



A Safer Anaesthetic

Phaxan™ Investment Opportunity

Potential new Gold Standard for Intravenous Anaesthesia and Sedation

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Drawbridge has recently completed a proof-of-concept clinical trial in Australia and is looking for a worldwide or regional development and commercialization partner for Phaxan™. Phaxan™ uses a proven modern excipient, betadex, on a former very popular intravenous anaesthetic marketed by Glaxo from 1972, withdrawn in 1984 because of allergic reactions to its excipient. Phaxan™, is reformulated Althesin®, without the hypersensitivity to CremophorEL and has multiple clinical and manufacturing advantages compared with the existing standard of care, propofol.

Parameters	Phaxan™	Propofol
Rapid onset	✓	✓
Rapid offset	✓	✓
Cardiovascular stability	✓	✗
Low respiratory depression	✓	✗
Potentially less cognitive decline	✓	✗
Painless during injection	✓	✗
Aqueous: terminal sterilisation	✓	✗

Each of Althesin® and betadex have been successfully used in many tens of thousands of patients in all the target populations planned for Phaxan™. Alphaxalone, the API in Phaxan™, is well characterised for PKDM. Phase III studies through the FDA form 505(b)(2) route are now being planned. Anticipated launch is in 2021.

Phaxan™ was the recent subject of a peer reviewed publication in [*Anesth Analg 2015; 121:914-24*](#)



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Phaxan™ Market Opportunity

A safer anaesthetic is a growing unmet need. Propofol is the gold standard with over 90% of the present US\$ 1bn intravenous anaesthesia market, but has a growing list of safety issues. These include: falls in blood pressure under sedation, depressed breathing and sometimes respiratory arrest, pain on injection, allergic reactions, bacterial and particulate contamination, propofol infusion syndrome (lipid toxicity in intensive care units) and now an increasing concern of neurotoxicity and long-term brain damage to infants. Recent deaths associated with propofol administration of Michael Jackson and Joan Rivers have brought the issue of the safety of intravenous anaesthetics and sedatives into public consciousness.

There is a need for a safer anaesthetic that could offer distinct advantages over all other anaesthetics but especially propofol, in both manufacturing and clinical safety and consequently reduce long term side effects, morbidities and associated costs.

RELEVANCE→ BENEFIT↓	to clinicians		to payers
Reduce permanent cognitive decline	****	game changing	****
Cardiovascular stability	****		****
Less respiratory depression	***		****
Fast onset and recovery	**		***
Painless on injection	*		*

Once on the shelf, Phaxan™ will be used routinely by many anesthetists. Phaxan™ is as fast as generic propofol in onset and recovery but has a much higher safety profile that has the potential to avoid significant provider resistance to a premium price.

Phaxan™ is expected to achieve a similar penetration level as the current market leader (when it was launched in the mid 1980's) of up to 50% in a short space of time. A conservative estimate of market penetration of 30% within 2 years is supported by history of the introduction of propofol as Diprivan® in 1982 and more recently by rocuronium. As a branded drug Phaxan™ may command a price premium +350% over generic propofol. This is based on the fact that dexmedetomidine, a drug used for sedation in a minority of intensive care unit and neurosurgical patients being +350% to +650% above generic propofol with annual sales peaking at >US\$300 M. Propofol world sales are commonly quoted to be ≈ US\$1bn. At 350% price premium and 30% market penetration for Phaxan™, this translates to >US\$1.0 bn annual sales in 2-4 years from launch.



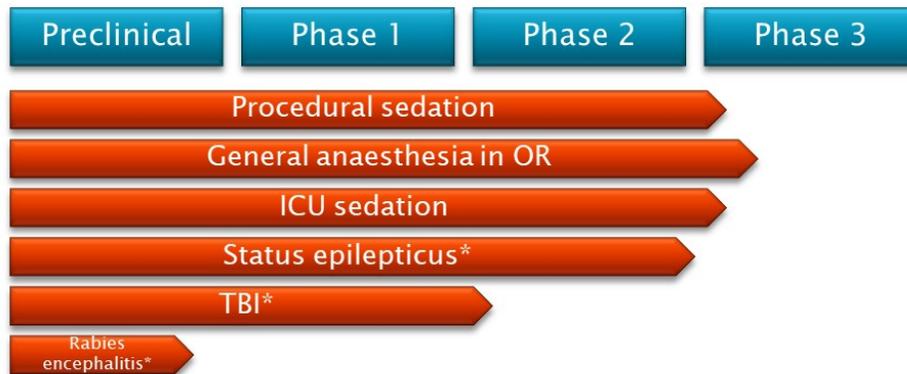
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Given the advantages of Phaxan™ **over all anaesthetic drugs**, including inhalational anaesthetics like sevoflurane, capture of a proportion of the inhaled anaesthetics market as well as a proportion of the benzodiazepine sedation market leads to an overall conservative estimate of US\$1.6bn annual world sales within 2-4 years from launch.

Phaxan™ is patent-protected to 2031 in numerous geographies.

Pipeline

Phaxan™ is a versatile Product that can be used for a number of indications within the critical care area. This is based on the fact that the API, alphaxalone, when formulated as Althesin®, proved to be useful in each of the therapeutic areas indicated below:



Alphaxalone also has neuroprotective properties by virtue of being a chemical relative of the natural brain protection hormone allopregnanolone, so potentially making Phaxan™ the anaesthetic of choice for patients with brains susceptible to damage by other anaesthetics eg babies and children <4 yrs and the elderly.

Management and Advisory Team

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