



Promoting Wellness and Recovery

John R. Kasich, *Governor*
Tracy J. Plouck, *Director*

Fundamentals of Addiction Emphasis on Opioids

Association of Ohio Health Commissioners

January 31, 2018

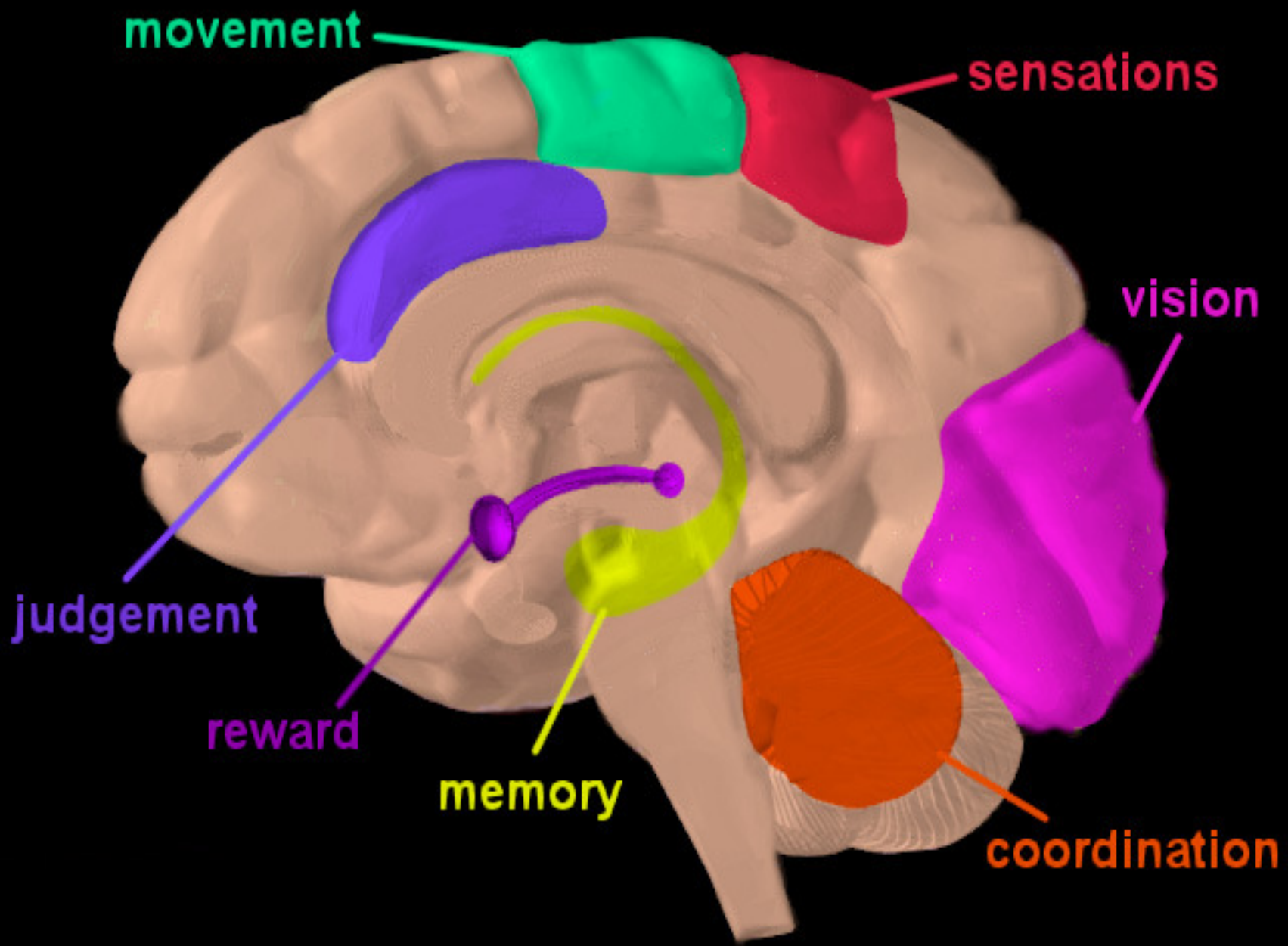
Mark Hurst, MD, Medical Director



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What are Substance Use Disorders (Addictions?)



Addictive drugs: fundamentals

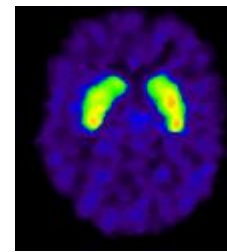
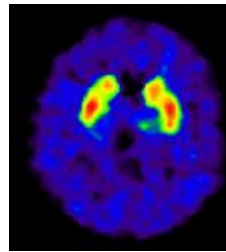
- All addictive drugs work on our endogenous neurotransmitter systems and mimic their activities in some manner
- All addictive drugs have effects on our biological reward centers, which gives them their reinforcing effects
- These reward centers are the same areas that are activated when we perform activities that are required for our survival or survival of species
- Drugs of abuse “trick” us in to believing their use is necessary for survival (and nothing is farther from the truth)

This is your brain on drugs...

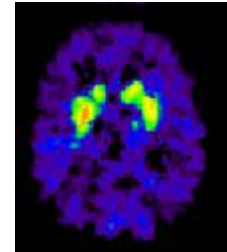
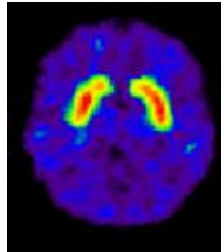


No, *THIS* is your brain on drugs

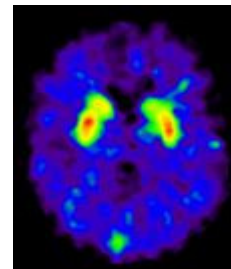
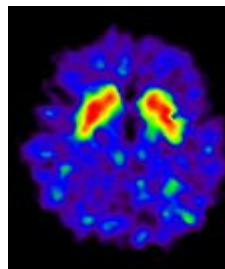
Cocaine



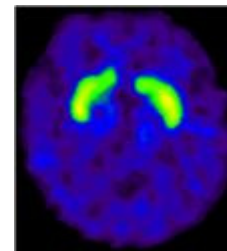
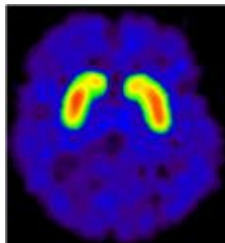
Methamphetamine



Alcohol



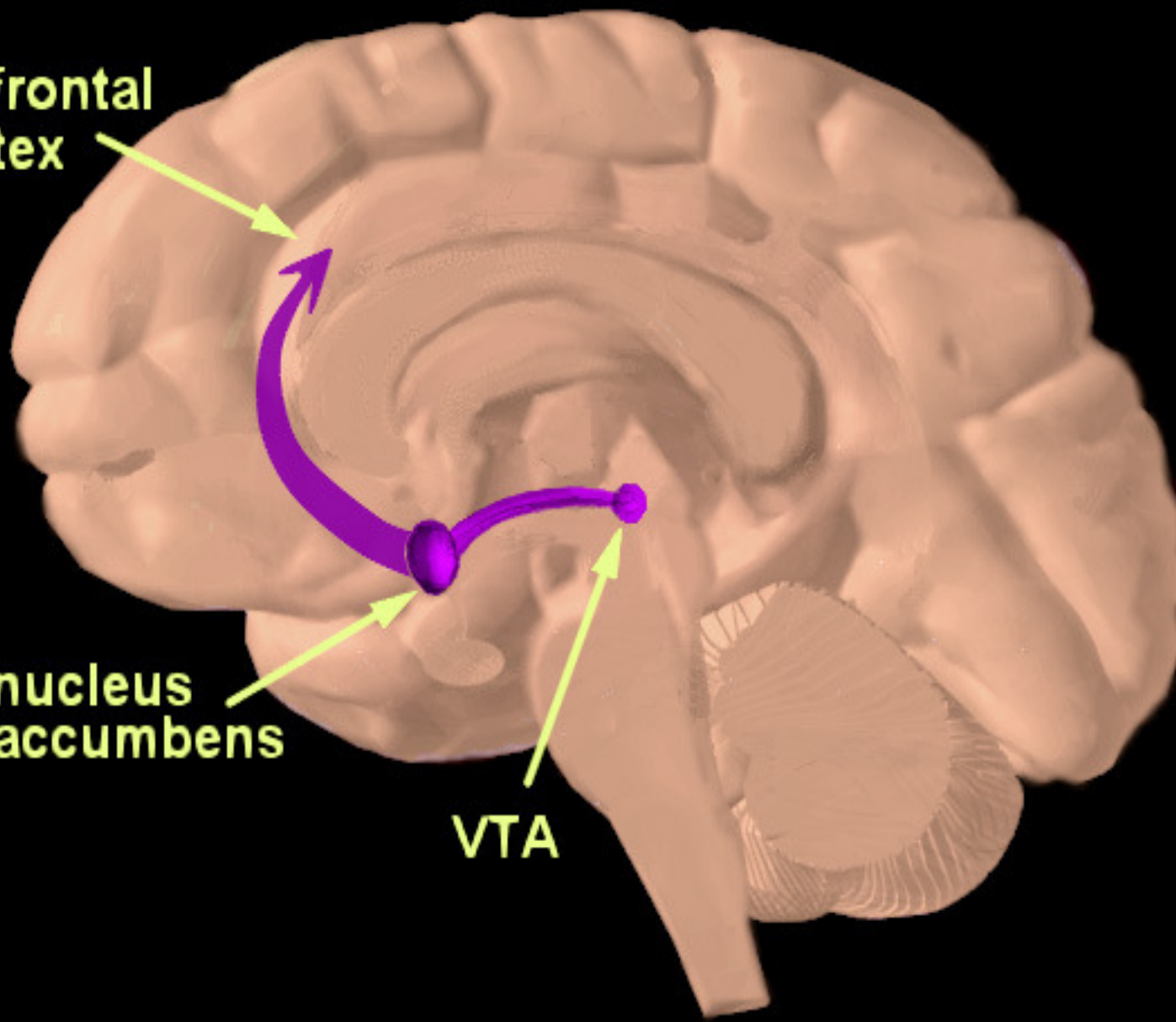
Heroin



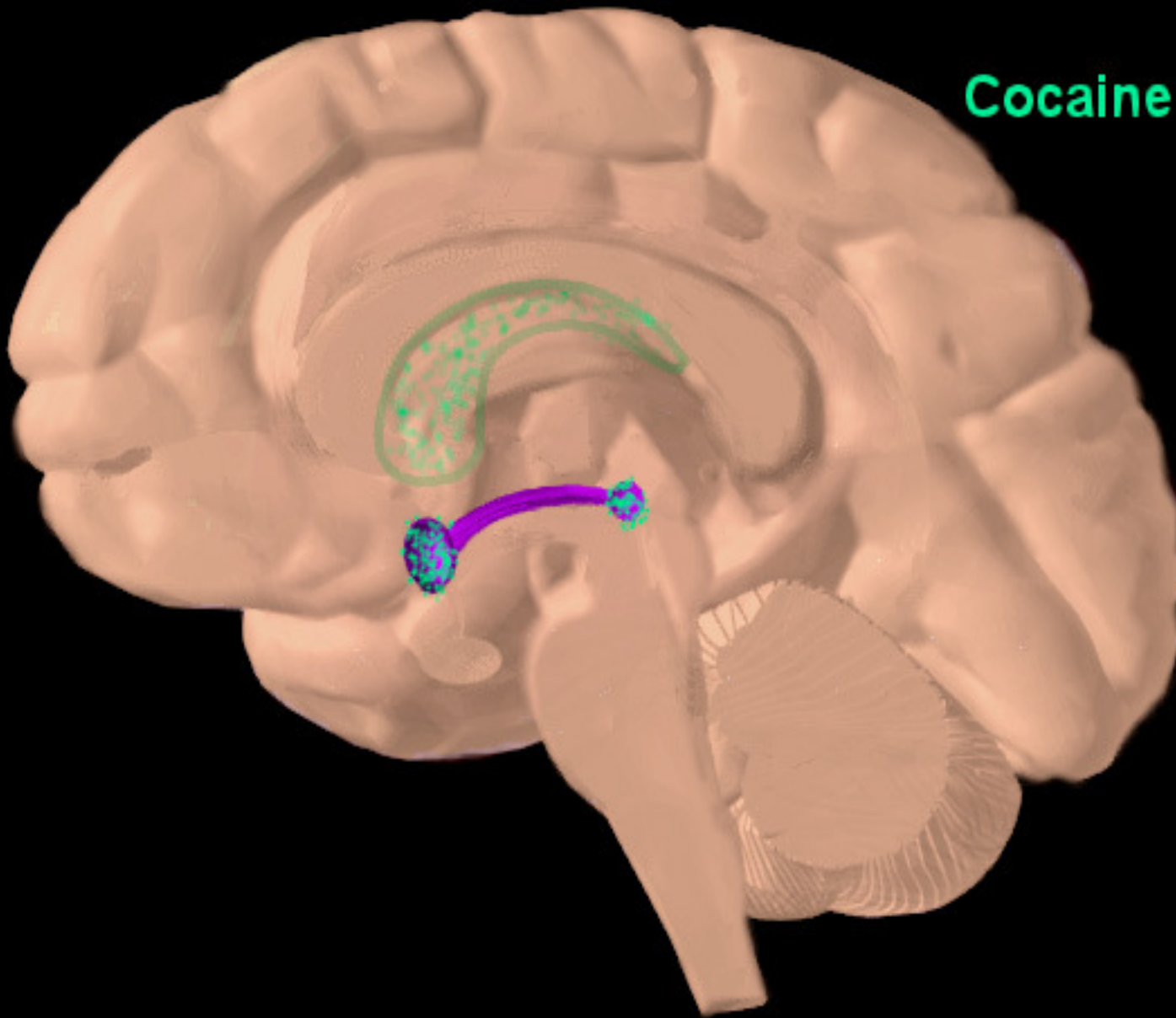
**prefrontal
cortex**

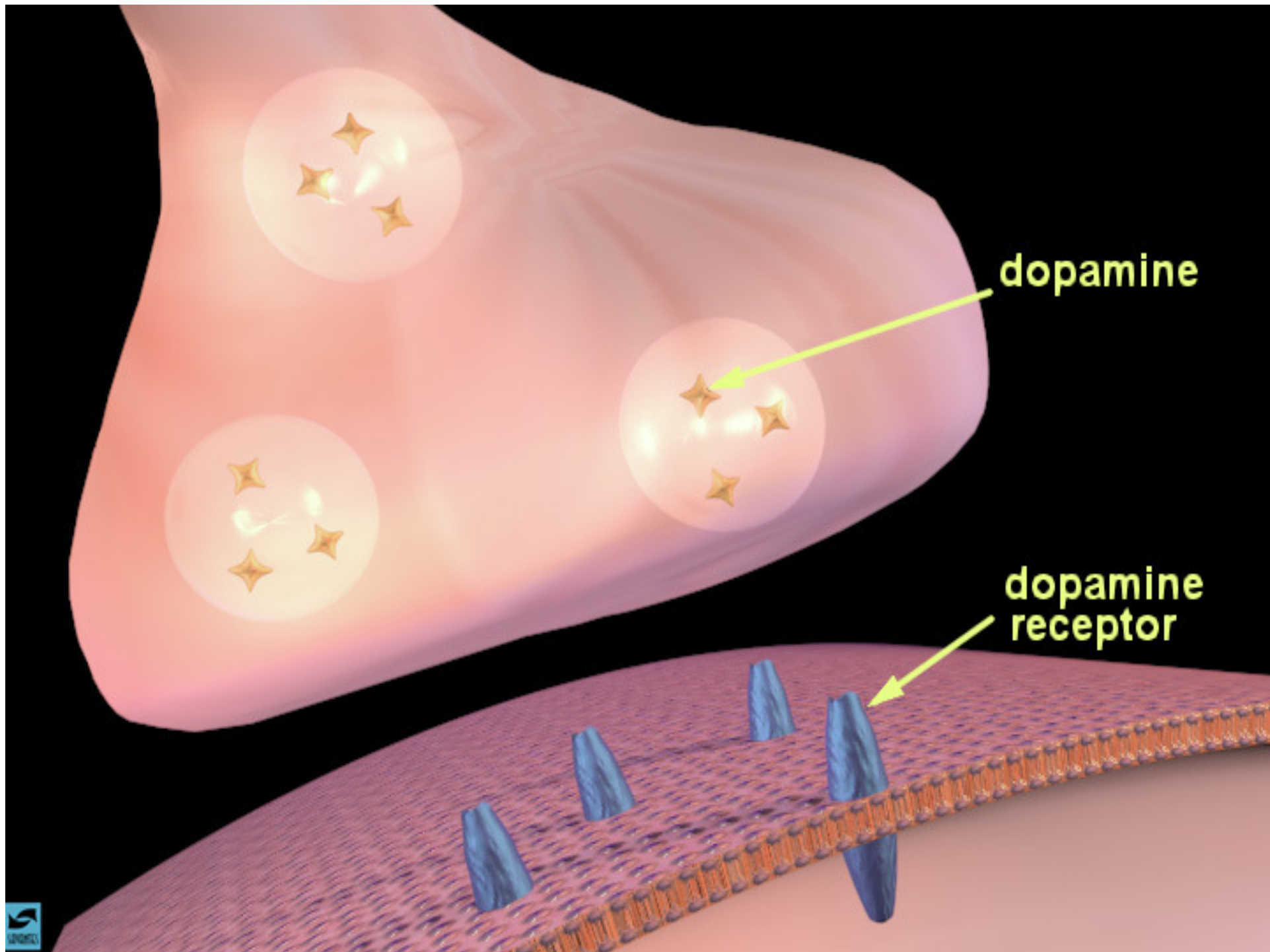
**nucleus
accumbens**

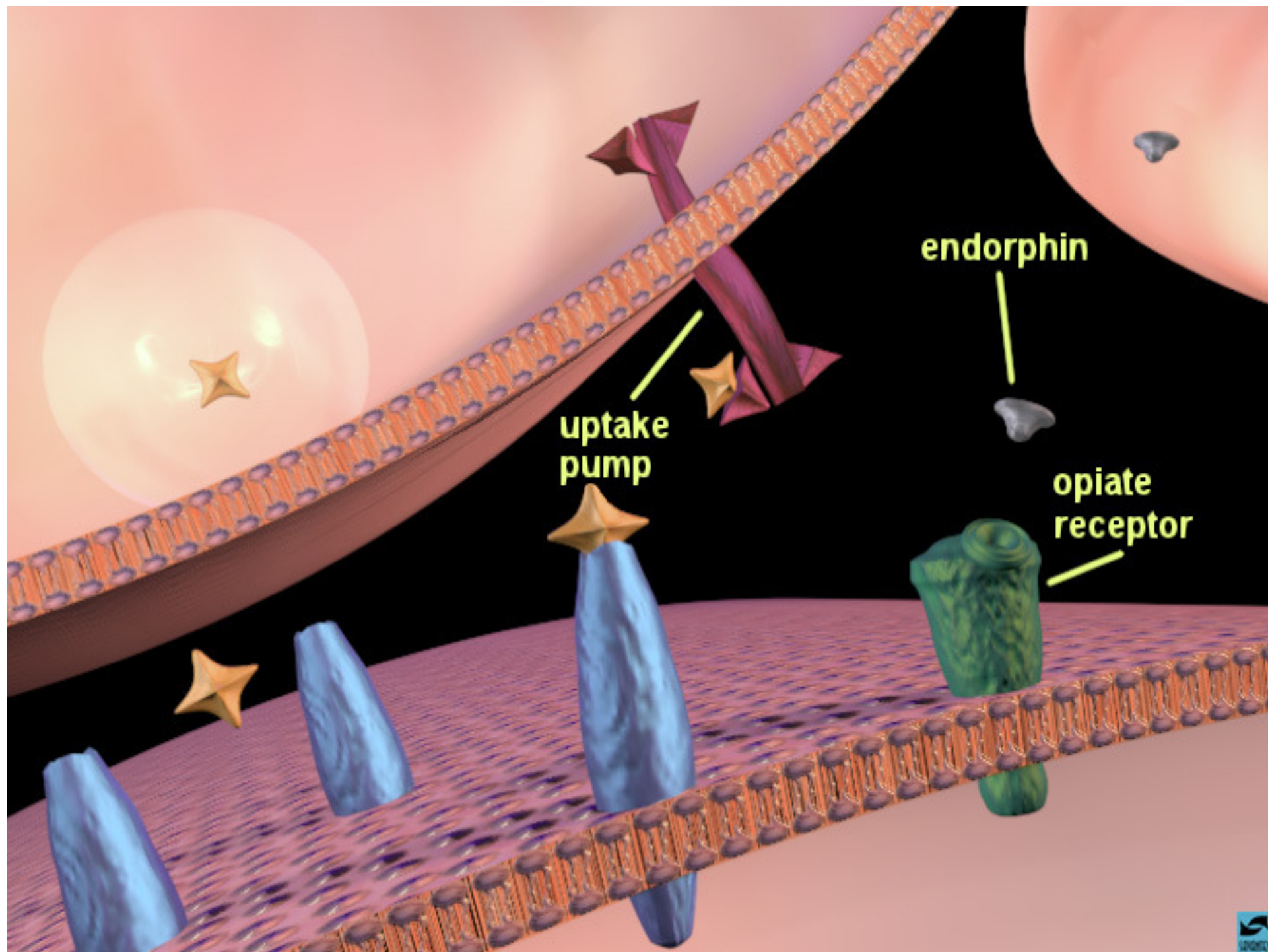
VTA

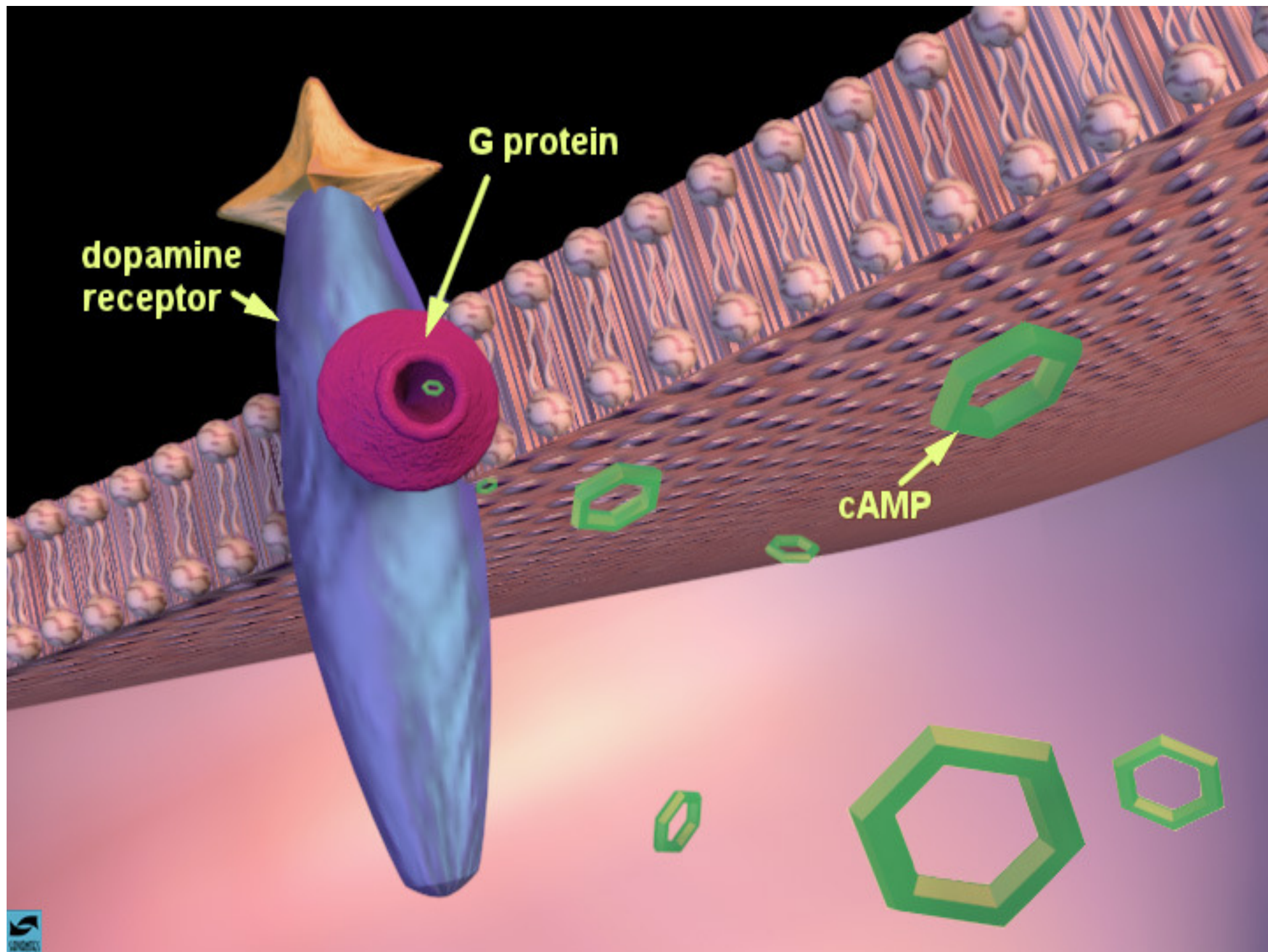


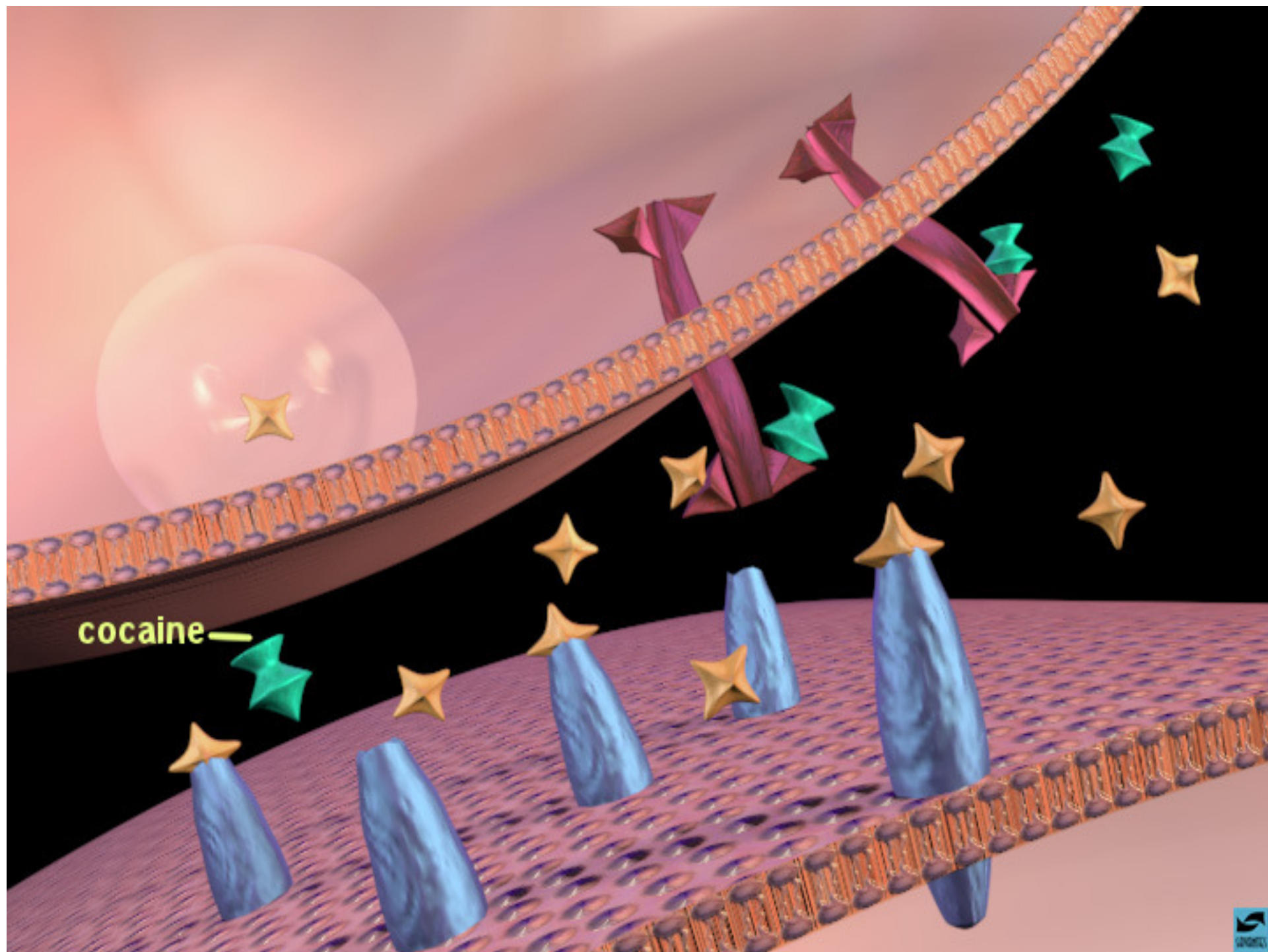
Cocaine

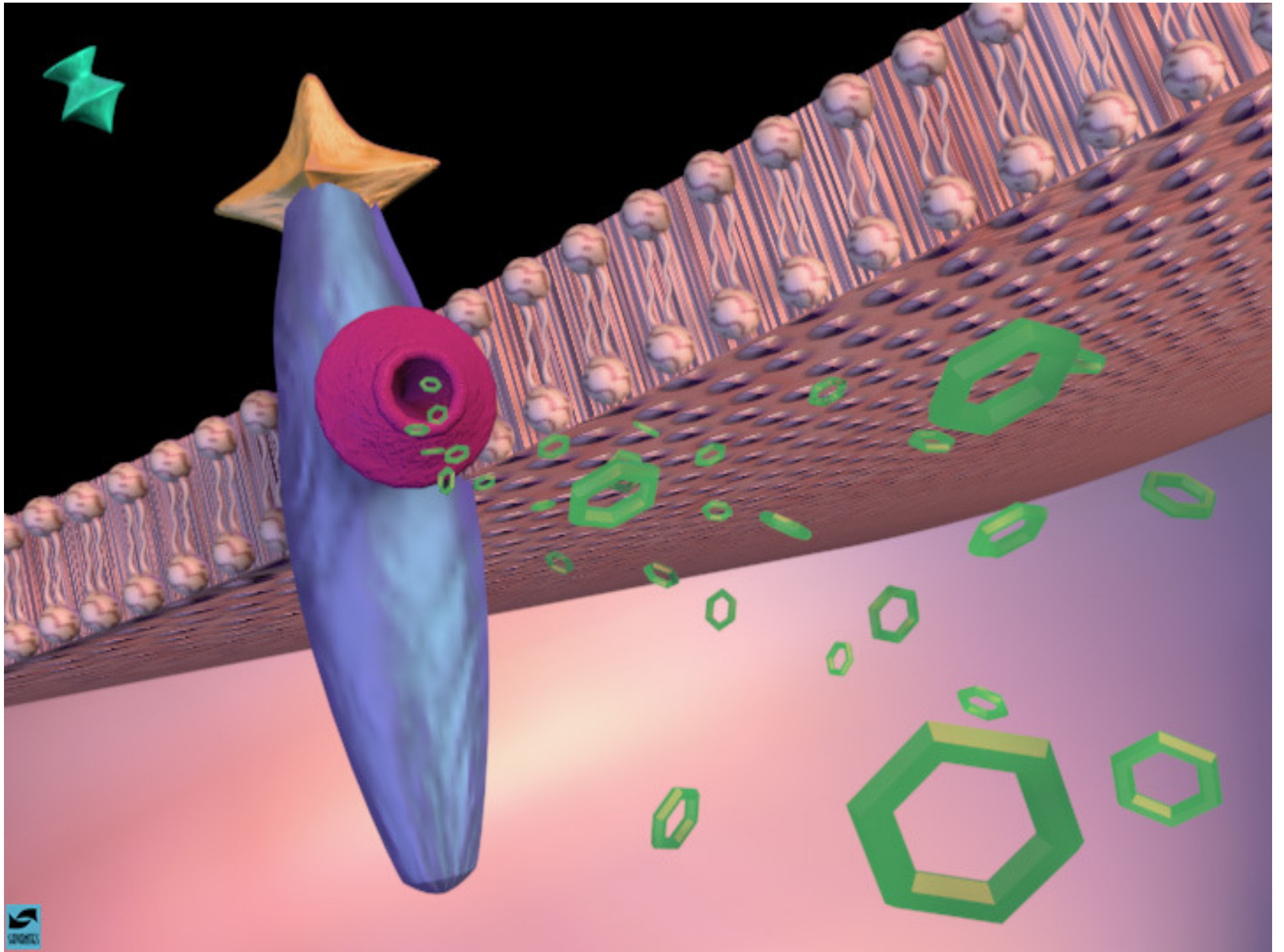


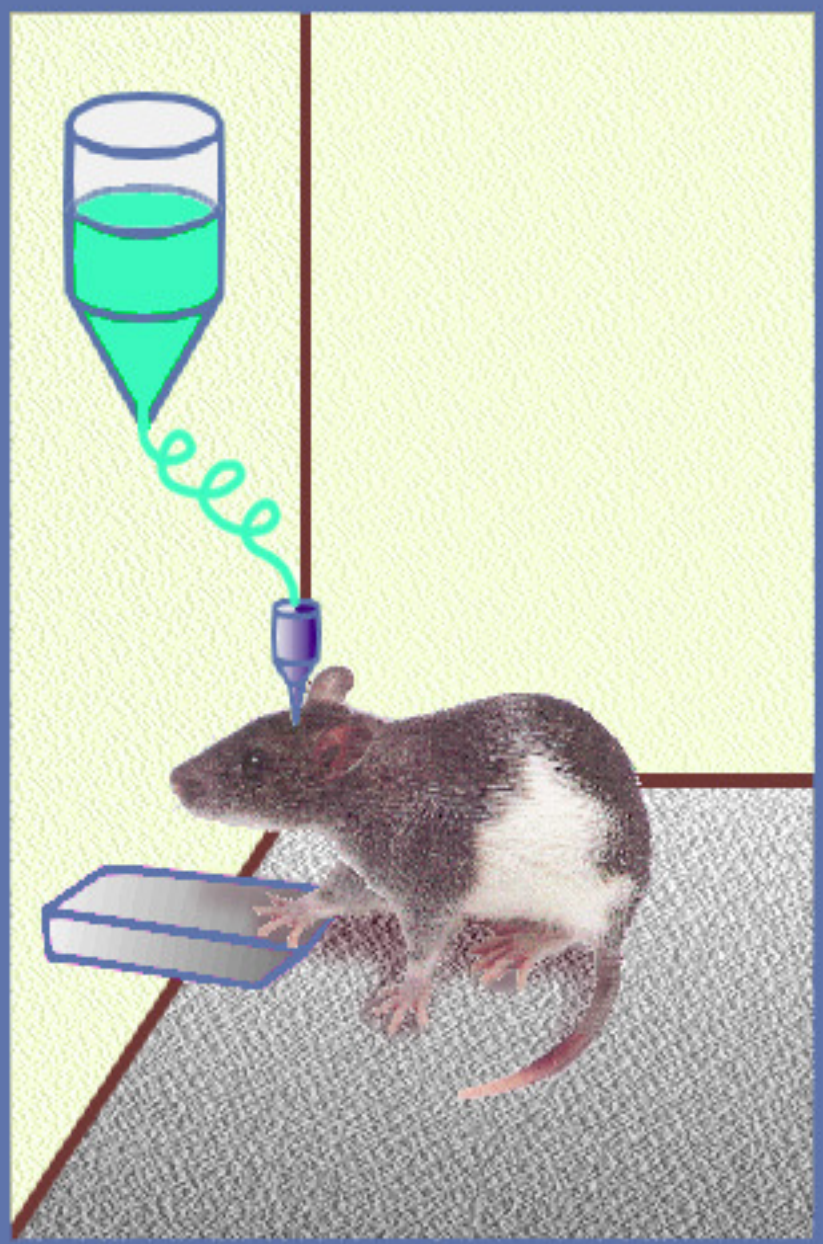
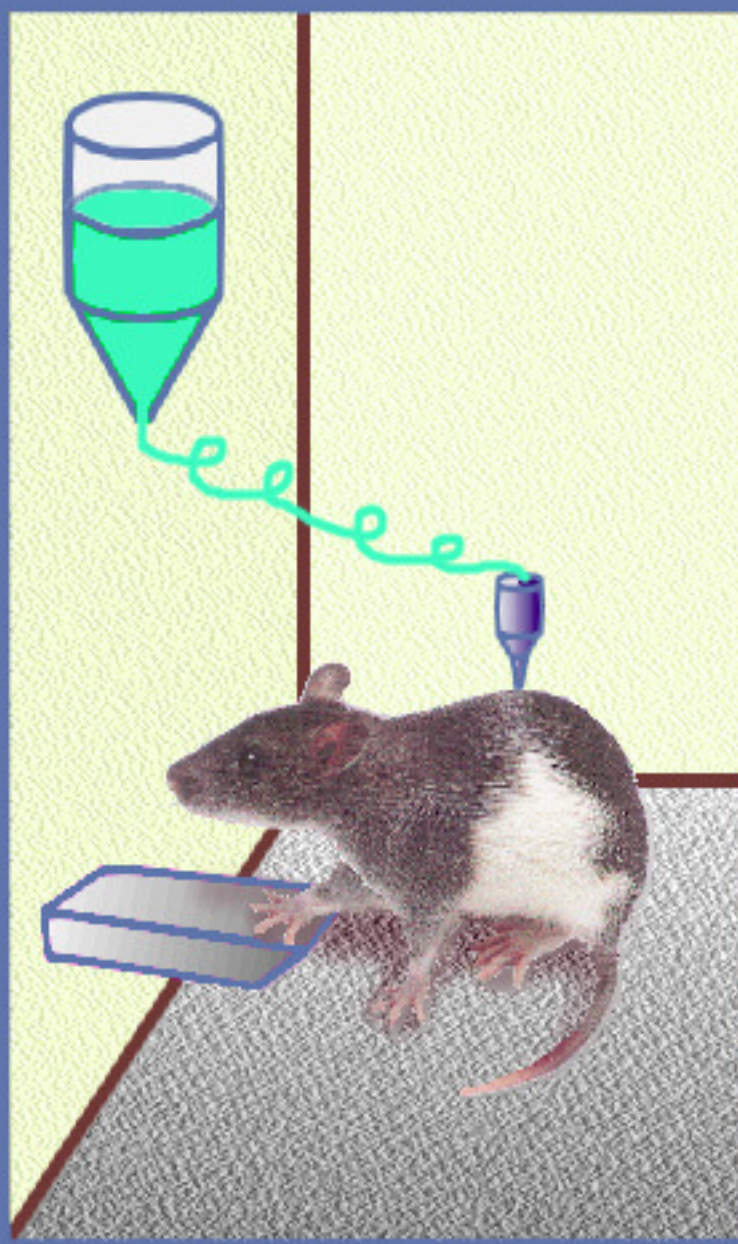


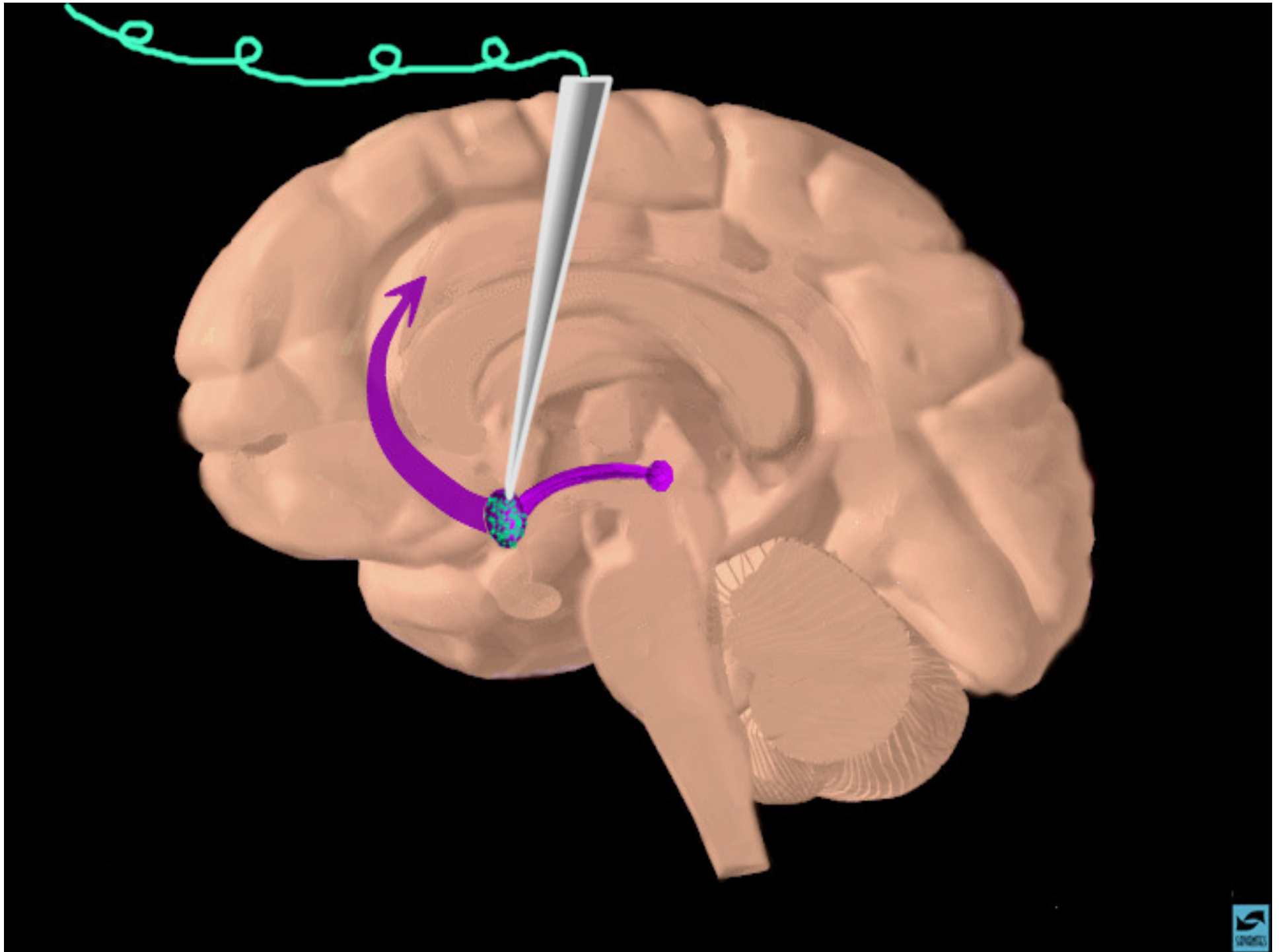




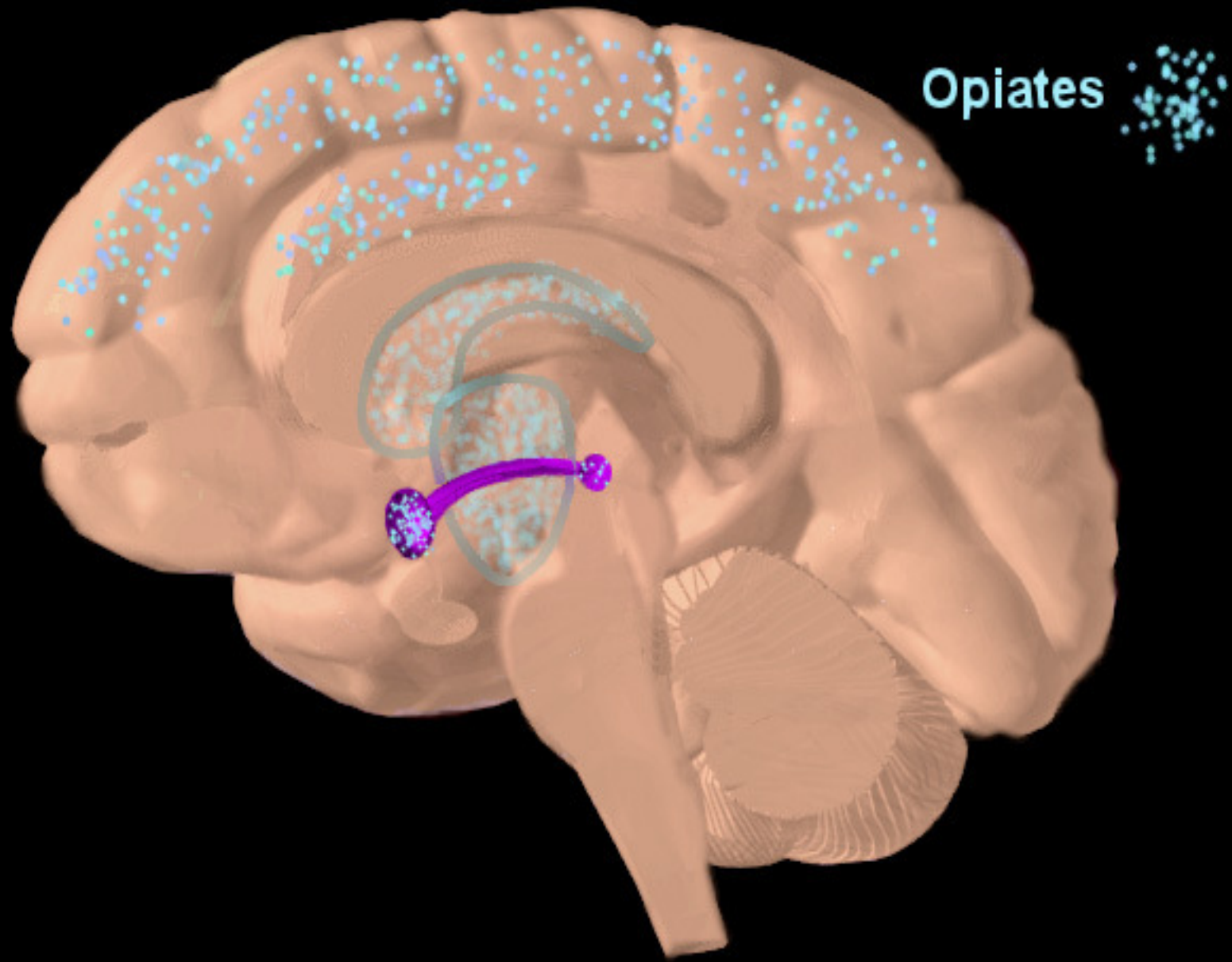




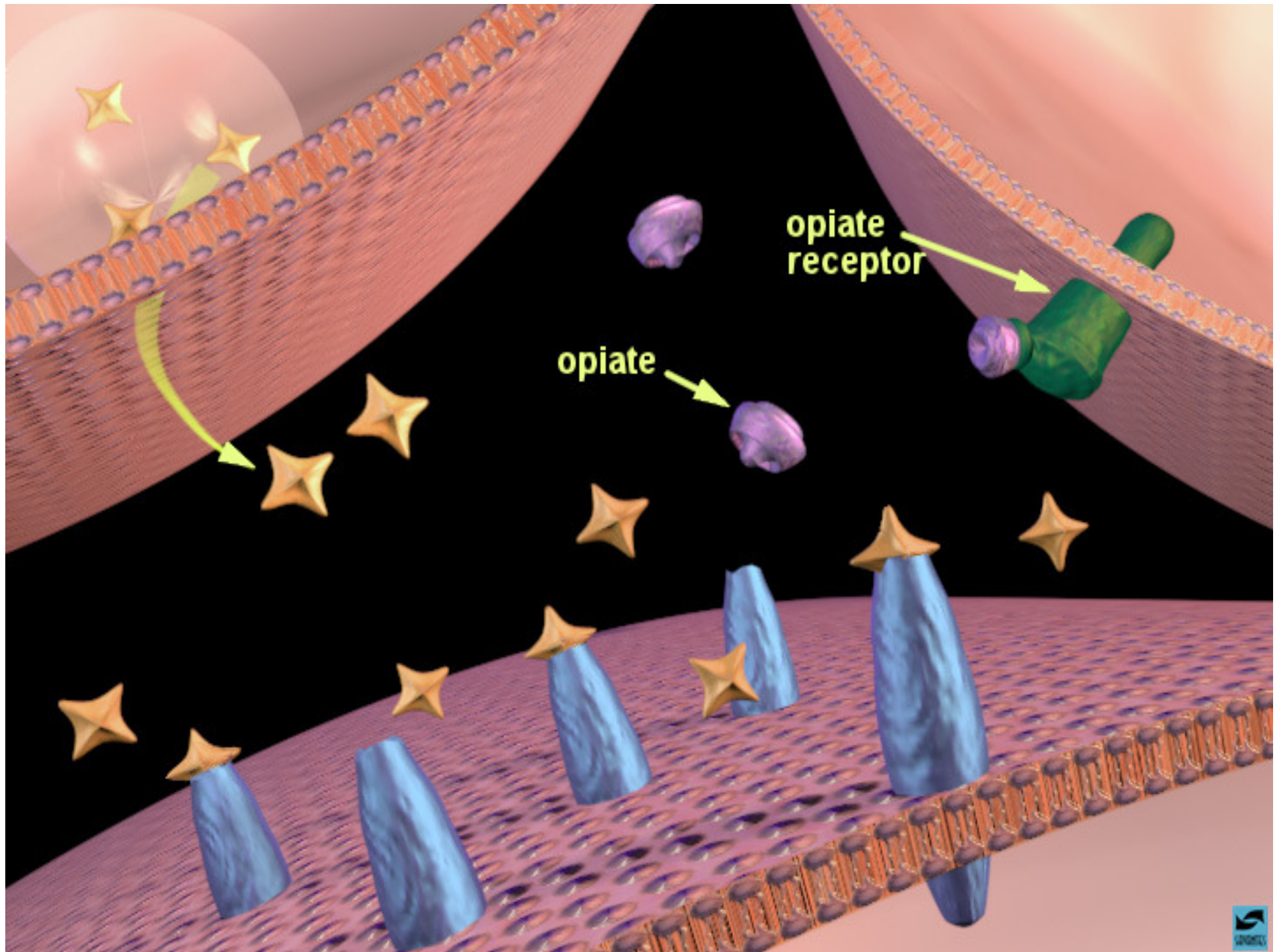


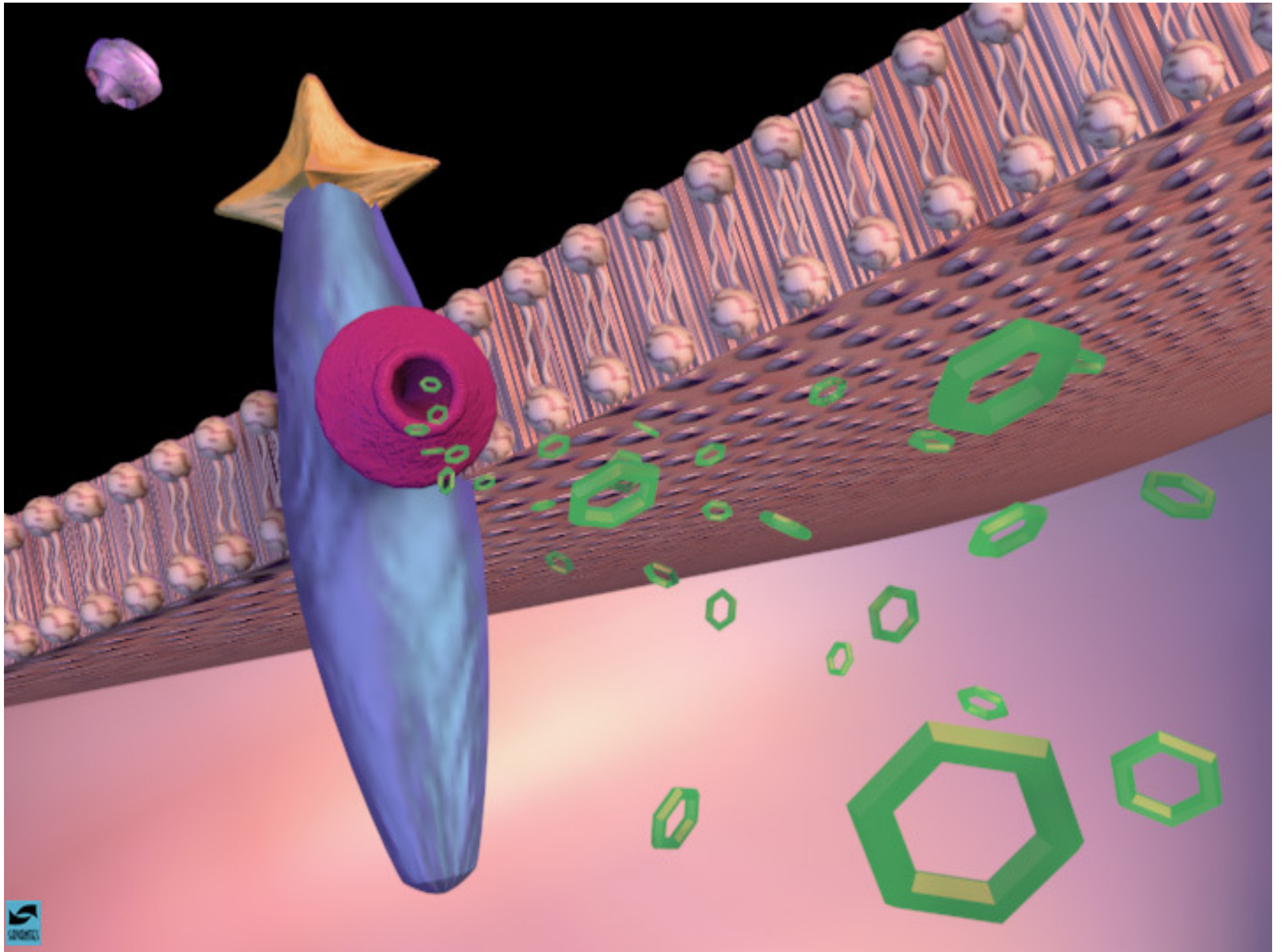




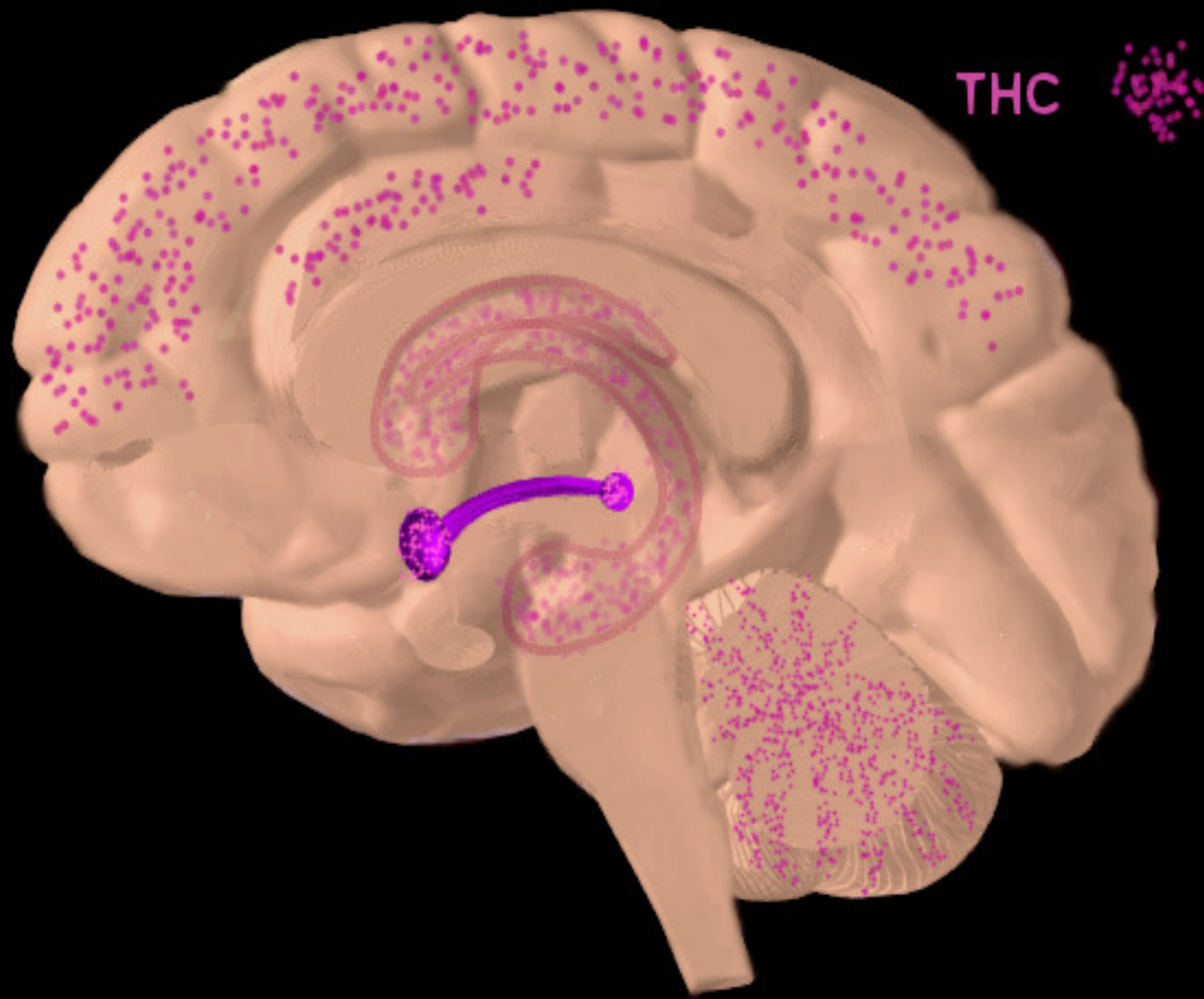


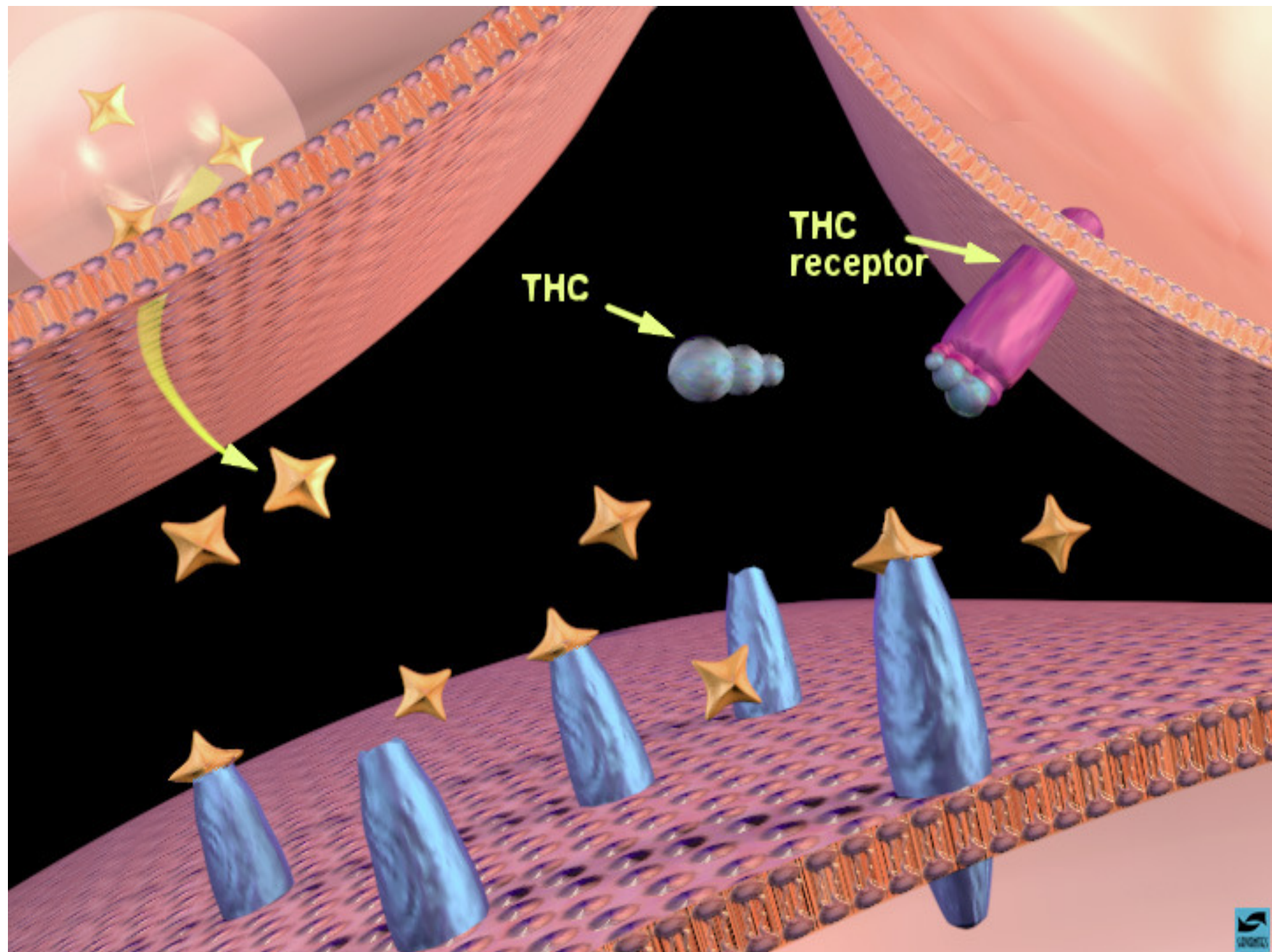
Opiates

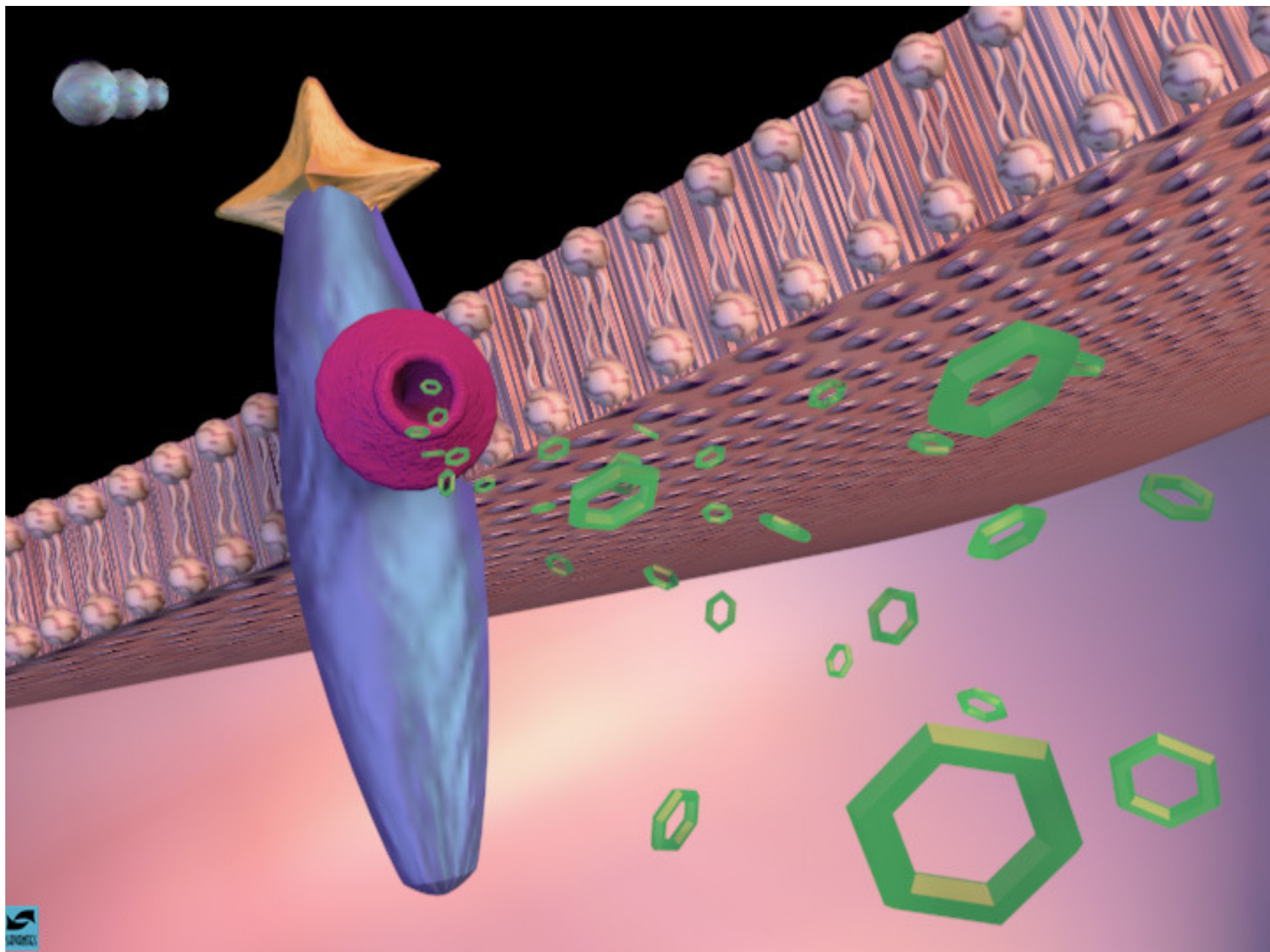








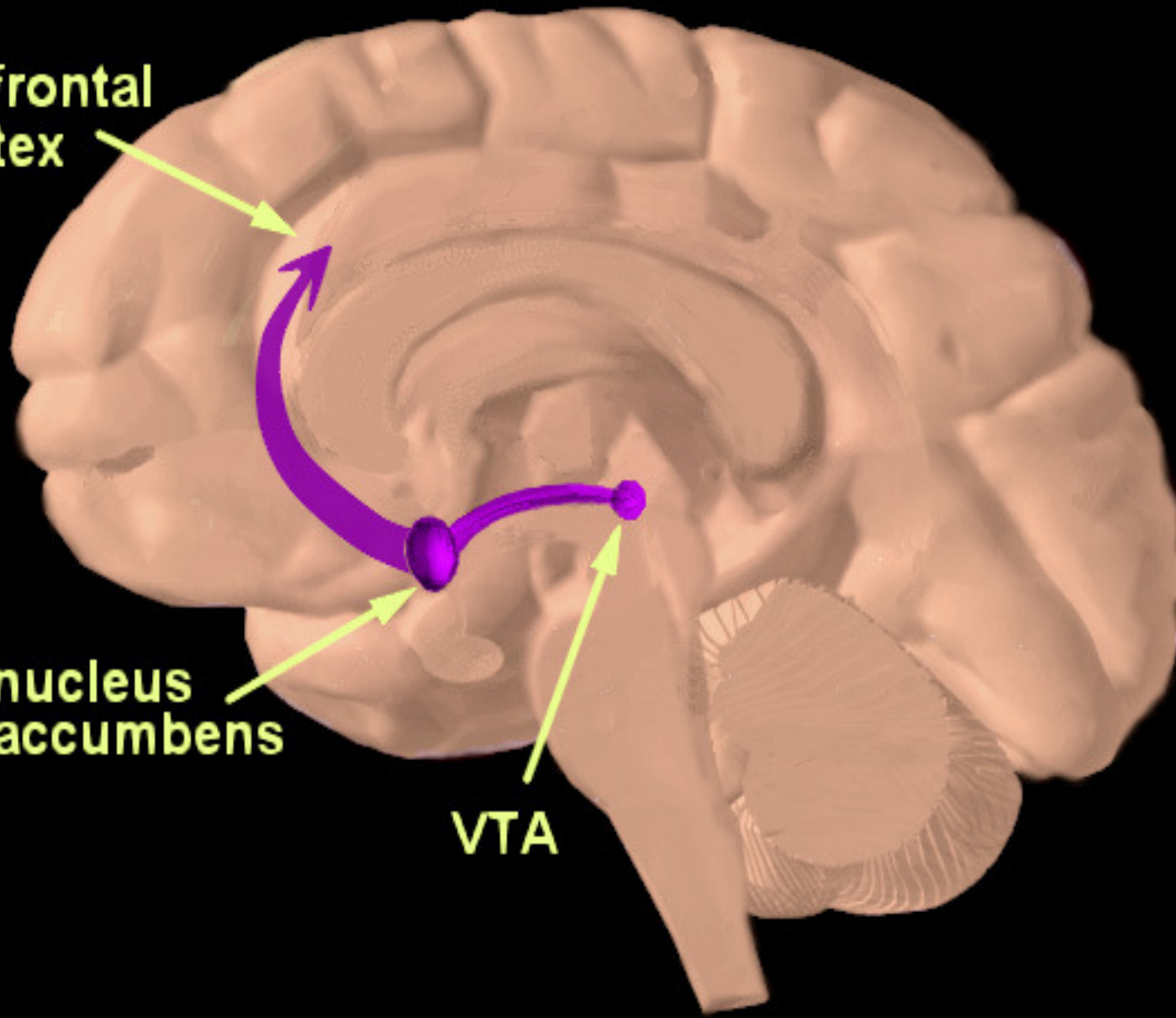




**prefrontal
cortex**

**nucleus
accumbens**

VTA



Not everyone who uses becomes addicted.....

Addiction is not merely about the USE of a substance, it is about the *brain's response* to that use leading to certain behaviors:

- Craving
 - Inability to control use
 - Urge to re-administer
 - Spending large amounts of time procuring the drug, using or recovering from effects of the drug
 - Continuing to use despite problems related to use
 - Tolerance
 - Withdrawal
-

Factors that contribute to addiction

- Genetics/Inheritance
- Environment and life experiences
 - Exposure to potentially addictive substances (especially early in life)
 - Early life trauma
 - Life stress
- Other Predisposing conditions
 - Mental Illness
- Potency of the addictive drug

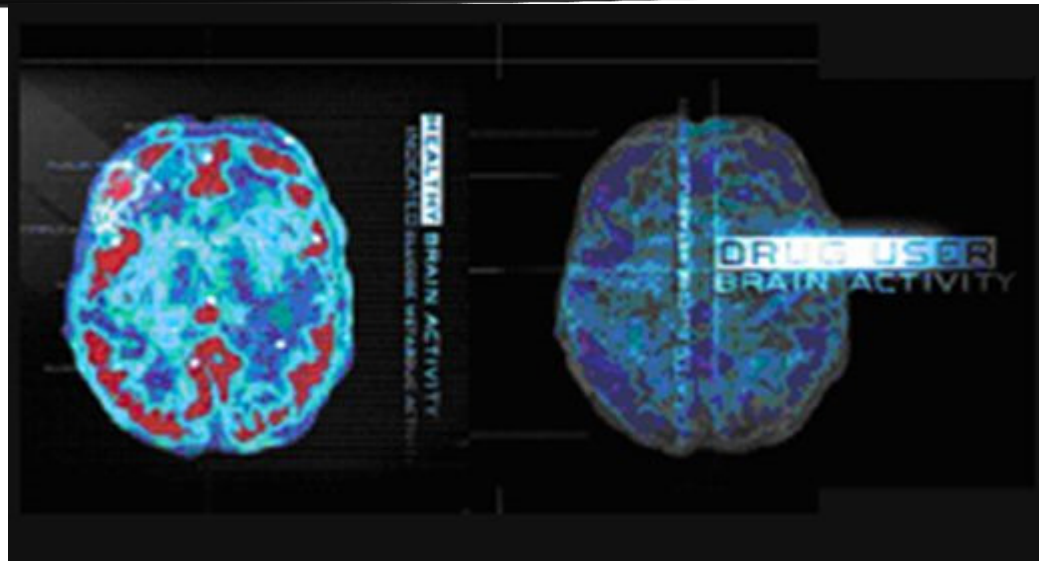
All influence the brain's response to substances and the vulnerability to substance use disorder

ACE score and IV drug use

Male child with an ACE score of 6 has a 4600% increase in likelihood of later becoming an IV drug user when compared to a male child with an ACE score of 0. Might drugs be used for the relief of profound anguish dating back to childhood experiences? Might it be the best coping device that an individual can find?"

-Felitti, 1998

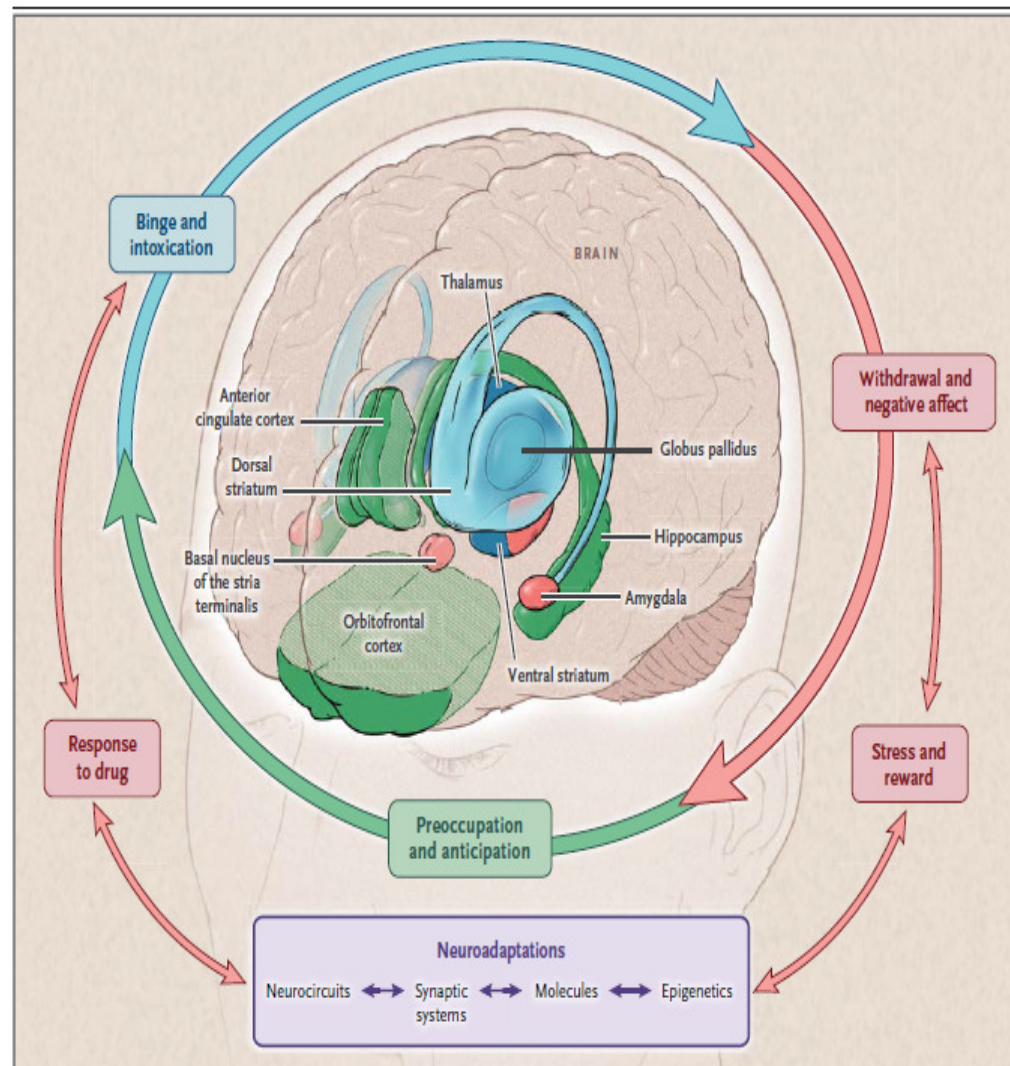
Addiction is a *Chronic* Brain Disease



It is NOT:

- A moral issue
- A willpower issue
- A character weakness

Substance Use Disorders are Brain Disorders



NEJM,
2016

Behavioral Health Problems in the United States (SAMSHA 2017)

PAST YEAR, 2016, 12+

Among those with a substance use disorder about:

- **1 IN 3 (37%)** struggled with illicit drugs
- **3 IN 4 (75%)** struggled with alcohol use
- **1 IN 9 (12%)** struggled with illicit drugs and alcohol

Among those with a mental illness about:

- **1 IN 4 (23%)** had a serious mental illness

7.5%
(20.1 MILLION)
People aged 12 or
older had a
substance use disorder

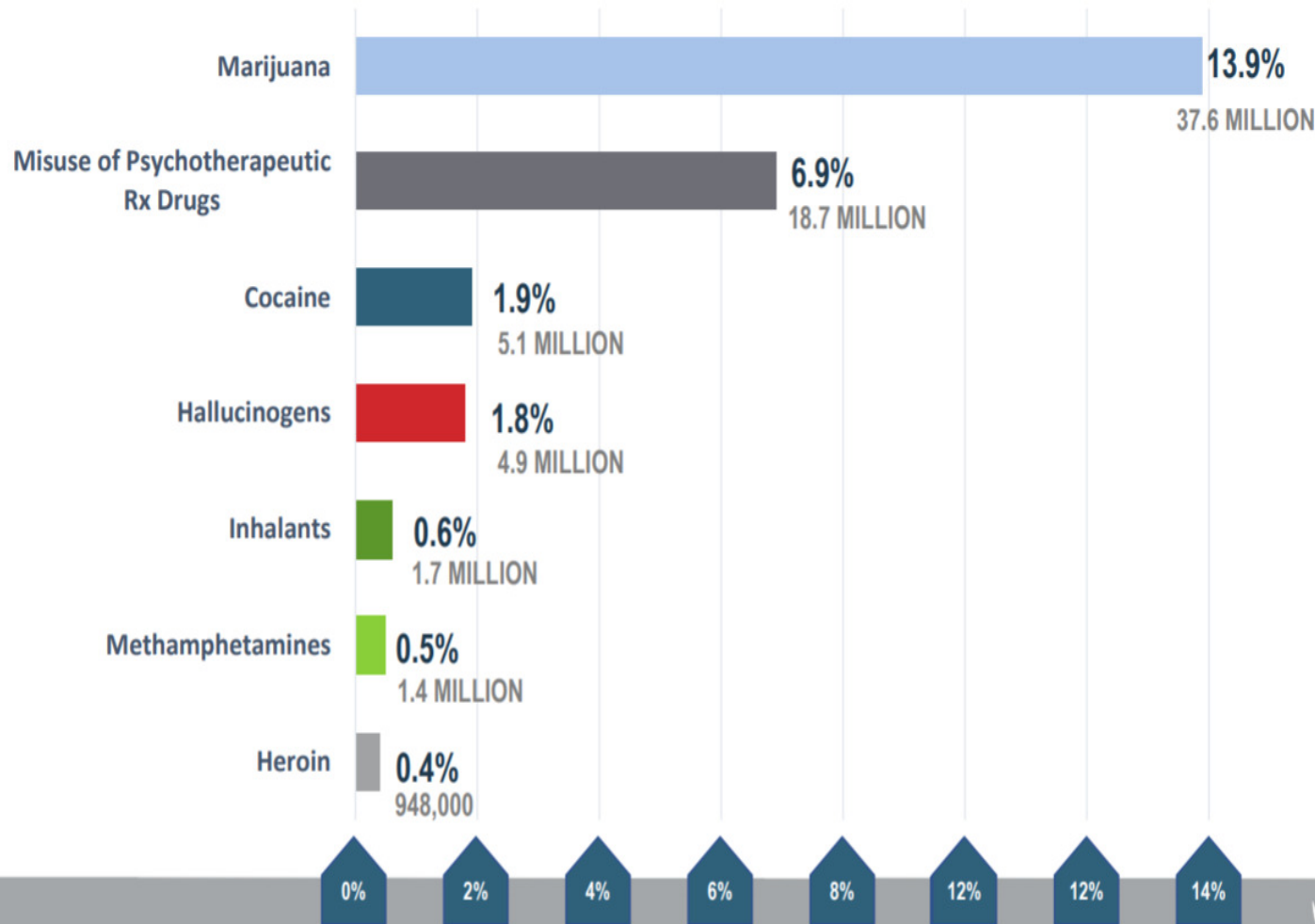
3.4%
(8.2 MILLION)
18+ HAD BOTH
substance use disorder
and a mental illness

18.3%
(44.7 MILLION)
People aged
18 or older had a
mental illness

No statistically different changes from 2015

Illicit drug use impacts millions

PAST YEAR, 2016, 12+



Whatever happened to alcoholism???

Condition	2001-2002 rate	2012-2013 rate	% change
Alcohol Use	65.4%	72.7%	↑ 11.1%
High-Risk Drinking	9.7%	12.6%	↑ 30.0%
Alcohol Use Disorder	8.5%	12.7%	↑ 49.4%

Increases in Alcohol Use, AUDs, and High-Risk Drinking 2001-2002 and 2012-13
(Grant, 2017)

Opioids

Morphine

Heroin

Meperidine

Methadone

Propoxyphene

Oxycodone (including Oxycontin)

Hydrocodone

Hydromorphone

Diphenoxylate

Fentanyl

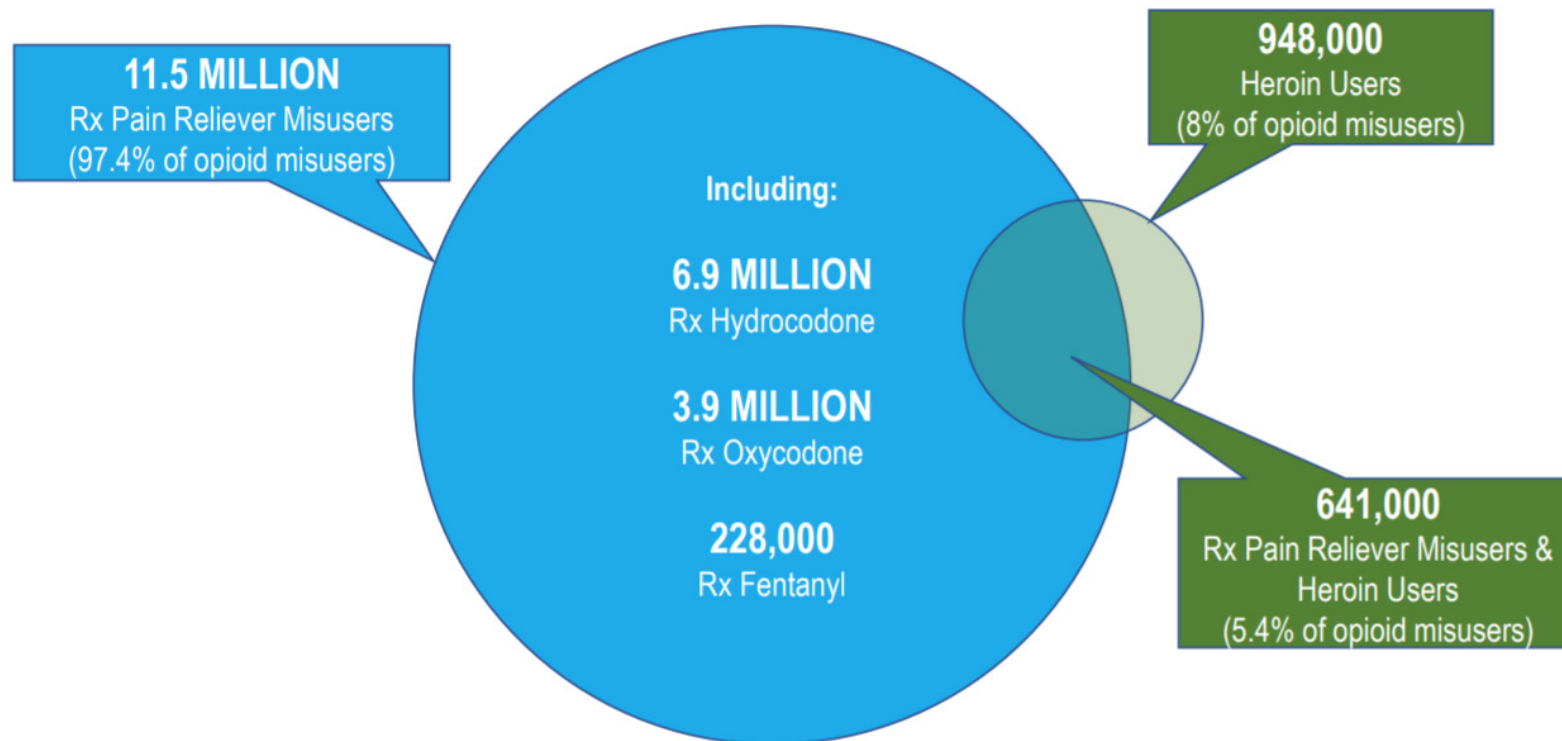
Carfentanil

Buprenorphine



PAST YEAR, 2016, 12+

11.8 MILLION PEOPLE WITH OPIOID MISUSE (4.4% OF TOTAL POPULATION)



Source: SAMHSA NSDUH 2017

Past Year Opioid Use in Ohioans (SAMHSA, 2017)

Type of Opioid Use	Number
Prescription pain medication substance use disorder	82,800
Heroin Use	47,150

Based on 2016 prevalence estimates NSDUH

Question

Which of the following is associated with increased use of an addictive substance?

- A. Increased availability
- B. Decreased belief in harmfulness of the substance
- C. Both
- D. Neither

Correct Answer: C. Both



Unintentional Drug Overdoses & Distribution Rates of Prescription Opioids in Grams per 100,000 population, Ohio, 1997-2011¹⁻³

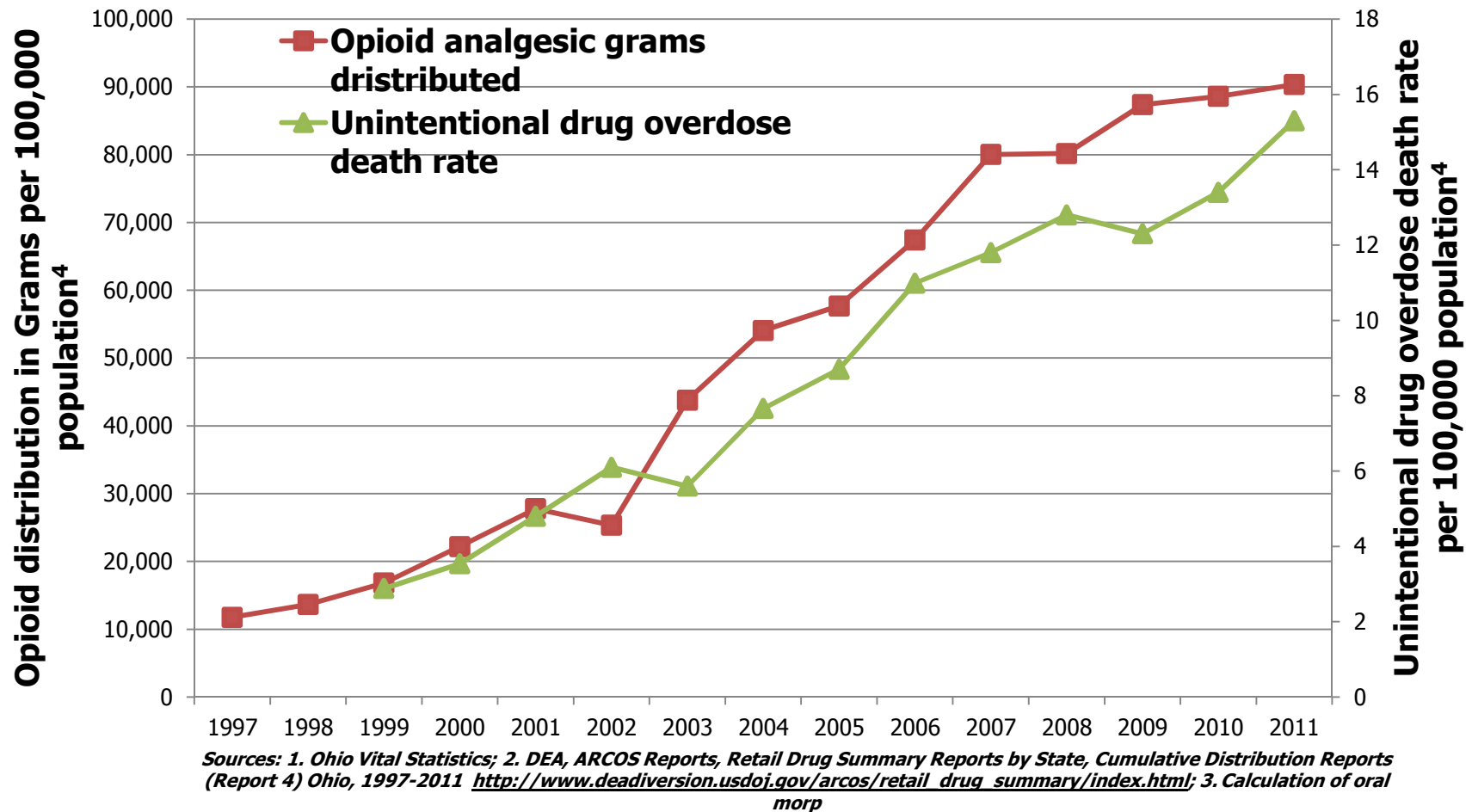
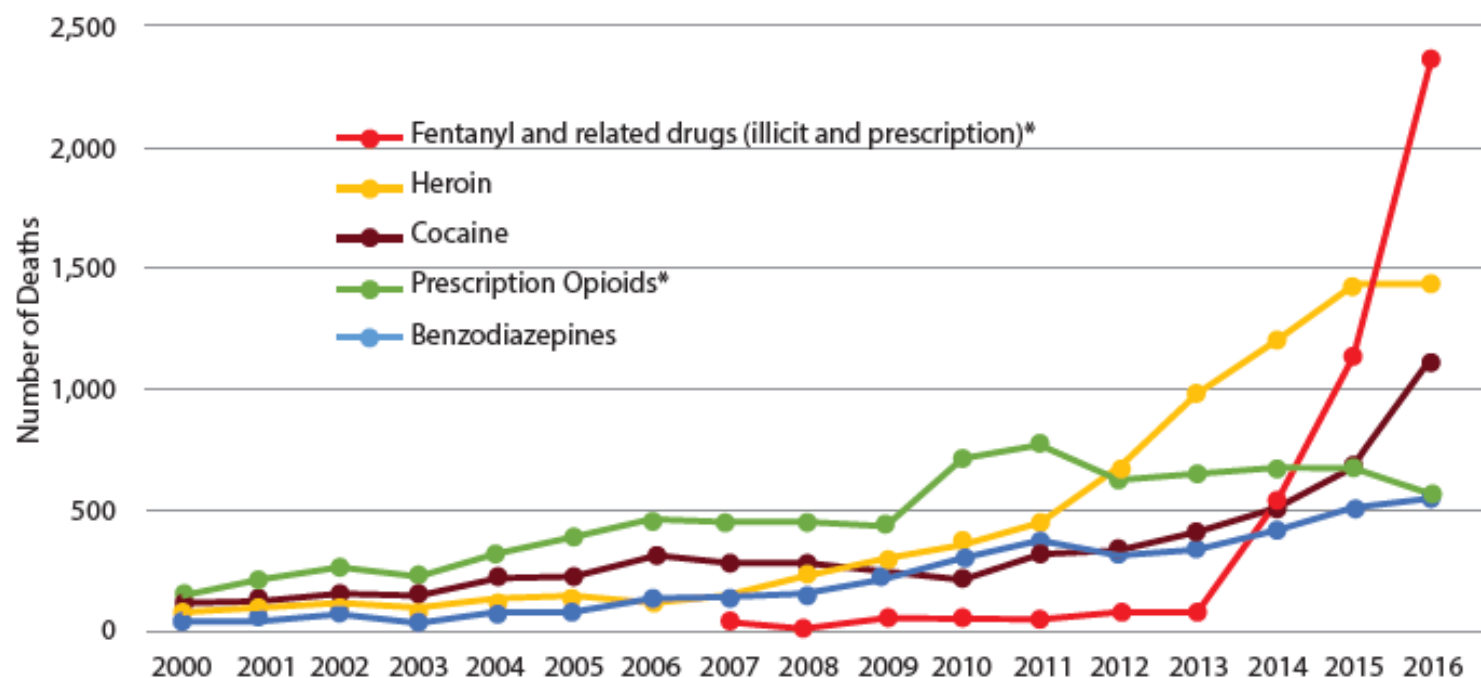


Figure 7. Number of Unintentional Drug Overdose Deaths Involving Selected Drugs, by Year, Ohio, 2000-2016

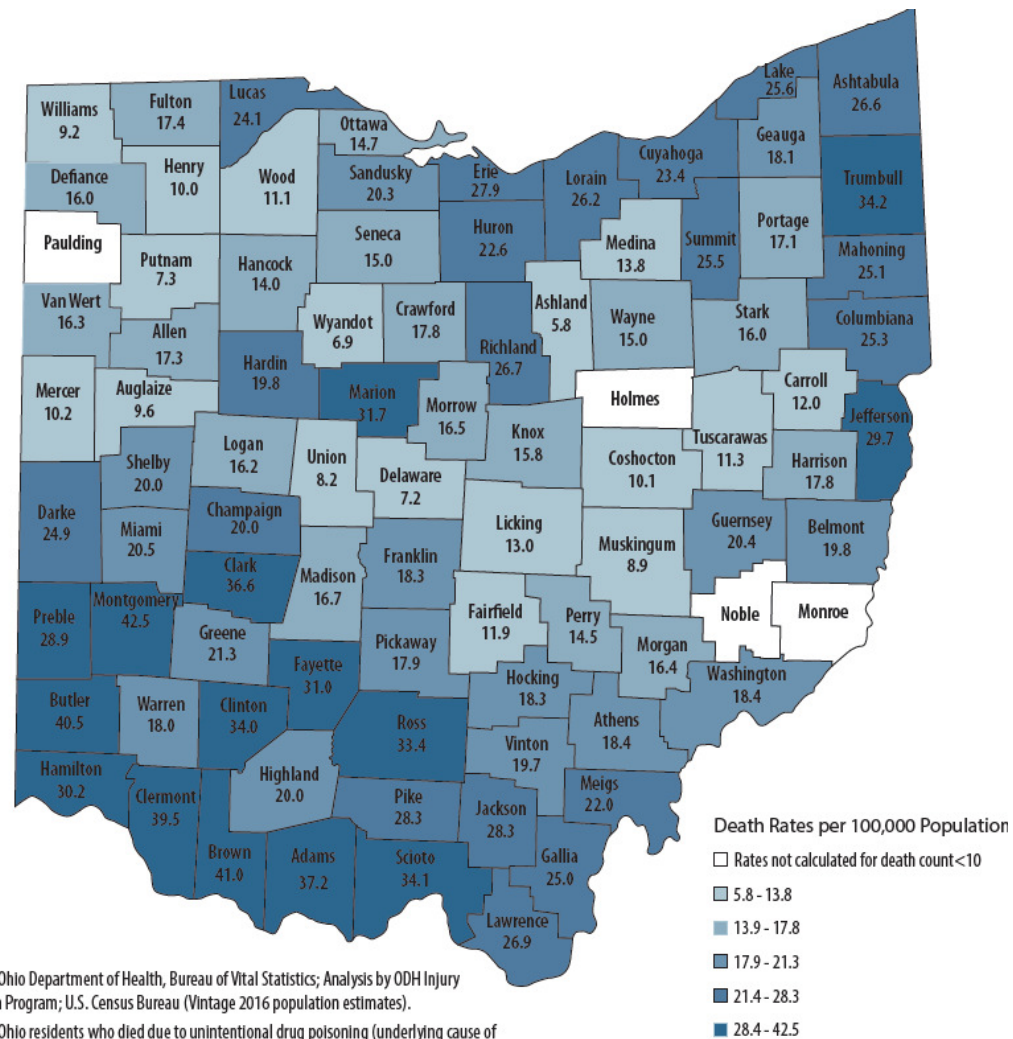


Source: Ohio Department of Health, Bureau of Vital Statistics; analysis conducted by ODH Injury Prevention Program.

Multiple drugs are usually involved in overdose deaths. Individual deaths may be reported in more than one category.

Includes Ohio residents who died due to unintentional drug poisoning (underlying cause of death ICD-10 codes X40-X44).

* Excludes deaths involving fentanyl and related drugs.



¹ Sources: Ohio Department of Health, Bureau of Vital Statistics; Analysis by ODH Injury Prevention Program; U.S. Census Bureau (Vintage 2016 population estimates).

² Includes Ohio residents who died due to unintentional drug poisoning (underlying cause of death ICD-10 codes X40-X44).

Rate suppressed if < 10 total deaths for 2011-2016.



1918 INFLUENZA PANDEMIC
OHIO REPORTED 1,113,797 CASES & 8,602 DEATHS.
UP TO 40 MILLION PEOPLE DIED GLOBALLY.

Response to the opioid crisis

- Prevention
- Early intervention
- Treatment
- Life-saving measures
- Interdiction



Life Saving Measures: Naloxone

- Opioid antagonist that blocks effects of opioid analgesics and reverses the effects of overdose
- No abuse potential
- Can be administered in both healthcare settings and in community
- Project DAWN (Deaths Avoided with Naloxone)
- ***Outcomes: Demonstrated to decrease mortality, not cause opioid dose escalation and improve eventual entry into treatment***



Prevention Efforts

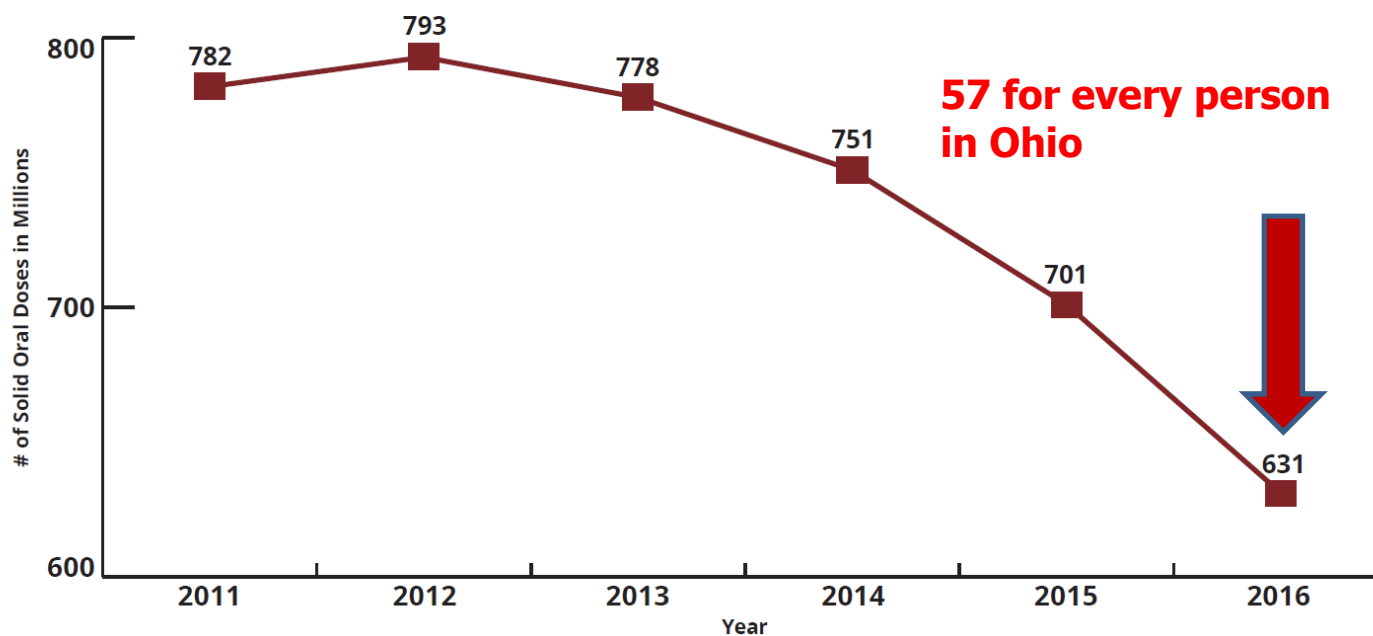
- What helps:
 - Talking to children about drugs (decreases likelihood of use about 50%)
 - Having dinner with family more nights of the week than not
 - Involving children in extracurricular activities
 - Decreasing opportunities for exposure to addictive substances
 - **Discard all addictive drugs when no longer needed**
 - Following prescribing guidelines



TakeChargeOhio

Manage Pain.
Prevent Medication Abuse.

Chart #1 - Opioid Solid Doses Dispensed to Ohio Patients, by Year



Early Intervention



Treating a biobehavioral disorder like addiction must go beyond just medication

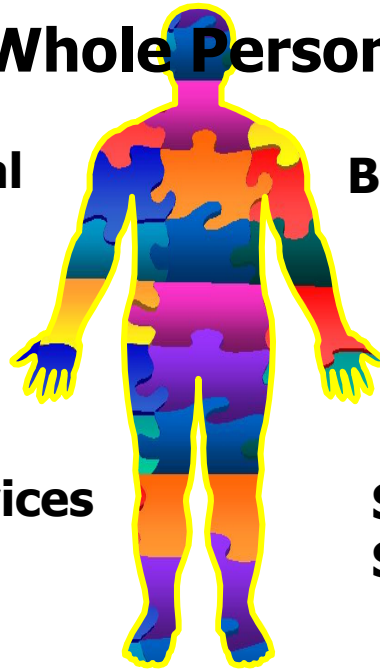
We Need to Treat the Whole Person!

**Pharmacological
Treatments
(Medications)**

Behavioral Therapies

Medical Services

**Social
Services**



In Social Context



Treating Opioid Use Disorders

Perspective: A chronic disease requires monitoring and treatment that corresponds to the evolution of that disease over time

- Stabilization
- Effective psychosocial treatment
- Pharmacological treatments (Medication Assisted Treatment)
- Recovery supports (safe housing, employment, etc.)
- Harm reduction approaches



Medication Assisted Treatment

Three Options: methadone, buprenorphine, naltrexone

Outcomes with treatment:

- Without MAT, relapse rates for opioid use disorders is extremely high (up to 90%)
 - Patients receiving MAT have:
 - Much lower relapse rates
 - Fewer fatalities
 - Less arrests
 - More employment
 - More family stability
 - Less needle sharing
 - Increased availability and use of MAT can lower mortality, improve recovery rates, and decrease individual and societal costs of opioid use disorders
-

***All* MATs improve abstinence rates**

Medication	With MAT (% Opioid Free)	Without MAT (% Opioid Free)	NNT
Naltrexone ER	36 %	23 %	7.7
Buprenorphine	20-50 %	6%	7.1-2.3
Methadone	60 %	30 %	3.3

NOTES:

- **COMPARATIVE CONCLUSIONS CANNOT BE DRAWN FROM THIS**
- **ALL MAT WAS PROVIDED ALONG WITH RELAPSE PREVENTION COUNSELING**

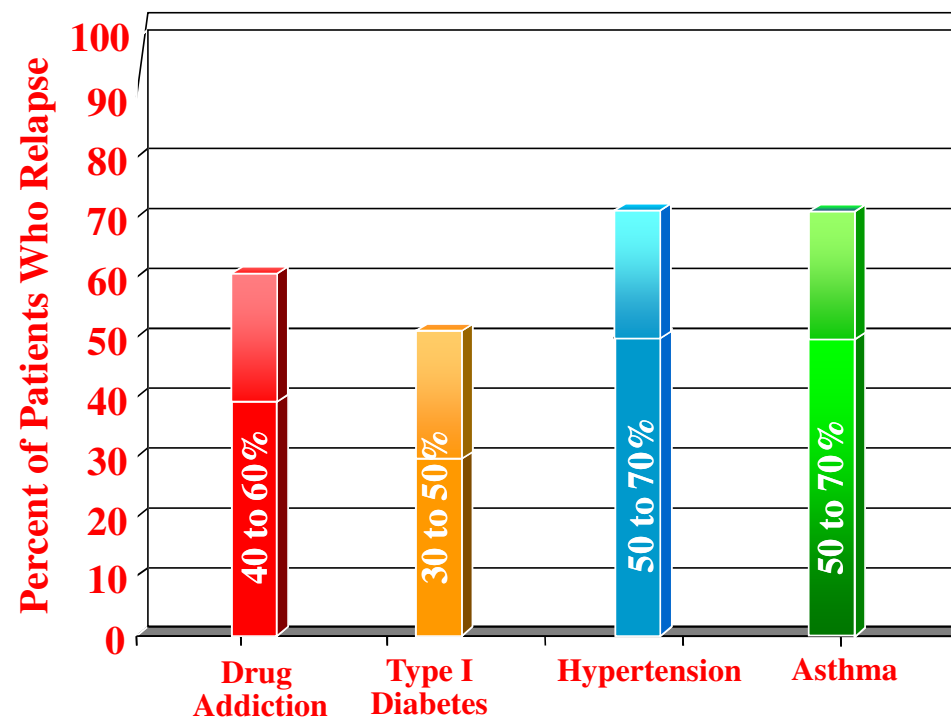
References: Krupitsky 2011, Mattick 2009, Fudala 2003, Weiss, 2011

Overheard about MAT

- **“It’s a crutch”**
- **“Why use a drug to treat a problem with a drug?”**



Relapse Rates are Similar for Addiction and Other Chronic Illnesses



McLellan et al., JAMA, 2000.

**“Somebody needs to do something
FAST”**

***We all need to do
many things in a
sustained way***

What can we do?

- Talk to kids about drugs
- Family time and positive activities
- Work with your doctor on low-risk approaches to treat pain
- Clean out your medicine cabinet
- Delay/eliminate exposure to any drug of abuse (Tobacco, alcohol, marijuana, opioids)
- Understand that addiction is a chronic relapsing disease
 - Relapse is part of the illness and not a failure
- Learn to use naloxone
- If you see something, say something
- Promote hope

***Be Part of a Community Response
FIGHT STIGMA!!!***

For more information

- Mark Hurst, MD, Medical Director, Ohio MHAS
 - Kim Kehl, Trauma Informed Care Program Manager
 - mha.ohio.gov/traumacare
 - Rick Massatti, PhD, MSW, MPH, LSW, State Opiate Treatment Authority
 - Ellen Augspurger, MAT, SBIRT Project Director
 - Sarah Moore, lead of “Start Talking” initiative
 - Andrea Boxill, Deputy Director, Governor’s Cabinet Opioid Action Team (GCOAT)
 - mha.ohio.gov/gcoat
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