PROJECT REPORT
FOR
SUNTRIL PHARMACEUTICALS PVT LTD.
INDEX

1 Introduction

   i. Project
   ii. Plant Plans
   iii. Technical know how
   iv. Management & Organization
   v. Raw Material
   vi. Effluent Treatment
   vii. Man power requirement
   viii. Energy Conservation

2. Marketing Arrangement
3. Schedule of Implementation
4. Status of Government Approvals
5. Manufacturing Process
6. Plant & Machinery
7. Utility Schedule
8. Details Of API In Company Pipeline
9. Detail of chemicals in company pipeline
1. Introduction

The project is being promoted by M/s Suntril Pharmaceutical Pvt. Ltd. Plot No. 219, Industrial Area HSIIDC, Alipur, Barwala, with a view to tap tremendous scope of the pharmaceutical industry supported by the following facts. The drugs and pharmaceutical industry has shown significant growth and improvement in profitability. This growth rather is more significant as it has been achieved despite frequent changes made in the drug policy and has been achieved as an outcome of some dynamic strategies adapted by the industry.

The pharmaceutical industry is considered lifeline industry as it is directly concerned with the health of the people. The Indian pharmaceutical industry has registered phenomenal growth since independence from an annual turnover of 10 million; the industry is expected to achieve a turnover of Rs. 20,000 Cr by 2020. India today enjoys the recognition and respect as one of the leading producer of quality pharmaceuticals products and formulations in the world.

In the present scenario every drug industry has to operate under strict norms of cGMP governed by Drugs & Cosmetics Act. 1940 in order to maintain quality at par with the global requirement. Hence immense potential in exports is another opportunity for this industry.

The State Government is providing uninterrupted electricity supply at the comparatively cheaper prices. The incentives so granted in the policies will be able to provide the initial push required for establishing the industry. The unit is strongly aiming at kombi pack supply, which is given by Pharmaceutical Industries with Unit is also aiming at promoting its products thro’ Wholesale and retail supply to ensure better product mix. Unit is also aiming at Export and Government supply so as to build the volume of the business.
i. Project

The promoters of M/s Suntril Pharmaceutical Pvt. Ltd. Plot No. 219 Industrial Estate HSIIDC, Barwala Dr. Pardeep Narula intend to expand the existing business by way of Manufacturing, Importing, Exporting, buying & selling of all kinds of API intermediates and chemicals as Raw materials. The company is in the process of setting up State of art manufacturing unit at Plot No. 219, Industrial Area HSIIDC, Alipur Barwala

The project is being promoted to cater Commercial market, domestic market, Export & Govt. supply. The city of Haryana provides all necessary facilities viz. link roads, sewerage, sanitary facilities, modern state of the art communication systems, banking and commercial facilities for development of industrial units. The industrial township is well connected with the adjacent states and other part of India through a network of roads, which facilitates traveling as well as transportation of goods both inwards and outwards. This further facilitates the marketing of products anywhere in the country.

There is a regular flow of workers from nearby as well as far off state of Haryana. They are gradually trained in the field of different product lines in various units already established here. Power connection required for the units are easily available especially in Industrial towns promoted by the state government.
ii. Plant Plans

M/s Suntril Pharmaceutical Pvt. Ltd. Plot No. 219, Industrial Area HSIIDC, Alipur, Barwala, Haryana India
Proposed Plans for Floors and Perspective Views-

**Ground Floor Plan:**
First Floor:-
3-D View for Ground Floor:
3 D View for First Floor:
The site is well connected by Road and situated in Plot No. 219, Industrial Area HSIIDC, Alipur, Barwala, Haryana where basic infrastructure is available for Industrial set up. The
skilled and semi skilled labor is easily available from nearby areas. Besides the facilities like telephone, Electricity water etc are available at the location.

iii. **Arrangement for Technical & Process Know how**

The Promoter Dr. Pardeep Narula is already marketing in the same field as a distributor and supplier with all the big companies of API Manufactures in India.

In addition to aforesaid, the Promoter Dr. Pardeep Narula is also feeding combipack supply to Pharmaceutical-Oncology Products throughout India for the last 10 years and average sales of Rs. 5 Cr annually. Hence the promoters have good grasp of the technicalities involved in establishing the product line in the market with expert technical and process knowledge to install Manufacturing plant easily available from the experts.

iv. **Management & Organization**

The concept of Medicare has experienced a subtle transformation in the last few years. Health has begun to be regarded as a vital input for efficiency. Thus health and wellness have become essential for social-economic development as a whole. As the future of Medicine increasingly extends from individual to community M/s Suntril Pharmaceutical Pvt. Ltd. Plot No. 219, Industrial Area HSIIDC, Alipur Barwala has identified twin strategies for growth and consolidation i.e. innovation and Execution. M/s Suntril Pharmaceutical Pvt. Ltd. also believes that sound financial management is essential for maximizing returns. Effective corporate governance will keep the company’s policy decision and executive actions under stern scrutiny and observations.

**Management’s Objectives**

a. **Integrated Manufacturing Process**

Optimum resource utilization will always be on M/s Suntril Pharmaceutical Pvt. Ltd. priorities. This will lead to affordable, dependable qualitative API-products solution for ailing humanity.

b. **Assured Quality**

Quality will be an intrinsic value of building up the brand and establishing the product in
the market. Dependable systems, consistent processes and well-trained people will lead to reliable quality. It is a culture that strives to better itself all the time. This culture will run through the entire system of the company. Adhering to quality guidance is the trust that will derive API Manufacturers to use medical products with confidence.

c. **Strategic Procurement & Sourcing**

   Effective procurement program play a major role in driving efficiencies in terms of supply assurance, regulatory compliance and cost economics. The extensive use of latest procurement policies, strategic sourcing and professional buying by the executives of the company will help in efficient sourcing of inputs and counter the negative influence of an inflationary market.

d. **Imparting Skills Enhancement**

   M/s Suntril Pharmaceutical Pvt. Ltd. Plot No. 219, Industrial Area HSIIDC, Alipur, Barwala, has set its sight firmly on the future. It realizes that change is inevitable, and is always prepared for change. Ongoing training session and up-gradation of modules will be kept in mind on high priority basis. Regular knowledge advancement initiatives, which will be launched throughout the year, keep everyone from Manager to the field executives geared for every challenge. Every effort is made to:

   a. Open up minds to newer ideas and encourage the spirit of R&D.
   b. Identify, nurture and enhance talent towards growth.
   c. Motivate People.

e. **Drive Efficiency**

   Speed, reliability and reach hold the key to the future. IT strategies will be focused on improving sales force effectiveness, driving supply chain efficiency and employee productivity though workflow automation.

f. **Community Development**

   At M/s Suntril Pharmaceutical Pvt. Ltd, we believe that Social Responsibility is an integral part of our business and inherent in our mission. The company will strive to add value to society, not just in terms of money, but also in terms of time, care and compassion.
V  **Raw Material**

The basic Raw Material(s) required for manufacturing products are available from Delhi, Maharashtra, and Hyderabad as well from overseas. M/s Suntril Pharmaceutical Pvt. Ltd. can directly purchase these basic drugs & Raw Material directly from Manufacturers or their C & F/CSA. Alternatively, the products can also be purchased from the local wholesale dealers & international market for export purpose.

VI  **Effluent Treatment**

During the commissioning of the project Suntril is planning to install its own ETP Plant, having capacity of handling **10KL** per day. The water generated from the ETP plant will either discharge into the main drain of HSII DC or can be recycled for the process. The company will obtain NOC/requisite permissions from Pollution Control Board.

Vii  **Man Power Requirement**

The requirement of Manpower for the project including skilled and unskilled labour including administration persons is estimated at 25 (as per list annexed). The skilled persons shall be employed with the guidance of consultants and shall be impart training to key personnel. Company will employ maximum persons from the State of Haryana.

Viii  **Energy Conservation**

The company also foresees deep commitment to the highest standard in Energy Management and will ensure proper use and its conservation.

2.  **Marketing Arrangements**

India is emerging as Global Powerhouse in API. It is increasingly being recognized as reliable source of quality API at affordable prices.

API segment in India is very competitive sector. Presently price realization has improved, and expected to stabilize in future with rapid increase in growth of pharma industry.
3. **Schedule of Implementation**

The company expects to complete the project in 5 months time and start commercial production from October 2015. The schedule of implementation is as follows:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Time Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition of Land &amp; Building *</td>
<td>Existing</td>
</tr>
<tr>
<td>Plant &amp; Machinery (including partitions)</td>
<td>3.00 Months</td>
</tr>
<tr>
<td>Installation and Commissioning</td>
<td>1.50 Months</td>
</tr>
<tr>
<td>Trail Run</td>
<td>0.50 Months</td>
</tr>
<tr>
<td>Total</td>
<td>5.00 Months</td>
</tr>
</tbody>
</table>

* Company has finalized its rent deed of land and constructed building and also finalized its layout plan with the Architect for renovation and making amendments as required for installing plant and machinery along with utilities.

4. **Status of Government Approvals**

<table>
<thead>
<tr>
<th>SN.</th>
<th>Particulars</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Registration of Firm</td>
<td>Registered</td>
</tr>
<tr>
<td>2.</td>
<td>Registration of HSIIDC</td>
<td>Applied for</td>
</tr>
<tr>
<td>3.</td>
<td>Registration under VAT/CST</td>
<td>Applied for</td>
</tr>
<tr>
<td>4.</td>
<td>Registration under Excise</td>
<td>Applied for</td>
</tr>
<tr>
<td>5.</td>
<td>NOC Country &amp; Town Planning</td>
<td>Applied for</td>
</tr>
<tr>
<td>6.</td>
<td>NOC from Pollution Control Board</td>
<td>To be Applied</td>
</tr>
<tr>
<td>7.</td>
<td>Sanction of extra Electricity Load</td>
<td>To be Applied</td>
</tr>
<tr>
<td>8.</td>
<td>NOC from fire</td>
<td>To be Applied</td>
</tr>
<tr>
<td>9.</td>
<td>Manufacturing Drug License</td>
<td>After Completion of Plant To be Applied</td>
</tr>
</tbody>
</table>
5. Manufacturing Process:

![Process Flow Diagram]

(Manufacturing Area)
Stage – II: MLS-1 to MLS-2

Sod. Methoxide soln (RT) → DMF → Reaction Mass (0 to 5°C) in GLR → Reaction Monitoring → Work-Up

Ethyl acetate Water + Naci → Carbon treatment (RT) - (Through sparger) → Distillation → Ethyl acetate

Check Mq → Crystallization (45 - 50°C) → DCHA N- Hexane

Filtration & washing at (25 – 35°C) → N-Hexane → Wet MLS - 2

( Manufacturing Area )
Stage – III: Purification

Disolution at (50–60 °C) UN

Ethyl Acetate Wet MLS-2

Crystalization (SSR) (30–35 °C)

N-Hexane

Filtration & washing

N-Hexane

MLS - 2

Disolution

Heat

Crystallization by cooling

Toluene

Filtration & washing

N-Hexane

Drying under vacuum at (10 mm)

MLS – 2 Pure

(Manufacturing Area)
Stage - IV: MLS - 2 to MLS Sodium in Pharma Area

- **Disolution (SSR)**
  - MLS - 2 MDC + Water
- **Work-up**
  - Acetic acid
- **Reaction Mass (SSR)**
  - NaOH
- **Distilation at 30 °c U/V**
  - MDC
  - Methanol
- **Disolution**
  - Ethyl Acetate
- **Carbon treatment**
  - Toluene
- **Distilation at 30°c U/V**
  - Methanol
- **Disolution**
  - Cyclohexane
- **Crystallization SSR**
  - Cyclohexane
  - Filtration & washing (CFT) AT (10 - 15° C)
- **Sodium (MLS - NG)**

(Pharma - Area)
6. **Plant & Machinery**

The company is going to go in for on line production machinery (compact line). All the machines will be cladded with **S.S 304** having contact of **S.S 316 L**. These machines will be strictly as per the guidelines of Schedule M. These latest machine will help in lowering man power requirement. They will help to minimize production losses and achieve highest standards of quality. There are very few installations of such compact lines which will give company the added edge over others. Moreover the production capacity is quite high. This will help the company to win good buyers who generally are big companies. These machines are indigenous & quite cheap as compared to imported ones. The machines are being sourced from reputed & leading manufacturers. They will also train the manpower to efficient run these machines & take proper care of them.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Particulars</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Rupee Cost</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Land &amp; Site Development</td>
<td>65.00</td>
</tr>
<tr>
<td>2</td>
<td>Buildings</td>
<td>102.22</td>
</tr>
<tr>
<td>3</td>
<td>Plant &amp; Machinery (Indigenous)</td>
<td>305.96</td>
</tr>
<tr>
<td>4</td>
<td>Miscellaneous Fixed Assets</td>
<td>141.66</td>
</tr>
<tr>
<td>5</td>
<td>Pre - Operative Expenses</td>
<td>65.94</td>
</tr>
<tr>
<td>6</td>
<td>Provision for Contingencies</td>
<td>30.79</td>
</tr>
<tr>
<td>7</td>
<td>Margin For Working Capital</td>
<td>72.82</td>
</tr>
<tr>
<td></td>
<td><strong>Total Cost of Project</strong></td>
<td>784.39</td>
</tr>
</tbody>
</table>
### DETAILS OF LAND & SITE DEVELOPMENT

<table>
<thead>
<tr>
<th>Particulars</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Company has already acquired Industrial Plot No. 219, measuring 450 Sq.mtr at HSIIDC, Alipur, Barwala, Haryana</td>
<td>65.00</td>
</tr>
<tr>
<td>Total</td>
<td>65.00</td>
</tr>
</tbody>
</table>

### Estimated Cost of The Building (Rs. In Lacs)

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Description</th>
<th>Length Sq.ft</th>
<th>Bredth Sq.ft</th>
<th>Sq.ft</th>
<th>Floors</th>
<th>Rate/Sq.ft</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Civil Construction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100.22</td>
</tr>
</tbody>
</table>

**GRAND TOTAL**

<table>
<thead>
<tr>
<th>Add Architects Fees @ 2.00%</th>
<th>2.00</th>
</tr>
</thead>
</table>

Total Cost                       | 102.22 |
## Particulars of Indigenous Machinery

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Qty.</th>
<th>Basic Cost</th>
<th>Total</th>
<th>Excise Duty</th>
<th>Sale Tax @ 2%</th>
<th>Freight</th>
<th>Total Cost</th>
<th>SUPPLIER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>NON BETA LACTAM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Glass Line Reactor - 1000 Litres</td>
<td>2</td>
<td>7.50</td>
<td>15.00</td>
<td>1.85</td>
<td>0.34</td>
<td>0.34</td>
<td>17.53</td>
<td>Pending</td>
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<tr>
<td>2</td>
<td>Stainless Steel Reactor - 1000 Litres</td>
<td>4</td>
<td>5.25</td>
<td>21.00</td>
<td>2.60</td>
<td>0.47</td>
<td>0.48</td>
<td>24.55</td>
<td>Unitech Services</td>
</tr>
<tr>
<td>3</td>
<td>Centrifuge Halar coated 24 Inch</td>
<td>2</td>
<td>4.96</td>
<td>9.92</td>
<td>1.23</td>
<td>0.22</td>
<td>0.23</td>
<td>11.60</td>
<td>Shiv Shakti Process Equipment P Ltd</td>
</tr>
<tr>
<td>4</td>
<td>VTD of 18 plates</td>
<td>1</td>
<td>10.76</td>
<td>16.76</td>
<td>1.33</td>
<td>0.24</td>
<td>0.25</td>
<td>12.58</td>
<td>Shiv Shakti Process Equipment P Ltd</td>
</tr>
<tr>
<td>5</td>
<td>HCV of 250L</td>
<td>1</td>
<td>6.75</td>
<td>6.75</td>
<td>0.83</td>
<td>0.15</td>
<td>0.15</td>
<td>7.88</td>
<td>Dharma Engineering</td>
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<tr>
<td>6</td>
<td>Sifter</td>
<td>1</td>
<td>1.20</td>
<td>1.20</td>
<td>0.15</td>
<td>0.03</td>
<td>0.03</td>
<td>1.41</td>
<td>Dharma Engineering</td>
</tr>
<tr>
<td>7</td>
<td>Micronizer</td>
<td>1</td>
<td>4.00</td>
<td>4.00</td>
<td>0.49</td>
<td>0.09</td>
<td>0.09</td>
<td>4.67</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Multimill</td>
<td>1</td>
<td>1.96</td>
<td>1.96</td>
<td>0.24</td>
<td>0.04</td>
<td>0.04</td>
<td>2.28</td>
<td>Shiv Shakti Process Equipment P Ltd</td>
</tr>
<tr>
<td>9</td>
<td>Blender - 600 Ltrs</td>
<td>1</td>
<td>3.50</td>
<td>3.50</td>
<td>0.43</td>
<td>0.08</td>
<td>0.08</td>
<td>4.09</td>
<td>MEC-WELL Pharma Machinery Co</td>
</tr>
<tr>
<td>10</td>
<td>Weighing Machine Capacity 300kg</td>
<td>5</td>
<td>0.30</td>
<td>1.50</td>
<td>0.19</td>
<td>0.03</td>
<td>0.03</td>
<td>1.75</td>
<td>Aarkey Labtronix India</td>
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<tr>
<td>11</td>
<td>Nutsche filter 100-200 L</td>
<td>1</td>
<td>2.96</td>
<td>2.96</td>
<td>0.29</td>
<td>0.07</td>
<td>0.07</td>
<td>3.47</td>
<td>Shiv Shakti Process Equipment P Ltd</td>
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<tr>
<td>12</td>
<td>Hydrogenator Unit - 100 Litres</td>
<td>1</td>
<td>10.45</td>
<td>10.45</td>
<td>1.29</td>
<td>0.23</td>
<td>0.24</td>
<td>12.21</td>
<td>Amar Equipments P Ltd</td>
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<td>13</td>
<td>Vacuum Pump</td>
<td>1</td>
<td>6.00</td>
<td>6.00</td>
<td>0.74</td>
<td>0.13</td>
<td>0.14</td>
<td>7.01</td>
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</tr>
<tr>
<td>14</td>
<td>Sparkler 18 Plates</td>
<td>1</td>
<td>3.95</td>
<td>3.95</td>
<td>0.49</td>
<td>0.09</td>
<td>0.09</td>
<td>4.62</td>
<td>Dharma Engineering</td>
</tr>
</tbody>
</table>

A 115.65

B 115.65

C 82.50

D 34.83

**GRAND TOTAL (A+B+C+D)** 297.05

Machinery Erection & Installation (@ 2%) 5.94
Essential Spares (@ 1%) 2.97

TOTAL 305.96
### Utility Schedule

- **Total require sanction load**: 300 KVA
- **Average consumption**: 150 units per hour
- **Average consumption**: 150*24 = 3600 units per day
- **Fuel consumption: Diesel**: 36*24 = 864 Ltr per day

#### Particulars of Misc. Fixed Assets

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Qty</th>
<th>Rate</th>
<th>Amount</th>
<th>Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RO Water Unit 1000 Litres</td>
<td>1.00</td>
<td>5.75</td>
<td>5.75</td>
<td>Paul Water Treatment Services</td>
</tr>
<tr>
<td>2</td>
<td>CHW and CHB system</td>
<td>1.00</td>
<td>20.00</td>
<td>20.00</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Boiler of 0.6 -0.8 tone</td>
<td>1.00</td>
<td>5.85</td>
<td>5.85</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>ETP Plant</td>
<td>1.00</td>
<td>5.00</td>
<td>6.00</td>
<td>Paul Water Treatment Services</td>
</tr>
<tr>
<td>5</td>
<td>Fire Hydrant System</td>
<td>1.00</td>
<td>5.00</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>HVAC System</td>
<td>1.00</td>
<td>25.00</td>
<td>25.00</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Air curtains, Washing Machine, Fridge etc</td>
<td>1.00</td>
<td>2.00</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Evaporator</td>
<td>1.00</td>
<td>5.00</td>
<td>5.00</td>
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</tr>
<tr>
<td>9</td>
<td>Piping</td>
<td>Lot</td>
<td>15.00</td>
<td>15.00</td>
<td></td>
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<tr>
<td>10</td>
<td>Cheker Plate</td>
<td>Lot</td>
<td>15.00</td>
<td>15.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>ELECTRICALS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Servo Voltage Stabilizer 315 KVA</td>
<td>1.00</td>
<td>4.25</td>
<td>4.25</td>
<td>Power Electronic Equipments</td>
</tr>
<tr>
<td>12</td>
<td>DG Set - 125KV</td>
<td>1.00</td>
<td>10.00</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Transformer - 315 KVA</td>
<td>1.00</td>
<td>3.16</td>
<td>3.16</td>
<td>Power Electronic Equipments</td>
</tr>
<tr>
<td>14</td>
<td>Cable -Wires-Lights-Control panels</td>
<td>1.00</td>
<td>14.15</td>
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<td></td>
</tr>
<tr>
<td>15</td>
<td>LT Panels</td>
<td>1.00</td>
<td>8.00</td>
<td>8.00</td>
<td></td>
</tr>
</tbody>
</table>

**Total (B)** 143.16  
**GRAND TOTAL (A+B)** 143.16
8. DETAILS OF API IN COMPANY PIPELINE

A. NON BETA LACTAM DRUGS

Thiocolchicoside
Thiocolchicoside (Muscoril, Myoril, Neoflax) is a muscle relaxant with anti-inflammatory and analgesic effects. It acts as a competitive GABAA receptor antagonist and also glycine receptor antagonist with similar potency and nicotinic acetylcholine receptors to a much lesser extent.] It has powerful convulsant activity and should not be used in seizure-prone individuals.

Montelukast sodium
Montelukast is a leukotriene receptor antagonist (LTRA) used for the maintenance treatment of asthma and to relieve symptoms of seasonal allergies. It is usually administered orally. Montelukast is a CysLT antagonist; that it blocks the action of leukotriene D4 (and secondary ligands LTC4 and LTE4) on the cysteiny leukotriene receptor CysLT1 in the lungs and bronchial tubes by binding to it. This reduces the bronchoconstriction otherwise caused by the leukotriene and results in less inflammation.

Febuxostat
Febuxostat is a urate lowering drug, an inhibitor of oxidase that is indicated for use in the treatment of hyperuricemia and gout. A study comparing febuxostat to allopurinol found that more individuals treated with febuxostat had decreased levels of uric acid but there was no difference in the amount of initial gout flares or the surface area of gout tophi. A committee of the British National Institute for Health and Clinical Excellence concluded that although febuxostat had been shown to be more effective than fixed-dose (300 mg) allopurinol in lowering serum uric acid concentration, it had not been shown to be clinically more efficacious or cost effective compared with allopurinol when taken to control uric acid levels (up to 900 mg). However, the committee recommended febuxostat for people who are intolerant of allopurinol.
Mycophenolate Mofetil / Sodium

Mycophenolic acid or mycophenolate is an immunosuppressant drug used to prevent rejection in organ transplantation. It inhibits an enzyme needed for the growth of T cells and B cells. It was initially marketed as the prodrug mycophenolate mofetil (MMF) to improve oral bioavailability. More recently, the salt mycophenolate sodium has also been introduced.

Pentazocine

Pentazocine is a synthetically prepared prototypical mixed agonist-antagonist narcotic (opioid analgesic) drug of the benzomorphan class of opioids used to treat moderate to moderately severe pain. This compound may exist as one of two enantiomers, named (+)-pentazocine and (-)-pentazocine. (-)-pentazocine is a κ opioid receptor agonist, while (+)-pentazocine is not, instead displaying a ten-fold greater affinity for the σ receptor.

B. ONCOLOGY DRUGS

Capcitabine

Capcitabine is an orally-administered chemotherapeutic agent used in the treatment of numerous cancers. Capcitabine is a prodrug, that is enzymatically converted to 5-fluorouracil (5-FU) in the body.

Gemcitabine

Gemcitabine (pronunciation: jem-SITE-a-been) is a nucleoside analog used as chemotherapy.

Irinotecan

Irinotecan is a drug used for the treatment of cancer. Irinotecan prevents DNA from unwinding by inhibition of topoisomerase. In chemical terms, it is a semisynthetic analogue of the natural alkaloid camptothecin. Its main use is in colon cancer, in particular, in combination with other chemotherapy agents. This includes the regimen FOLFIRI, which
consists of infusional 5-fluorouracil, leucovorin, and irinotecan.

**Sunitinib**

Sunitinib (marketed as Sutent by Pfizer, and previously known as SU11248) is an oral, small-molecule, multi-targeted receptor tyrosine kinase (RTK) inhibitor that was approved by the FDA for the treatment of renal cell carcinoma (RCC) and imatinib-resistant gastrointestinal stromal tumor (GIST) on January 26, 2006. Sunitinib was the first cancer drug simultaneously approved for two different indications. Sunitinib inhibits cellular signaling by targeting multiple RTKs. These include all platelet-derived growth factor receptors (PDGF-R) and vascular endothelial growth factor receptors (VEGF-R). Sunitinib also inhibits KIT (CD117), the RTK that drives the majority of GISTs. In addition, sunitinib inhibits other RTKs including RET, CSF-1R, and flt3.

**Uramustine**

Uramustine (INN) or uracil mustard is a chemotherapy drug which belongs to the class of alkylating agents. It is used in lymphatic malignancies such as non-Hodgkin’s lymphoma. It works by damaging DNA, primarily in cancer cells that preferentially take up the uracil due to their need to make nucleic acids during their rapid cycles of cell division. The DNA damage leads to apoptosis of the affected cells. Bone marrow suppression and nausea are the main side effects. Chemically it is a derivative of nitrogen mustard and uracil. Uramustine is an alkylating agent of the nitrogen mustard type. Uracil mustard is a bifunctional alkylating agent, and is cell cycle–phase nonspecific. Activity occurs as a result of formation of an unstable ethylenimmonium ion.
9. Detail of chemicals in company pipeline

2-[3-cyano-4-(2-methylpropoxy)phenyl]4-methylthiazole-5-carboxylic acid; 2-[3-Cyano-4-(2-methylpropoxy)phenyl]-4-methyl-1,3-thiazole-5-carboxylic acid
CAS: 144060-53-7

Ethyl 2-(3-cyano-4-isobutoxyphenyl)-4-methyl-5-thiazolecarboxylate
160844-75-7

4-Hydroxybenzene-1-carbothioamide
25984-63-8

Pentyl [1-(3,4-dihydroxy-5-methyltetrahydrofuran-2-yl)-5-fluoro-2-oxo-1H-pyrimidin-4-yl]carbamate
CAS: 154361-50-9

-1,2,3-Tri-O-acetyl-5-deoxy-D-ribose
62211-93-2

-2',3'-di-O-acetyl-5'-deoxy-5-fluorocytidine
161599-46-8

-5'-deoxy-5-fluoro-n-[(pentyloxy)carbonyl]cytidine 2',3'-diacetate
162204-20-8

(R,E)-2-(1-((1-(3-(2-(7-chloroquinolin-2-yl)vinyl)phenyl)-3-(2-(2-hydroxypropan-2-yl)phenyl)propylthio)methyl)cyclopropyl)acetic acid
158966-92-8

Methyl-[E]-3-[2-(7-chloro-2-quinolinyl) ethenyl phenyl]-3-oxo-propyl]benzoate
MTN6
149968-11-6

Methyl-[E]-2-[3S-[2-(7-chloro-2-quinolinyl)ethenyl]phenyl]-3-hydroxy propyl] benzoate
MT7
181139-72-0

[(S)-(E)]-2-[3-[2-(7-chloro-2-quinolinyl)ethenyl]phenyl]-3-hydroxypropyl]-phenyl-2-propanol
MT8
142569-70-8

1-(Mercaptomethyl) cyclopropane acetic acid
MTS4
162515-68-6

(1-mercaptomethyl) cyclopropane methyl acetate
MTS5
152922-73-1

1-(hydroxymethyl)cyclopropylacetonitrile
MTS2
152922-71-9

(2RS,6RS,11RS)-6,11-dimethyl-3-(3-methylbut-2-en-1-yl)-1,2,3,4,5,6-hexahydro-2,6-methano-3-benzazocin-8-ol
359-83-1

1-benzyl-2-(4-methoxybenzyl)-3,4-dimethyl-1,2-dihydropyridine

1-benzyl-6-(4-methoxybenzyl)-3,4-dimethyl-1,2,3,6-tetrahydropyridine oxalate

(2R, 6R, 11R)-1,2,3,4,5,6-Hexahydro-6,11-dimethyl-3-benzyl-2,6-methano-3-benzazocin-8-ol

(2R, 6R, 11R)-1, 2, 3, 4, 5, 6-hexahydro-6, 11-dimethyl-2, 6-Methano-3-benzazocin-8-ol

N-(2-(Diethylamino) ethyl)-5-formyl-2, 4-dimethyl-1H-pyrrole-3-carboxamide
590424-04-7

N-[2-(Diethylamino) ethyl]-2,4-dimethyl-1H-pyrrole-3-carboxamide
590424-05-8

4-(ethoxycarbonyl)-3,5-dimethyl-1H-pyrrole-2-carboxylic acid
5442-91-1

5-((Z)-(5-fluoro-2-oxoindolin-3-ylidene) methyl)-2, 4-dimethyl-1H-pyrrole-3-carboxylic acid
356068-93-4

N-(2-(Diethylamino) ethyl)-5-formyl-2, 4-dimethyl-1H-pyrrole-3-carboxamide
356068-86-5

5-Fluoro-2-oxindole
56341-41-4

N-Desacetyl-N-formyl Thiocolchicoside
219547-29-2