



Oxprofen™ :  
Gold Standard Non-Opioid Analgesic

## Oxprofen™

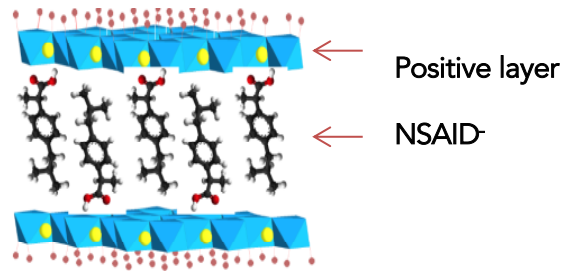
NSAIDs are essential in the treatment of pain and inflammation but are affected by significant side effects, mainly GI and also CV risks. Ibuprofen has a favourable safety profile and is an effective analgesic for many acute and chronic pain conditions although is not without risks.

Oxford Pharmascience is private company based in the United Kingdom. The company has developed Oxprofen™ applying its patented OXPZero™ technology.

Oxprofen™ is a taste masked fast acting novel salt of ibuprofen that offers the benefits of ibuprofen with increased GI tolerance.

## The OXPZero™ Technology

OXPZero™ is a versatile platform based on "layered double hydroxides" that can be applied to a range of anionic drugs.



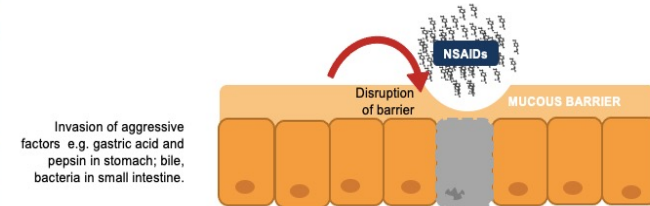
- Positively charged layers with NSAID anions between the layers
- OXPZero™ is tasteless and "burn-free" enabling non-tablet forms such as chewable tablets, direct-to-mouth granules, liquid suspensions and hot drink powders.
- Scalable and cost effective manufacturing
- Protected by a comprehensive set of patent families
- Considered by the FDA as a novel salt

## OXPZero™ Reduces Damage to Gastric Mucosa

### Standard NSAIDs

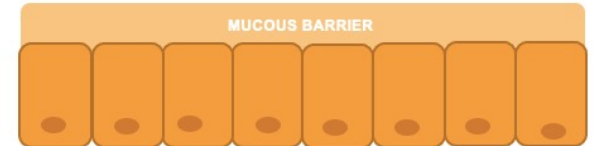
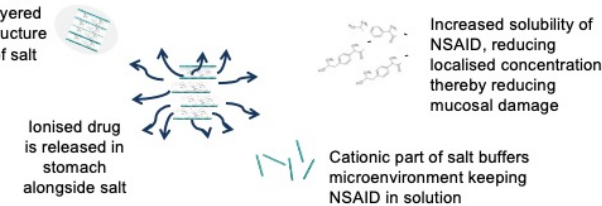
NSAIDs released in insoluble crystalline form and cause physical irritation to the mucosa

They decrease hydrophobicity of the surface active phospholipids and mucus gel layer in the stomach



### OXPzero NSAIDs

NSAID is held within the layered structure of salt





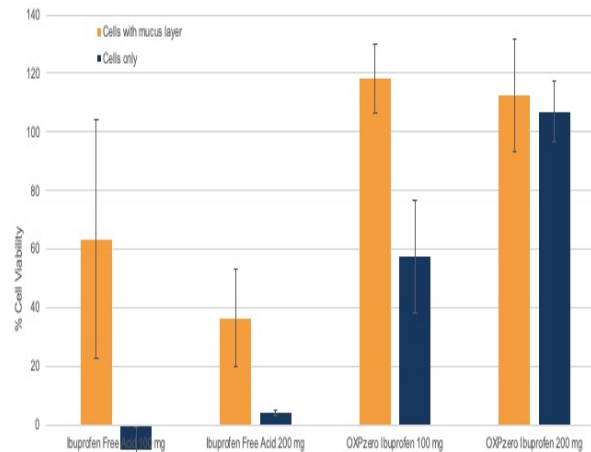
CONNECTION  
ANALYSIS  
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VERIFICATION  
CODING  
SENDING

## Oxprofen™

- A novel salt of ibuprofen leveraging patented technology without changing the drug
- Better tolerated delivering major reduction in GI irritation
- Fast onset of action but with same Cmax as the approved ibuprofen acid form, deemed bioequivalent to the reference by FDA
- Taste masked, allows formulation of suspensions, chewable tablets, ODTs, etc
- Scalable and cost effective manufacturing

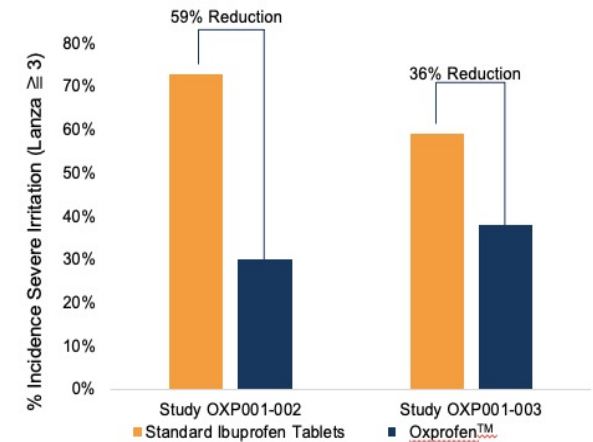
## Reduction in cell death demonstrated on *in vitro* gastric cell model

- Significant cell death was observed with standard Ibuprofen in all test conditions.
- No cell death was observed with Oxprofen™ in any of the test conditions.



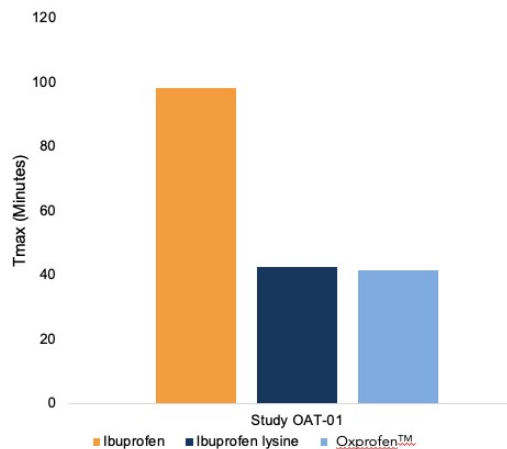
## Reduced GI irritation confirmed on multiple Phase 1 Endoscopy studies

- Oxprofen™ exhibits a 36% - 59% reduction in severe mucosal gastroduodenal damage versus ibuprofen at 2.4 grams/day
- 5.9x to 2.2x the odds of having severe GI damage in the ibuprofen group than in the Oxprofen™ group.



## Comparable C<sub>max</sub> & AUC, With Lower T<sub>MAX</sub>

- Multi-arm clinical trial compared versions of Oxprofen™ ibuprofen with ibuprofen acid and ibuprofen lysine
- Demonstrated bioequivalence to ibuprofen with respect to C<sub>max</sub> and AUC (data not shown)
- **Also demonstrated 58% faster Tmax versus ibuprofen acid, and comparable to ibuprofen lysine**



## The opportunity for Oxprofen™

- The opioid epidemic is driving the need for non-opioid alternatives
- But the only non steroidal anti inflammatory drugs (NSAIDs) approved for Rx dose are either in the slow acid form or higher risk (potassium diclofenac)
- 800mg Ibuprofen dose (2 x 400mg) delivers most effective pain relief NNT= 1.6 (Bandolier, 2003) but use is limited due to slow speed of onset and concerns with AE's and toxicity.
- Our market and reimbursement research have confirmed a strong business case for Oxprofen™
- **Oxprofen™** - Clinical POC demonstrates
  - Bioequivalence...faster product development
  - Better safety...solves clinical problems
  - Rapid absorption...use in acute or chronic setting

## Partnering Opportunity

Oxford Pharmascience is seeking to license the development and commercial rights to Oxprofen™ for Rx markets across multiple territories. Upon execution of a confidentiality agreement, access to a well-organized data room can be provided, with full access to all Preclinical, and Clinical data.



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