August 2025

Investor Presentation

Nasdaq: ASBP

Aspire™ BIOPHARMA

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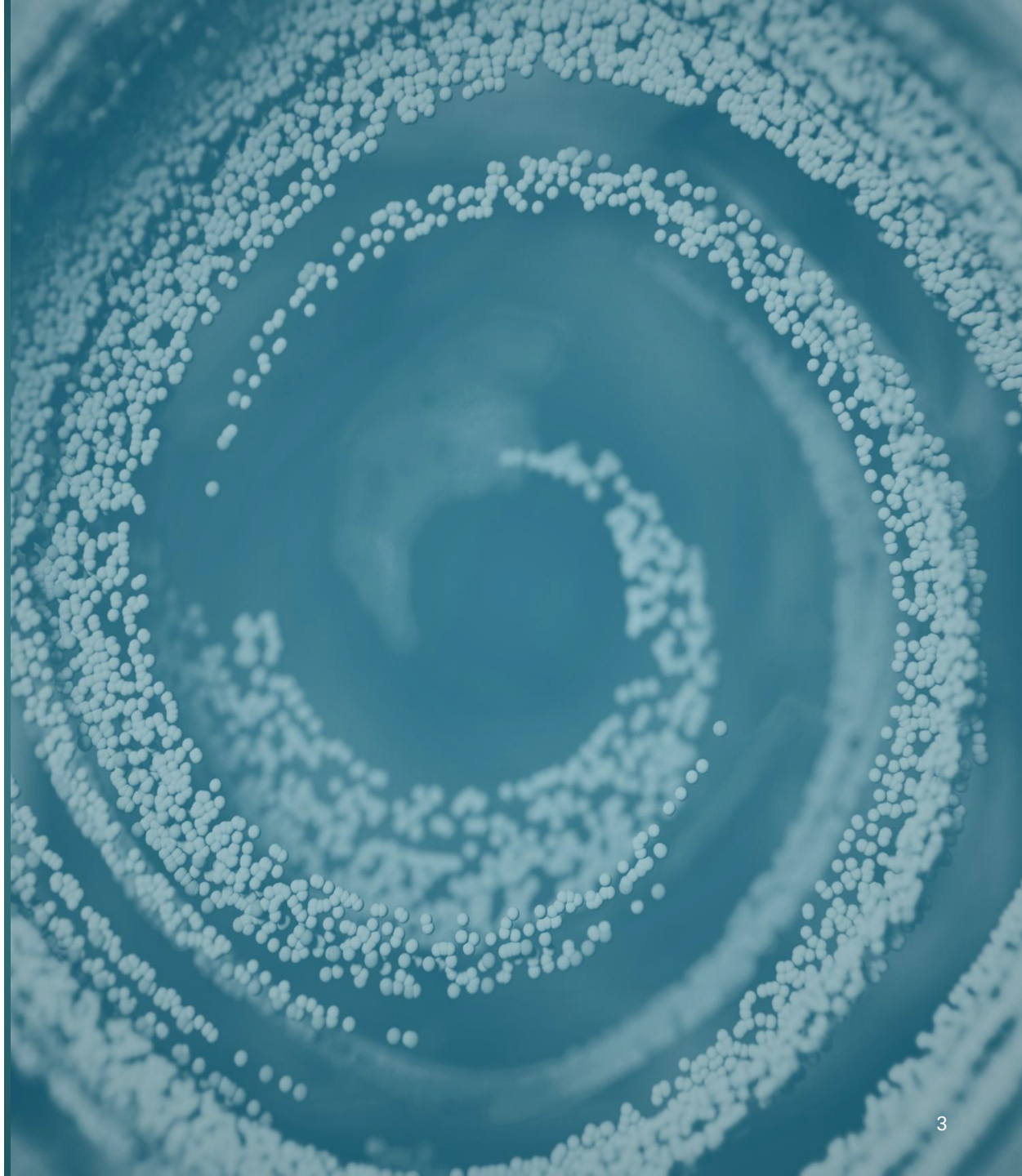
Aspire at a Glance

Patent-pending drug delivery technology for rapid sublingual absorption and entry into the bloodstream of drugs and supplements

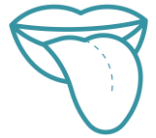
- Enhances the pharmacokinetic performance of Active Pharmaceutical Ingredients (“APIs”), supplements and nutraceuticals into the bloodstream, increasing bioavailability and improving speed of onset
- Multiple ℞ applications in heart attack/stroke, pain management, weight loss, testosterone, and others
- Can be applied in multiple oral/intraoral product formats such as tablets, capsules, oral suspensions, and others
- Contract Manufacturing Relationships
- Lead Rx Product: Sublingual High Dose Aspirin
- Lead Consumer Product: BUZZ BOMB™
- Focused on commercialization through partnerships, licensing and internal development
- Investment Considerations:
  > Mid-Stage Biotech Company
  > Several Products in Development
  > First Revenues Expected in Late 2025
- Market Opportunity: >$100 billion



Drug and Supplement Delivery Technology Innovator

Aspire Biopharma has developed disruptive technologies for delivering drugs and other products sublingually(1).

Technology delivers fast acting drug formulations using our patent-pending methodology, and proprietary process.



New mechanism of delivery allows rapid sublingual absorption into the bloodstream.

(1) Aspire filed a patent application (No. PCT/US2024/022318) on March 29, 2024 for its low-dose aspirin. Aspirin filed a second patent on October 2, 2024 (No. 63/702,381) for its high-dose aspirin.

Drug and Supplement Delivery Technology Innovator

01 **Fast Acting**

Powder-form medication developed using our patent-pending technology enters the bloodstream in a fraction of the time as compared to oral tablets and capsules

02 **Easy to Use**

Dissolves easily under the tongue

03 **Dosage Management**

Drugs do not first pass through the liver and are not metabolized like swallowed products

04 **Bypasses the Digestive Tract**

Reduces or eliminates adverse reactions in the gastrointestinal tract

05 **Replaces pills and tablets**

Easy for patient or caregiver to administer

Aspire’s Mechanisms of Action

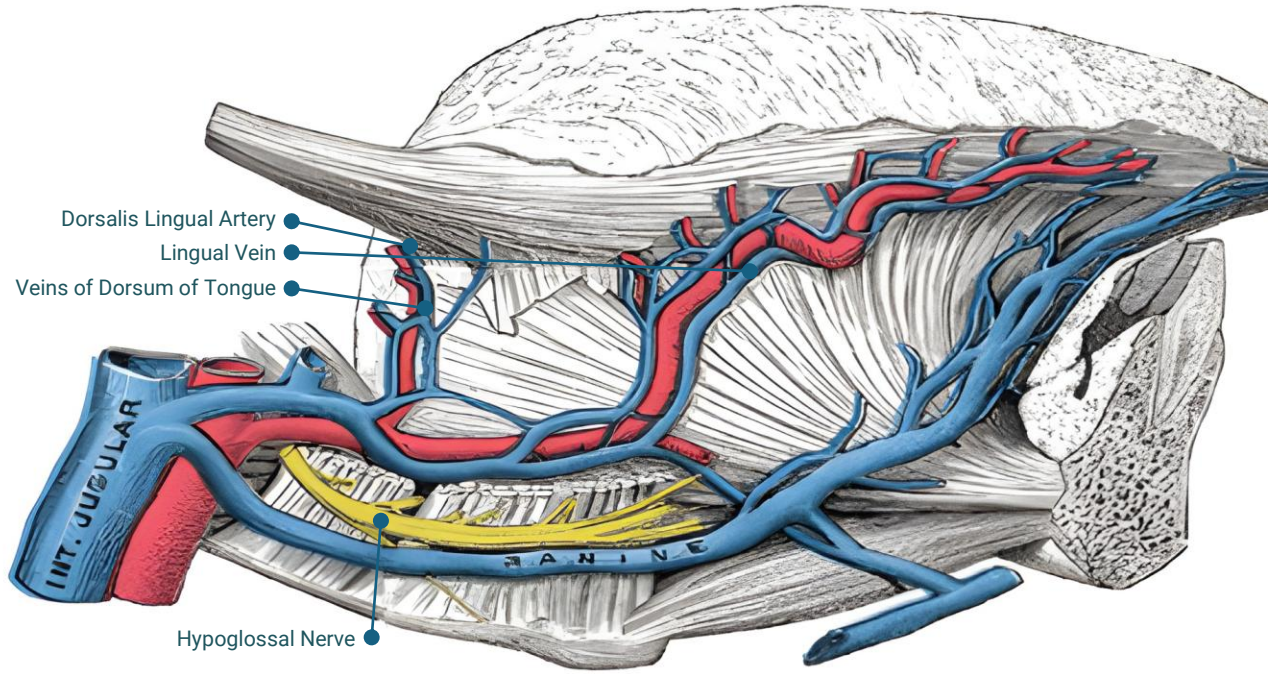
Nature Provides the Mouth with Direct Access to Blood Stream

Aspire’s sublingual delivery system avoids the side effect drugs delivered in pills or tables orally

- Avoid damage to GI tract
- Avoid damage to the Liver

The most common set of side effects for drugs that work inside your body involves the gastrointestinal system

Mouth to Blood Stream Pathways



1. The main artery is the lingual artery
2. Tonsillar branch of the facial artery
3. Ascending pharyngeal artery

*The veins drain into the **internal jugular vein***

Overview – The Technology

Aspire Pipeline, Commercial Opportunities & Planned 2025 Milestones

Aspirin Products

High Dose

✓ **Completed clinical trial to evaluate the pharmacodynamic effect of a single dose of our aspirin product on platelet inhibition compared to that of standard oral aspirin in July 2025.**

- File 505(b)(2) application with the FDA end of 2025
- Request "fast track" approval on its NDA for the high dose aspirin product to the FDA.
- High dose sublingually administered aspirin for pain relief (rheumatological and other pain). Building on previous clinical trial as set forth above, we anticipate seeking FDA approval in the latter part of 2025.

Non-Aspirin Prescription Drug Products

- Testosterone formulation for sublingually administration.
- Phase 1 clinical test planned for 2026.
- Sublingual semaglutide formulation.
- Early studies of migraine relief product 2026.
- Erectile dysfunction (sildenafil/tadalafil) formulation development in 2026.

Non-Prescription Products

✓ **Launched BUZZ BOMB™ single dose pre-workout caffeine supplement utilizing sublingual delivery technology.**

✓ **Conducted consumer and safety testing during Q2 2025**

✓ **Pre-workout supplement features 50mg of caffeine designed to support sustained energy and mental focus, helping athletes and fitness enthusiasts maximize performance.**

✓ **Showcased BUZZ BOMB™ at FitCon and FitExpo, two of the largest fitness conventions and launched sales in Q3 2025**

- Sublingually administered vitamins D, E and K 2H 2025.

Market Opportunity

Aspire believes its disruptive technology can be applied to a number of approved drugs and supplements

Global Analgesics Market
Valued at **$47.32B** in 2023 and projected to reach **$75.73B** by 2032, growing at a compound annual growth rate (CAGR) of 5.39% over the forecast period 2024-2032. (Source: SNS Insider)

Global Opioid Analgesics Market
Opioid analgesics market is experiencing significant growth, with estimated projections of **$26.78B** by 2034. The market is expected to grow at a CAGR of 1.5% from 2024 to 2034. (Source: Biospace)

Global Erectile Dysfunction (ED) Market
Expected to reach $3.9B by 2034, growing at a CAGR of 6.53% during the forecast period from 2024 to 2034 (Source: Biospace)

Global Pre-Workout Market
Supplements market valued at $19.90B in 2023. Estimated to reach **$29.77B** by 2032, growing at a CAGR of 4.58% during the forecast period (2024–2032). (Source: Straits Research)

Sublingual Aspirin Product: Background

ASPIREBIOLABS.COM

01 **Oral aspirin (ASA) with its anti-inflammatory properties has been used world-wide for over 100 years**

02 **Aspirin is one of the most-studied and understood drugs and universally approved for use.**

03 **In the past Aspirin-induced GI bleeding has limited the long-term oral use and is severely diluted by first pass metabolism by the liver**

Aspire’s sublingual aspirin is expected to provide fast absorption, eliminate the GI tract side effects, and avoid first pass liver metabolism

Sublingual Aspirin Product: Clinical Trial

Strategy
Aspire uses existing, approved generic-drug dosages. Generic drugs do not need to repeat the clinical trials related to active ingredients but must demonstrate sublingual route of administration as it pertains to:

- effectiveness
- amount of drug that gets to the bloodstream and
- time it takes to get there

Trial Summary
Investigational sublingual aspirin product for treatment of suspected acute myocardial infarction (AMI, blockage of blood flow to heart muscle causing damage or death of heart tissue – commonly known as a "heart attack"). There are an estimated 18 million Americans living with coronary artery disease with approximately 800,000 per year experiencing an AMI leading to 300,000 deaths.

Clinical Trial Timeline
First patient dosed: June 2025
Trial completed end of July 2025

Results
Aspire's sublingual aspirin achieved therapeutic doses ***2-3 times faster*** than chewable aspirin tablets

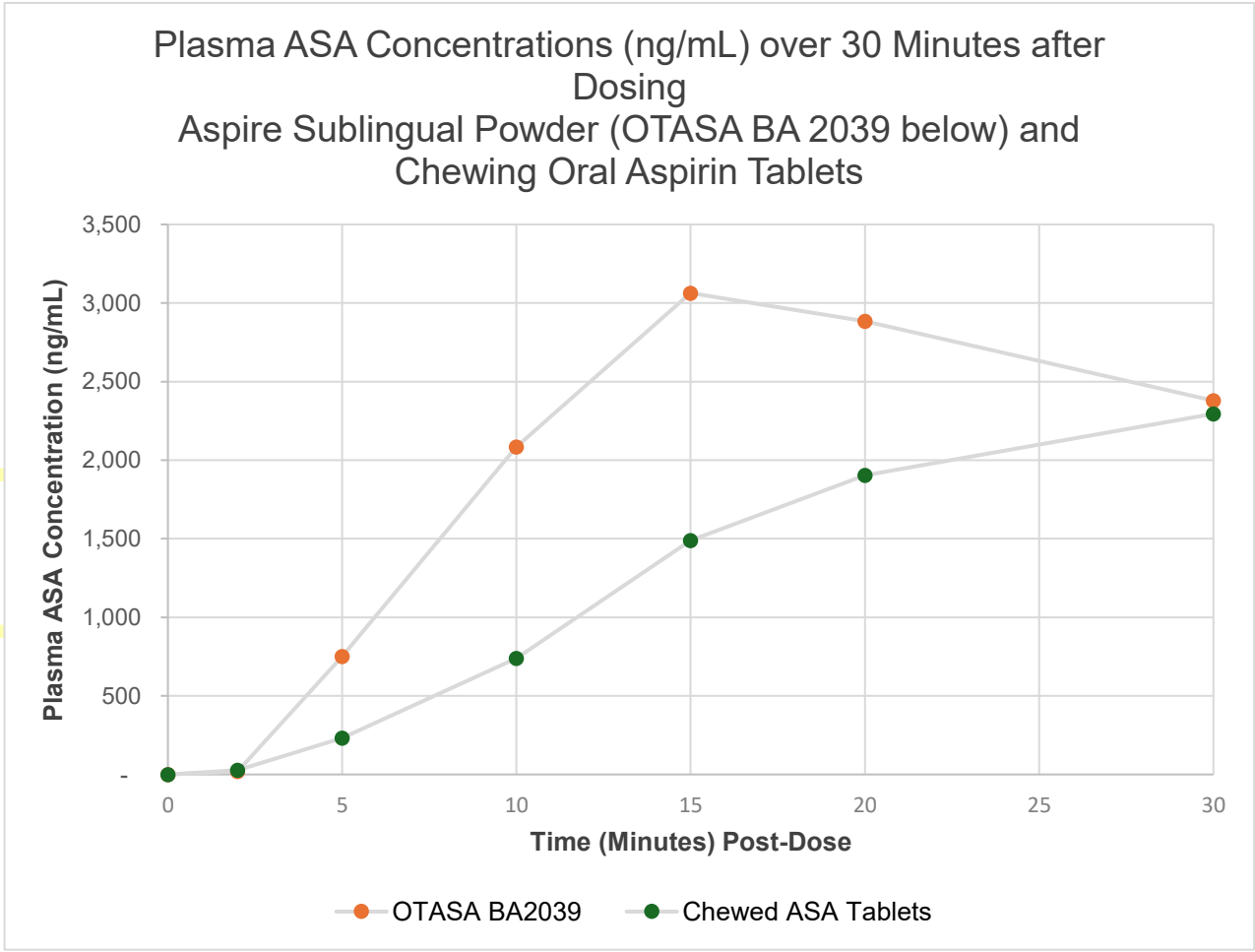
Sublingual Aspirin Product: Overview and Top-Line Clinical Results

Study Design and Top-Line Results

- Primary objective of the clinical trial was to evaluate the bioavailability of acetylsalicylic acid (ASA, the active antiplatelet form of aspirin) in plasma over eight hours after dosing.
- Randomized, crossover bioavailability trial to assess the safety, tolerability, pharmacokinetics (PK) and pharmacodynamics (PD) of Aspire's investigational new powder formulation sublingual aspirin product compared to chewed uncoated aspirin tablets in healthy adults.
- Aspire sublingual aspirin product produced higher and more rapid mean plasma concentrations of ASA, compared to chewed aspirin tablets.
- Significant improvement in absorption was evident within five minutes and continued throughout the first half-hour after dosing.
- **Achieved therapeutic doses *2-3 times faster* than chewable aspirin tablets**
- Aspire product was safe and well-tolerated by patients, and no adverse events were reported.

Benefits of "rapid absorption" aspirin

- Address and limit heart attack and stroke
- Allow high dose absorption for pain management including quick headache relief, post surgery, cancer pain management, and general pain relief

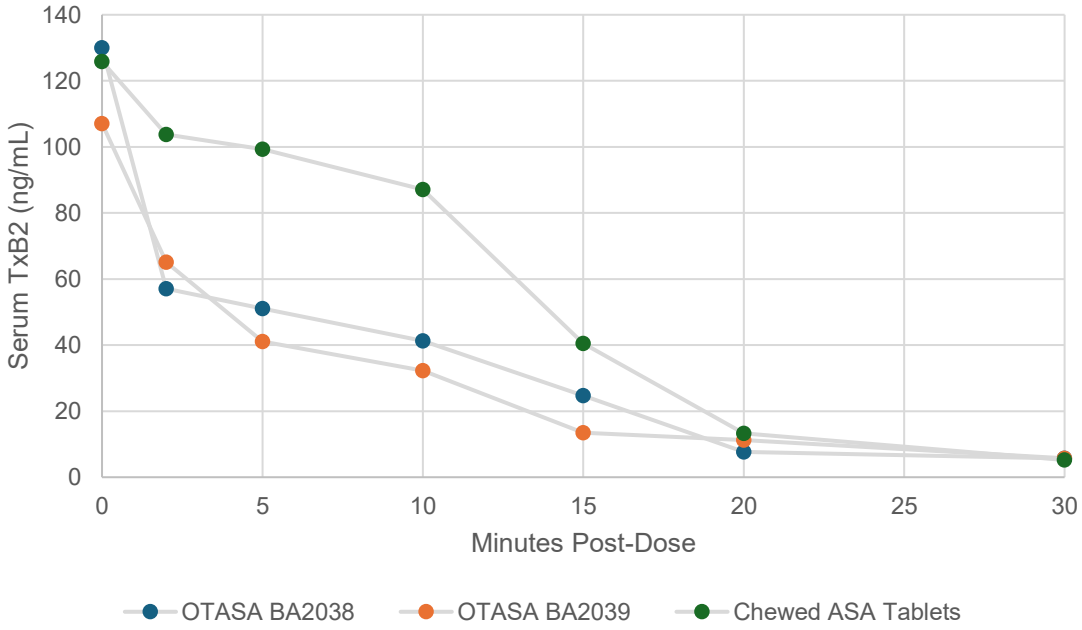


Sublingual Aspirin Product: Overview and Top-Line Clinical Results

Additional Important Clinical Trial Findings

- Aspire's sublingual aspirin formulation significantly inhibited serum thromboxane B2 (TxB2) within the first two minutes after dosing
- TxB2 is a biomarker indicating aspirin's effect on platelet aggregation, the clumping of platelets that leads to dangerous blood clots; average person has concentration at 120 ng/mL.
- This rapid inhibition is critical during suspected heart attacks, when clots blocking heart arteries can cause permanent muscle damage
- Lab results showed Aspire's product acted approximately twice as fast as the current recommendation for chewed aspirin tablet treatment
- ***These clinical trial results enable a potential regulatory submission for accelerated approval on track for second half of 2025***

Mean Serum TxB2* Concentrations (ng/mL) (lower concentrations mean less platelet aggregation) over 30 Minutes after Dosing OTASA BA2038 (Aspire sublingual aspirin granules), OTASA BA002039 (Aspire sublingual aspirin powder) or Chewed ASA Tablets (chewable



* TxB_2 is a stable metabolite of thromboxane A_2 (TxA_2), a potent chemical that promotes platelet clumping and vasoconstriction. Measuring low levels of TxB_2 confirms that aspirin is working as intended

Sublingual Aspirin Product Commercialization and Go-to-Market Strategy

01 Launch product initially in the Rx market, likely through licensing or partnering agreements

02 Partner with an experienced end-to-end marketing and distribution firms

03 Significant potential licensing opportunities with leading drug manufacturers (cited in the recent McKinsey study)

Manufacturing Strategy

A contract manufacturing strategy is being pursued with the potential for multiple supplier relationships to reduce risk and capex investments

Glatt Air Techniques

- Technical Manufacturing Development Partner
- Produced low-dose aspirin product and performed studies in 2023
- Produced feasibility/testing batch of high-dose aspirin in December 2024
- Performed testing on high-dose aspiring product to meet FDA requirements for human trials in 2025
- Completed production of GMP batches of high-dose aspirin product for clinical trials in June/July 2025

Sublingual Aspirin Product: Analgesics Market Opportunity

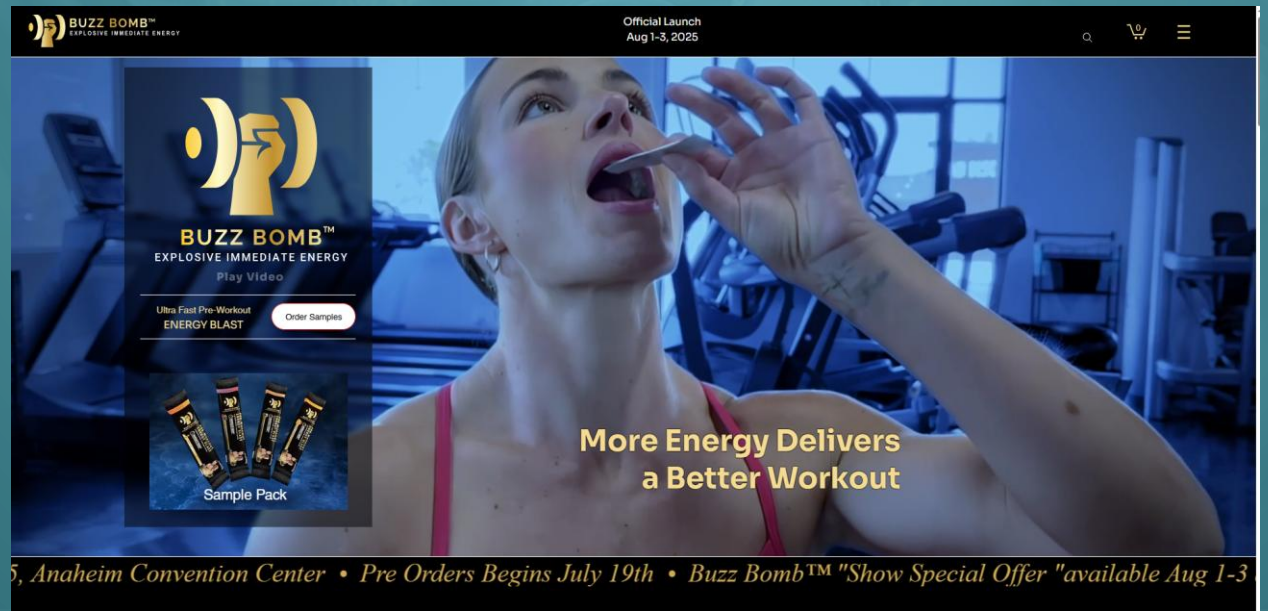
Non-opioid analgesic and opioid markets combined currently estimated at $80+B and projected to grow to nearly $100B in five years

	2022	2023	2024	2025	2026	2027
Market Data ($-Bil)						
Opioids	$32.5	$33.6	$34.6	$35.7	$36.8	$37.9
Analgesics	$48.0	$50.3	$52.7	$55.2	$58.0	$61.0
Analgesics Market Total (incl. Opioids)	**$80.4**	**$83.8**	**$87.3**	**$90.9**	**$94.8**	**$98.9**
RX $	$68.4	$71.3	$75.1	$79.0	$83.4	$88.0

BUZZ BOMB™ New Sublingual Caffeine Supplement

Single serving 50mg caffeine supplement utilizing Aspire's patent-pending and proprietary sublingual delivery technology

- Sublingual nano technology delivers caffeine rapidly to the blood stream, bringing its unique disruptive benefits to the caffeine market
- Initial production has commenced with four flavor options
- Expanded pre-launch consumer testing conducted Q2 2025
- Marketing plan focused on cost-effective multi-channel digital strategy targeting primary influencers, direct response sales and traditional retail sales channels launched in August 2025
- Global pre-workout supplements market size is expected to reach $27.97 billion by 2030, registering a CAGR of 5.9% from 2025 to 2030



BUZZ BOMB™ New Sublingual Pre-Workout Supplement

BUZZ BOMB™ Pre-Workout Supplement Launched at FitCon and FitExpo, Two of the Largest Fitness Conventions in the World, in August 2025

- 30,000 BUZZ BOMB™ sample packs of four 50mg stick packs in each flavor distributed to convention attendees
- Well-known fitness instructors, fitness celebrities, athletes, and influencers along with thousands of fitness enthusiasts and consumers sampled BUZZ BOMB™'s four bold flavors
- As part of its launch, Aspire plans on partnering with well-known athletes and influencers across fitness training and endurance sports to accelerate consumer awareness and uptake
- BUZZ BOMB™ is available for purchase at buzzbomb.buzz, the Company's new E-commerce website

BUZZ BOMB™ Disruptive Characteristics

BUZZ BOMB™ Pre-workout Benefits:

- **Speed** - works nearly immediately (less than 2 minutes) vs. 20-30 minutes
- **Convenience** - easy to use single-use packets vs. mixing and measuring for beverages
- **Energy management** - use as needed to precisely manage caffeine intake (50mg increments)
- **Single Safe Active Ingredient** – well-known benefits and use of caffeine
- **Low manufacturing & packaging costs** - competitive pricing with high margin potential

BUZZ BOMB™ Buzz at the Fitness Conventions

BUZZ BOMB™ Testimonials from Leading Figures in the Fitness World

Bobby Maximus is a UFC fighter, Ju Jitsu Masters World Champion and fitness trainer who has broken multiple power-endurance world records and is recognized as a leading figure in the fitness world. He starred in the recent feature film "Kill Shot" and is a best-selling Men's Health author and a regular contributor to "Men's Health" magazine.

"In just about a minute, it feels like I drank a pre-workout 20 minutes ago. The taste… phenomenal! I really like that."

"I work out 2-3 times a day. One of the most inconvenient things is trying to time your pre workout drink 30 minutes before your workout. "

When I have a short window, I don't want to wait 30 minutes until it kicks in. The ability to just 'dump and go' with BUZZ BOMB, is powerful. It's the convenience factor!

"I love the idea behind it! It helps me keep my caffeine intake down. Especially when you train 2 to 3 times a day."

"You cannot find another pre work with 50 mgs of caffeine… and it works! I love it!"

Brandon "MidWest Kong" Copeland (pictured third to the right) is a Brazilian Jiu-jitsu Black Belt and dominated the Mixed Martial Arts scene from 2005 to 2014. Copeland excelled in the fitness industry, breaking records like bench pressing 225 pounds 81 consecutive times.

"I took the product! Let me say thank God! No heart flutter, no itchy sensation, no crash! I don't need the hard stuff anymore…feels absolutely great! I had a great workout as well!"

BUZZ BOMB™ Buzz at the Fitness Conventions

Pre-Workout Supplement Market

- Global pre-workout supplements market size is expected to reach $27.97 billion by 2030, registering a CAGR of 5.9% from 2025 to 2030
  - ❖ Rising fitness culture and gym memberships
  - ❖ Consumer focus on performance and recovery
  - ❖ Expanding demographics (women, Gen Z, casual exercisers)
  - ❖ Growth of RTD ("Ready To Drink"- no mixing) formats & natural formulations
  - ❖ Digital fitness and influencer-led marketing

- Segment is flooded with many options for energy boosting and hydration products
- Most of these products today are based on a powdered "mix + water" combination that take 20-30 minutes to digest and begin to provide performance benefits.
- Complicates use, response management, caffeine control, and effectiveness.
- Market research shows that immediacy, ease of use and time management (take as needed, when needed) ranks highest in consumer preferences.
- BUZZ BOMB™ offers potentially disruptive benefits and product characteristics that is expected to drive market penetration with significant differentiation, leading to rapid customer conversion, acquisition, and brand identity in this market.

Aspire's Investment Considerations

- **Multiple ℞ applications** in heart attack/stroke, pain management, weight loss, testosterone, and others
- **Large Addressable ℞ Markets:** $80B combined analgesics and opioid market
- **High Dose Aspirin Prescription Product:** ***Trial demonstrated dramatically higher and more rapid therapeutic impact compared to standard chewed aspirin tablets, safe and well-tolerated. Aspire's sublingual aspirin formulation significantly inhibited serum thromboxane B2 (TxB2) within the first two minutes after dosing. This rapid inhibition is critical during suspected heart attacks, when clots blocking heart arteries can cause permanent muscle damage.***
- **Expect to file in late 2025** to meet FDA 505 (b)(2) Fast Track drug approval process
- **First to market:** Prescription strength version potentially followed by OTC
- **BUZZ BOMB™, New Sublingual Pre-Workout Supplement Launched in Q3 2025: Commercial revenue in 2025**
- **Global pre-workout supplements market size: Expected to reach $27.97 billion by 2030**
- **Focused on commercialization through partnerships, licensing and internal development**
- **Proprietary Patent-Pending Technology**: Enables ability to pursue broadened applications, using our solubility process, which can be used with other drug and supplement compounds

Thank You.

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