

*SHREENATH*  
**PHARMA**  
**MAGAZINE**

Volume 1, Issue8, January 2020



# Table of Content

# From the Editor's Desk.....	3
# Pharma News.....	4
# Molecule of the month.....	6
# BRAIN, PLEASURE AND PAIN.....	8
# Articles 101.....	10
# Talk the talk.....	11
# Upcoming Events.....	13



## From the Editor's Desk

Dear Readers,

At this time of the year, final year students are preparing for their placements and so, this issue contains some insights about what does an employer look for in the candidate. These points are highlighted in the interview of Ms. Sonia Malthankar a co-founder at Invex Health Pvt. Ltd. This issue also describes a very common molecule consumed by many - Ibuprofen (a must read for every pharmacist). We also have some news updates and an interesting article on how neurons work.

Coming to the eight issue of this magazine, I prodly thank all my readers and contributors to help sustain the monthly publication. We are always striving to improve with every upcoming issue. We would love to hear your feedback to help us grow more and better.

Once again a look forward to your feedback and grow better.

Happy reading

Forum Gandhi (Jalundhwala)

**Editorial Team: Atharva Magdum**

**Sahil Bhatia**

**Ravi Kukreja**

**Mayur Khiyani**

**Along with Pharmacad & Pharmocracy**

**Coverpage & Design: Vaishnavi Pawar**

## **Piramal Group to invest Rs 5 billion(500 crore) in Telangana pharmaceutical operations**

The proposed investment would be utilised to increase production capacities with creation of new manufacturing blocks, warehouse expansion and utility augmentation. The proposed investment would be utilised to increase production capacities with creation of new manufacturing blocks, warehouse expansion and utility augmentation. A statement issued by the state IT and Industries Minister K T Rama Rao's office said, "Piramal Group is also keen on adding capacities through acquisitions in and around Hyderabad with an aim to increase active pharmaceutical ingredient(API) manufacturing. In addition, the group plans to shift their pharmaceutical manufacturing operations from other states to a new location in Hyderabad in order to take advantage of ease of business without roadblocks offered by the Telangana government."

Reference:[https://www.business-standard.com/article/companies/piramal-group-to-invest-rs-500-crore-in-pharma-operations-in-telangana-120012200952\\_1.html](https://www.business-standard.com/article/companies/piramal-group-to-invest-rs-500-crore-in-pharma-operations-in-telangana-120012200952_1.html)

## **Lonza CDMO's next CEO to be a pharma or biotech vet**

Lonza intends to name someone with at least two decades of pharma or biotech experience as the company continues to build those businesses and prepares to turn its struggling chemicals unit into a standalone operation.

While the new CEO will have the pressing task of advising on whether Lonza should keep, sell or spin off the chemicals business, other projects, like investments in drug manufacturing, will proceed in the meantime.

Reference:<https://www.fiercepharma.com/manufacturing/lonza-s-next-ceo-to-have-at-least-20-years-experience-pharma-or-biotch>

## **Strides Pharma to invest 40 million USD in Stelis BioPharma pvt Ltd**

Strides Pharma announced that it would invest an additional \$40 million over a five year period for a controlling stake in biopharmaceutical firm Stelis Biopharma Pvt Ltd. Stelis Biopharma is in the business of biopharmaceuticals, contract manufacturing and biologics research services. With its additional investment in Stelis Biopharma, Strides Pharma is planning to re-enter the sterile injectables business after selling its injectables unit Agila Specialties to Mylan for \$1.6 billion in 2013.

Reference:<https://www.livemint.com/companies/people/strides-pharma-appoints-ex-cipla-coo-anant-hanarayanan-as-md-ceo-11578499541346.html>

## **Alembic Pharma gets USFDA approval for Fenofibrate tablets**

Alembic Pharmaceuticals has received a final nod from the US health regulator for fenofibrate tablets , which reduces cholesterol and triglycerides in blood. The Abbreviated New Drug Application (ANDA) Fenofibrate Tablets USP, 54 mg and 160 mg have been approved by the USFDA.

The approved ANDA is therapeutically equivalent to the reference listed drug product (RLD) Tricor Tablets, 54 mg and 160 mg, of AbbVie Inc (AbbVie). Fenofibrate tablets are indicated as an adjunct to diet to reduce elevated LDL-C, Total-C, TG and Apo B, and to increase HDL-C in adult patients with primary hypercholesterolemia or mixed dyslipidaemia and for treatment of adult patients with severe hypertriglyceridemia

Reference:<https://health.economicstimes.indiatimes.com/news/pharma/alembic-pharma-gets-final-usfda-nod-for-fenofibrate-tablets/73546606>

## **Sun Pharma recalls batches of anti-migraine drug, testosterone injection in US**

Sun Pharmaceutical Industries has recalled multiple batches of its anti-migraine drug sumatriptan succinate as well as testosterone cypionate for injection in the USA. The firm recalled sumatriptan succinate due to presence of impurities in the medicine. Batches of testosterone cypionate were recalled due to deviations from good manufacturing practice norms at the facility where it was made. Testosterone cypionate, used to treat low testosterone levels in men and in hormone therapy for transgender men, was manufactured by Sun Pharma at one of the company's plants in Gujarat



Reference:<https://www.livemint.com/companies/news/sun-pharma-recalls-batches-of-anti-migraine-drug-testosterone-injection-in-us-11579699688762.html>

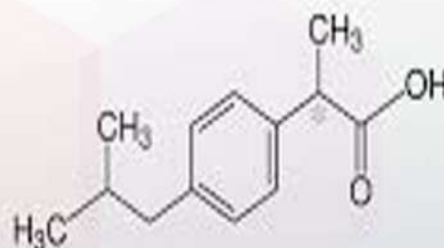
# MOLECULE OF THE MONTH

## Ibuprofen

The last edition had an over-the-counter remedy for a hangover or a regular day headache, but to an extent some aren't convinced with the popularity of Paracetamol on being one of the most headlines in the department, Ibuprofen has been the choice for some, here's why Ibuprofen is more potent as a pain killer but not the safest in the duel.

Ibuprofen is used to relieve pain from various conditions such as headache, dental pain, menstrual cramps, muscle aches, or arthritis. It is also used to reduce fever and to relieve minor aches and pain due to the common cold or flu. Ibuprofen is a nonsteroidal anti-inflammatory drug (NSAID). It works by blocking your body's production of certain natural substances that cause inflammation. This effect helps to decrease swelling, pain, or fever.

If you are treating a chronic condition such as arthritis, ask your doctor about non-drug treatments and/or using other medications to treat your pain. The dosage is based on your medical condition and response to treatment. To reduce your risk of stomach bleeding and other side effects, take this medication at the lowest effective dose for the shortest possible time. Do not increase your dose or take this drug more often than directed by your doctor or the package label. For ongoing conditions such as arthritis, continue taking this medication as directed by your doctor. When ibuprofen is used by children, the dose is based on the child's weight.



ibuprofen

Ibuprofen is a traditional non-steroidal anti-inflammatory drug (NSAID) widely used for its analgesic, anti-inflammatory, and antipyretic properties. The main mechanism of action of ibuprofen is the non-selective, reversible inhibition of the cyclooxygenase enzymes COX-1 and COX-2 (coded for by PTGS1 and PTGS2, respectively). Of the two enantiomers, S-ibuprofen is a more potent inhibitor of COX enzymes than R-ibuprofen, with a stronger inhibitory activity at COX-1 than COX-2 in vitro. COX-1 and COX-2 catalyze the first committed step in the synthesis of prostanoids - prostaglandin (PG)

E2, PGD2, PGF2alpha, PGI2 (also known as prostacyclin), and thromboxane (Tx) A2 - from arachidonic acid. Arachidonic acid is released from the cell membrane phospholipids by phospholipase A2, PLA2, encoded by PLA2G4A (cytosolic, calcium-dependent) and PLA2G2A (in platelets and synovial fluid). Arachidonic acid is converted to the unstable intermediate prostaglandin H2 by cytosolic prostaglandin G/H synthases, termed cyclooxygenases, COX, that exist in two forms, COX-1 and COX-2, and are encoded by PTGS1 and PTGS2, respectively. PGH2 is converted by tissue-specific synthases to various prostanoids, i.e. PGE2, PGD2, PGF2alpha, PGI2, and TxA2. These bioactive lipids act through their corresponding receptors to trigger a series of biological effects.

Unlike ibuprofen, which suppresses inflammation all over the body, paracetamol works on a smaller area and doesn't reduce inflammation. Instead it inhibits the production of specific prostaglandins. This means that, for many, ibuprofen could be a more effective method of pain relief for headaches than paracetamol. However, there's a reason why paracetamol is often recommended as one of the first-line treatments for pain, such as headaches, according to the NHS. It's safe for the majority of people to take, and side-effects are rare. In contrast, ibuprofen isn't suitable for everyone.

Reference:<https://www.google.com/search?q=ibuprofen&oq=ibu&aqs=chrome.1.69i59l2j69i57j69i59j0l4.3332j1j8&sourceid=chrome&ie=UTF-8>

-A.Magdum

## **HOW THE BRAIN BALANCES PLEASURE, PAIN DECODED...**

As our brains take in information about the world and use it to steer our actions, two key principles guide our choices: seek pleasure and avoid pain. Researchers at Cold Spring Harbor Laboratory (CSHL) have zeroed in on an information-processing hub in the brains of mice to discover how neurons there divide the labor to handle these opposing behavioral motivations. Their work, reported December 31, 2019 in the journal *Neuron*, reveals that different classes of neurons control positive and negative motivation, sending opposing signals along a shared motivation-processing brain circuit. Ultimately, the balance of activity between these two groups of cells may determine whether a person acts to seek out pleasurable experiences or avoid negative ones, says CSHL Professor Bo Li, who led the study.

Li wants to understand the brain's motivation-processing circuits because the behaviors they control are often disrupted in people with mental illness. People suffering from depression may stop doing things that once gave them pleasure, for example, whereas people with anxiety disorders may go to greater lengths to avoid potential threats. The ability to recognize and respond to potential rewards or punishments depends in part on a part of the brain called the ventral pallidum. Researchers have observed activity in this brain region when animals seek rewards, such as a sip of water, or avoid punishments, such as an annoying puff of air. What Li wanted to understand was how the different types of neurons that reside in this part of the brain ensure an animal responds appropriately to signals associated with both types of motivation.

To investigate, his team took advantage of research tools that allowed them to monitor the activity of individual brain cells and to confirm those cells' identities with a flash of light. After training mice to associate certain sounds with either a sip of water or a puff of air, Li and his colleagues used the technique to monitor neural activity in the ventral pallidum. They found that neurons that used the neurotransmitter known as GABA to dampen activity in the circuit influencing motivation were important in motivating the mice to seek a water reward. The neurons that used the neurotransmitter known as glutamate to excite the brain circuit, on the other hand, were essential for avoiding the air-puff punishment.



As our brains take in information about the world and use it to steer our actions, two key principles guide our choices: seek pleasure and avoid pain. Researchers at Cold Spring Harbor Laboratory (CSHL) have zeroed in on an information-processing hub in the brains of mice to discover how neurons there divide the labor to handle these opposing behavioral motivations.

In more complex situations, where animals were presented with the potential for both punishment and reward, both sets of neurons responded. Mice made different choices in response to the combined stimuli: Thirsty animals, for example, were more willing to risk an air puff to obtain a sip of water than animals that had just drunk their fill. But if the team artificially shifted the balance of activity in the ventral pallidum by manipulating one class of neurons or the other, they could alter the animals' behavior. That balance between signals that either inhibit or excite neurons in the ventral pallidum appears critical in controlling which motivation an animal acts on, Li says. Now, he is eager to find out whether it is disrupted in people with psychiatric disorders. "Behavioral changes in people with depression or stress-induced anxiety may be caused by changes in this circuit," he says. With the new findings, his team has important leads about how to investigate the causes and symptoms of these disorders more deeply.

Reference:<https://www.freepressjournal.in/health/decoded-how-brain-balances-pleasure>

**-A.Magdum**

# Articles 101

## CARRIERS USED IN TARGETED DRUG DELIVERY SYSTEM

### ABSTRACT:

At present 95 percent of all new potential therapeutics have poor pharmacokinetic and biopharmaceutical properties. Hence there is need to develop a suitable drug system that distributes the therapeutically active drug molecule only to site of action, without affecting healthy tissue or organ and is called as targeted drug delivery system (TDDS). Among drug carrier soluble polymers, microparticles made of insoluble (or) biodegradable natural and synthetic polymers, microcapsules, cells, cell ghosts, neutrophils, fibroblasts, artificial cells, lipoproteins, liposomes and micelles, immune micelle, monoclonal antibodies can be taken into consideration. Taken together, the aim of TDDS is to prolong, localize and target the diseased tissue.

### INTRODUCTION:

Targeted drug delivery, sometimes called as smart drug delivery, is a method of delivering medication to a patient in a manner that increases the concentration of the medication in some parts of the body relative to others. This means of delivery is largely founded on nanomedicine, which plans to employ nanoparticle-mediated drug delivery in order to combat the downfalls of conventional drug delivery.

### PROPERTIES OF TARGETED DRUG DELIVERY:

A targeted drug delivery system should have following ideal properties:

- \* It should be nontoxic, biodegradable, biocompatible and physicochemically stable in-vivo and in-vitro
- \* Confine drug delivery to target cells or tissue or organ or should have uniform capillary distribution.
- \* Predictable and Controllable rate of drug release.
- \* Drug release should not influence the drug delivery.
- \* Therapeutic amount of drug release.
- \* Minimal drug leakage during transit
- \* Carrier used should be biodegradable or readily eliminated from the body without any problem and no carrier should induce modulation of diseased state.

**-Shinde Ashitosh S.**

To get more info. on the research, go to link:

<https://mail.google.com/mail/u/0/?tab=rm&ogbl#search/ashitoshshinde1999%40gmail.com/FMfcgxwGckhtVgpDtMTVdcGrXTVKmXGc?projector=1&messagePartId=0>

# TALK THE TALK

**Ms.Sonia Malthankar**  
**Co-founder**  
**Invex Health Pvt. Ltd**



**Invex as a company has a wide range of products and services. In a competitive field like pharmaceuticals, How does Invex stand out?**

Invex is a Pharmaceutical & Nutraceutical company driven by innovation. Our portfolio comprises of Innovative molecules, dosage forms, globally patented products across different therapy areas namely Biosimilars, Oncology, Gastrocare, Gynaecology, HIV diagnostics ,etc. We are a young & aggressive company always scouting for potential opportunities & looking out for new products to cater to the needs of healthcare in India & on a global level. We believe in adding value to other's lives & following this strategy helps attain our business goals as well.

**You are a B.Pharm, as well as an MBA graduate. Has this been the deciding factor for you being at the business end of a pharmaceutical company?**

Being a Pharmacist myself & having done ground work with my earlier assignments, has truly made me realize the needs & demands of the healthcare industry. A combination with an MBA has taught me the business side of it & implementing the same has been instrumental in learning on-the-job & thereby building a team by imbibing similar skill-set with a common vision aligned.

**On LinkedIn, I saw that your company is looking to hire B.Pharm/ B.Sc/ B.Com candidates. Why such a variety of courses, for what should be a pharmacist's job?**

We are a diversified company catering to not just Pharmaceuticals but also Nutraceutical, Medical devices, Merger & Acquisitions. We tie up with developers or manufacturers to convert our ideas into product deliverables. Hence owing to the diverse portfolios at Invex, we believe in hiring minds from different backgrounds to bring in new ideas & experiences.

**What do you look for in a candidate while hiring?**

We are always on the lookout for self-driven & self-motivated candidates who can dedicate themselves to be a part of Invex family. We believe in training the candidates on the job but at the same time we look for candidates with a motive to deliver a long term commitment towards the company while we invest ourselves in training the candidates & offering liberty to explore opportunities for the growth of the company & the candidate. We believe Self growth promotes Company growth.

**I see that you interned at Kantar Millward Brown. How does a student make the decision of where to intern and what to look for?**

As a part of my MBA curriculum, we had to intern for a period of 60 days. My experience at Millward Brown was more research oriented in the Pharma space since I wanted to use it to my advantage once I apply for campus placements. I believe every candidate must evaluate & experiment with a number of options before zeroing down on what really interests or appeals to them and always remember that every experience is always a learning!

**As a pharmacist-to-be, I would love to know your opinion on what to pursue in terms of postgraduation, whether it be science or business.**

It is definitely a feeling of pride to be a Pharmacist & add value to the lives of people. But then pursuing science or business is something that depends on person to person. I was very clear about pursuing the business side of things as I wanted to start something of my own. I believe one should explore opportunities in the form of internship to determine their inclination towards science or business & choose what truly aligns with their interest.

**“We believe in training the candidates on the job but at the same time we look for candidates with a motive to deliver a long term commitment towards the company while we invest ourselves in training the candidates & offering liberty to explore opportunities for the growth of the company & the candidate. We believe Self growth promotes Company growth.”**

**How do you manage stress? Also, is a work-life balance possible?**

Stress can be a go-getter in driving a person to achieve his goals provided it is taken in a positive stride. I believe work stress should be left at work & shouldn't interfere with personal space. Personal & social life is equally important to develop new skills, socialize & spend quality time with your loved ones.

**Sonia Malthankar has many accolades as a professional. How do you look at yourself? Do you think this is the peak and you will be at the peak, or do you wanna work harder for more?**

I believe the future is just beginning now. I am a dreamer & I shall keep dreaming till I convert them into reality. As it is rightly said “Who you are tomorrow begins with what you do today, so do it now”

**-As Told to S.Bhatia**

# Upcoming Events

## PHARMACAD – M. PHARMA / MBA ENTRANCE



Admissions Open For:

- GPAT, NIPER, BITS HD, ICT, Manipal Entrance, NMIMS. (2021 / 2022)
- CAT, CMAT, MBA CET, NMAT, SNAP, XAT etc. (2021 / 2022)

- \*Experienced Team of Industry Linked Professors
- \*Extensive Classroom Lectures
- \*Career Counselling
- \*Online/Offline Test Series
- \*Certificate Courses
- \*Industrial Training/Internship Assistance

\*SCHOLARSHIPS for MERITORIOUS Students

For FREE DEMO Lectures or Career Counselling Sessions  
Branches : Dadar & Thane. Contact: 9833472166/9619573372  
Pharmacad.mumbai@gmail.com www.pharmacad.in  
BE A PART OF THE CHANGE. BE, TEAM PHARMACAD.

Want to pursue MS/PhD in Pharmacy Abroad?

INTERNATIONAL GRADUATE PROGRAM ADVISOR.



A dedicated team of Counsellors exclusively for PHARMACY Courses, guiding students to

- Select the Best University based on Student Profile and Subject of Interest.
- Create a Road Map.
- Upgrade Student Profile by suitable Internships & Community Service Activities.
- Prepare LOR (Letter of Recommendation) & SOP (Statement of Purpose).
- Identify Scholarship/Stipend Eligibility criteria.

For Free Primary Counselling Contact: 9833472166, 9820975987  
Branches: Dadar & Thane Email: igpa.info@gmail.com www.pharmacad.in



SEVILLE 2020  
FIP WORLD CONGRESS  
23-27 September

Seville,  
Spain

13-17 September  
2020



80<sup>th</sup> FIP

World Congress  
of Pharmacy and  
Pharmaceutical  
Sciences

**To contribute and for article specification connect with us on:**  
**Email: [pharmamagazine.shreenath@gmail.com](mailto:pharmamagazine.shreenath@gmail.com)**  
**Facebook: Shreenath Pharma Magazine**  
**Website: [www.shreenathpharmamagazine.com](http://www.shreenathpharmamagazine.com)**