9 and 1 to 0 both represent absolute decreases of one unit but the first is a 10% decrease and the second is a 100% decrease.

On the blue curve the first decrease is the same but the second decrease (1 to 0.0875 at time unit 24 to 25) is a 10% decrease.

TIME



We believe people can change.

We believe that life should be defined by what it is full of, not by what it is missing.

Our mission is to provide an environment of safety, access to tools, and connection to a community.

the **Department of Addiction Medicine**

