NO BORDER

Going beyond it all, to the future of medicine.

Outline of Consolidated Financial Results for the 2nd Quarter Ended Sep 30, 2018

November 8, 2018 NIPPON SHINYAKU CO., LTD.



1H FY2018 Summary



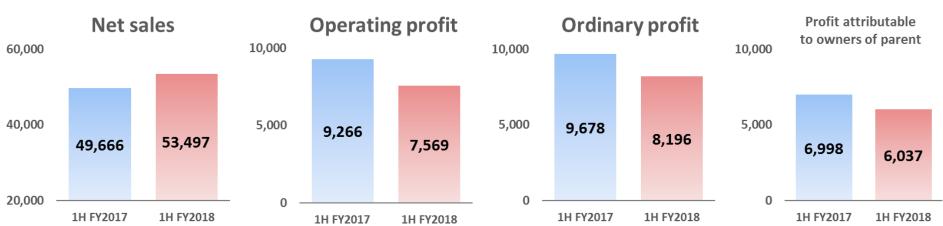
♦ Net sales : 53,497 million yen (+7.7%)

◆ Operating profit : 7,569 million yen (-18.3%)

◆ Ordinary profit : 8,196 million yen (-15.3%)

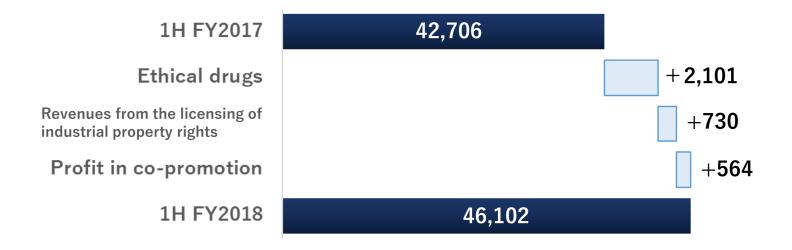
◆ Profit attributable to owners of parent÷ 6,037 million yen (-13.7%)

(Million yen)



Segmental Review - Pharmaceuticals -

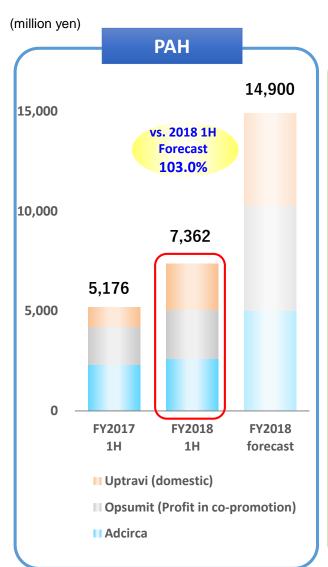


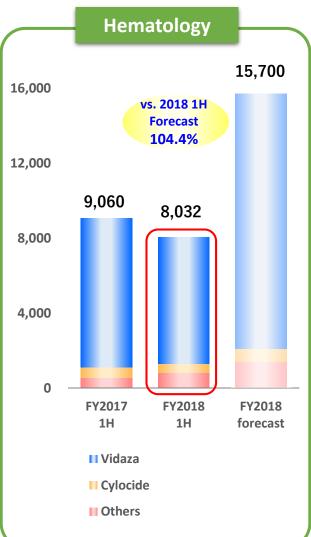


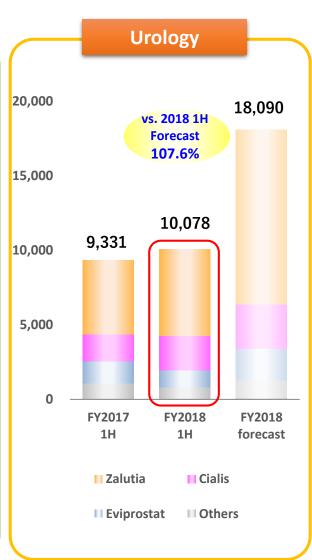
| (Million yen) | 1H FY2017 | | 1H FY | 2018 | YoY Change | | |
|---|-----------|--------|---------|--------|------------|--------|--|
| (Willion yell) | Results | Ratio | Results | Ratio | Amt | % | |
| Ethical drugs | 35,278 | 82.6% | 37,379 | 81.1% | +2,101 | +6.0% | |
| Revenues from the licensing of industrial property rights | 5,536 | 13.0% | 6,267 | 13.6% | +730 | +13.2% | |
| Profit in co-promotion | 1,891 | 4.4% | 2,455 | 5.3% | +564 | +29.9% | |
| Net sales | 42,706 | 100.0% | 46,102 | 100.0% | +3,396 | +8.0% | |

Three Main Fields of Focus



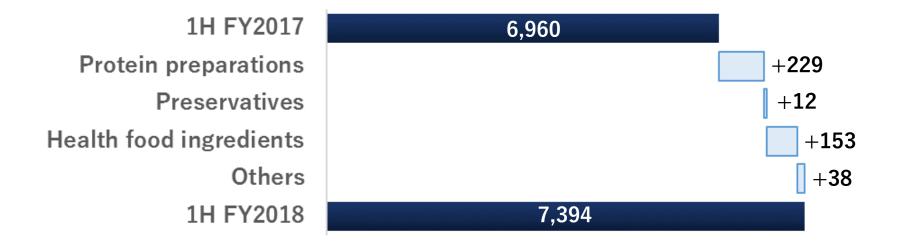






Segmental Review - Functional Food -

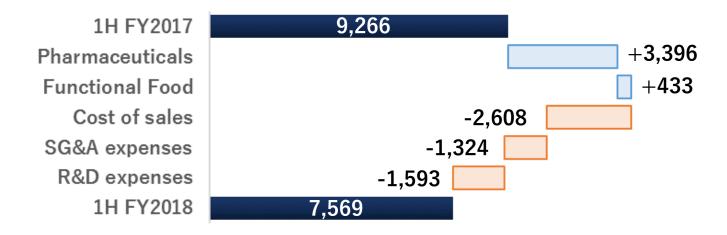




| (Million yen) | 1H FY | 1H FY2017 | | 2018 | YoY Change | |
|-------------------------|---------|-----------|---------|--------------|------------|--------|
| (willion yell) | Results | Ratio | Results | Ratio | Amt | % |
| Protein preparations | 4,711 | 67.7% | 4,941 | 66.8% | +229 | +4.9% |
| Preservatives | 1,128 | 16.2% | 1,140 | 15.4% | +12 | +1.1% |
| Health food ingredients | 432 | 6.2% | 585 | 7.9% | +153 | +35.6% |
| Others | 688 | 9.9% | 726 | 9.9% | +38 | +5.5% |
| Net sales | 6,960 | 100.0% | 7,394 | 100.0% | +433 | +6.2% |

Operating profit

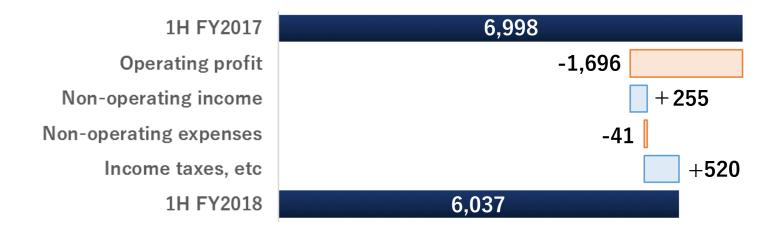




| (Million yen) | 1H FY | 2017 | 1H FY | 2018 | YoY Change | |
|--------------------|----------|---------|----------|---------|------------|---------|
| (Willion yell) | Results | Ratio | Results | Ratio | Amt | % |
| Net sales | 49,666 | 100.0% | 53,497 | 100.0% | +3,830 | +7.7% |
| (Pharmaceuticals) | (42,706) | (86.0%) | (46,102) | (86.2%) | (+3,396) | (+8.0%) |
| (Functional Food) | (6,960) | (14.0%) | (7,394) | (13.8%) | (+433) | (+6.2%) |
| Operating expenses | 40,400 | 81.3% | 45,927 | 85.9% | +5,526 | +13.7% |
| Cost of sales | 22,479 | 45.3% | 25,087 | 46.9% | +2,608 | +11.6% |
| SG&A expenses | 11,651 | 23.4% | 12,975 | 24.3% | +1,324 | +11.4% |
| R&D expenses | 6,270 | 12.6% | 7,864 | 14.7% | +1,593 | +25.4% |
| Operating profit | 9,266 | 18.7% | 7,569 | 14.1% | -1,696 | -18.3% |

Profit attributable to owners of parent





| (Million yen) | 1H FY2017 | 1H FY2018 | YoY Change | | |
|------------------------|-----------|-----------|------------|----------|--|
| (willion yen) | Results | Results | Amt | % | |
| Operating profit | 9,266 | 7,569 | -1,696 | -18.3% | |
| Non-operating income | 597 | 853 | +255 | +42.8% | |
| Non-operating expenses | 184 | 226 | +41 | +22.5% | |
| Ordinary profit | 9,678 | 8,196 | -1,482 | -15.3% | |
| Income taxes, etc | 2,679 | 2,158 | -520 | -19.4% | |
| Profit attributable to | 6,998 | 6,037 | -961 | -13.7% | |
| owners of the parent | 0,998 | 0,037 | -901 | -13.7 /0 | |

Business Forecast for FY2018



| | FY2 | FY2017 | | FY2018 | | ange | | FY2018 | |
|---|---------|---------|---------|----------|--------|-------|--|----------------|--|
| (Million yen) | 1H | FY | 1H | FY | Amt | nt % | | (5th MMP) | |
| | Results | Results | Results | Forecast | Airic | /0 | | (Stil Wilvii) | |
| Net sales | 49,666 | 101,448 | 53,497 | 108,000 | +6,552 | +6.5% | | 110,000 | |
| Operating profit | 9,266 | 17,079 | 7,569 | 18,500 | +1,421 | +8.3% | | 18,000 | |
| Ordinary profit | 9,678 | 17,451 | 8,196 | 19,000 | +1,549 | +8.9% | | - | |
| Profit attributable to owners of the parent | 6,998 | 12,953 | 6,037 | 14,000 | +1,047 | +8.1% | | 12,000 | |

MMP: Medium-Term Management Plan

Segmental Forecast - Pharmaceuticals - 13



| | FY2 | FY2017 | | 018 | YoY Change | | |
|---|---------|----------|---------|----------|------------|--------|--|
| (Million yen) | 1H | 1H FY 1H | | FY | Amt | % | |
| | Results | Results | Results | Forecast | Aiiit | /0 | |
| Ethical drugs | 35,278 | 73,076 | 37,379 | 72,800 | -276 | -0.4% | |
| Revenues from the licensing of industrial property rights | 5,536 | 10,378 | 6,267 | 15,500 | +5,122 | +49.4% | |
| Profit in co-promotion | 1,891 | 3,962 | 2,455 | 5,300 | +1,338 | +33.8% | |
| Net sales | 42,706 | 87,416 | 46,102 | 93,600 | +6,184 | +7.1% | |

Segmental Forecast - Functional Food -



| | FY2 | FY2017 | | 018 | YoY Change | |
|-------------------------|---------|---------|---------|----------|------------|-------|
| (Million yen) | 1H | FY | 1H | FY | Amt | % |
| | Results | Results | Results | Forecast | Allit | /0 |
| Protein preparations | 4,711 | 9,454 | 4,941 | 9,585 | +131 | +1.4% |
| Preservatives | 1,128 | 2,298 | 1,140 | 2,450 | +152 | +6.6% |
| Health food ingredients | 432 | 927 | 585 | 960 | +33 | +3.5% |
| Others | 688 | 1,350 | 726 | 1,405 | +55 | +4.1% |
| Net sales | 6,960 | 14,031 | 7,394 | 14,400 | +369 | +2.6% |

Consolidated Statements of Income (Forecast)



| | FY2 | 017 | FY2 | 018 | YoY Ch | nange |
|---|---------------|---------------|---------------|----------------|----------|---------|
| (Million yen) | 1H Results | FY Results | 1H Results | FY Forecast | Amt | % |
| Net sales | 49,666 | 101,448 | 53,497 | 108,000 | +6,552 | +6.5% |
| (Pharmaceuticals) | (42,706) | (87,416) | (46,102) | (93,600) | (+6,184) | (+7.1%) |
| (Functional Food) | (6,960) | (14,031) | (7,394) | (14,400) | (+369) | (+2.6%) |
| Cost of sales | 22,479 | 46,929 | 25,087 | 48,700 | +1,771 | +3.8% |
| (Cost of sales ratio) | (45.3%) | (46.3%) | (46.9%) | (45.1%) | | |
| SG&A expenses | 11,651 | 24,217 | 12,975 | 27,200 | +2,983 | +12.3% |
| R&D expenses | 6,270 | 13,221 | 7,864 | 13,600 | +379 | +2.9% |
| Operating income | 9,266 | 17,079 | 7,569 | 18,500 | +1,421 | +8.3% |
| Non-operating income | 597 | 1,122 | 853 | 1,000 | -122 | -10.9% |
| Non-operating expenses | 184 | 751 | 226 | 500 | -251 | -33.4% |
| Ordinary income | 9,678 | 17,451 | 8,196 | 19,000 | +1,549 | +8.9% |
| Income taxes, etc | 2,679 | 4,497 | 2,158 | 5,000 | +503 | +11.2% |
| Profit attributable to owners of the parent | 6,998 | 12,953 | 6,037 | 14,000 | +1,047 | +8.1% |

Dividends Forecast



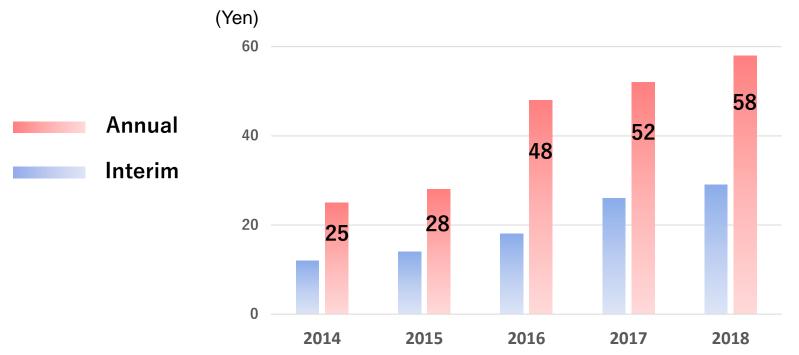
| | | FY2017 | FY2018 | |
|------------------------|---------|---------|---------|--|
| Dividends per share | Interim | ¥26 | ¥29 | |
| Dividends per snare | Annual | ¥52 | ¥58 | |
| EPS | | ¥192.31 | ¥207.86 | |
| Dividends payout ratio | | 27.0 % | 27.9 % | |

■ <u>Dividends Policy</u>

Target payout ratio

(performance-based)

is around 30%.



Status of Product Pipeline

R&D Compounds (Domestic)



| Code No. (Generic name) <origin></origin> | Application type | Indications | Preparation for development | PI | PII | PIII | NDA filing |
|--|------------------|---|-----------------------------|----|-----|------|------------|
| NS-73 | NME | Veno-occlusive disease (treatment) | | | | | |
| (defibrotide) <in-license></in-license> | New indication | Veno-occlusive disease (prevention) | | | | | |
| NS-304 | | Chronic thromboembolic pulmonary hypertension | | | | | |
| (selexipag) | New indication | Arteriosclerosis obliterans | | | | | |
| <in-house></in-house> | | Lumbar spinal stenosis | | | | | |
| NS-580 <in-house></in-house> | NME | Endometriosis | | | | | |
| NS-17 (azacitidine) <in-license></in-license> | New indication | Acute myeloid leukemia | | | | | |
| NS-065/NCNP-01 (viltolarsen) <in-house></in-house> | NME | Duchenne muscular dystrophy | | | | | |
| NS-32 <in-license></in-license> | NME | Iron deficiency anemia | | | | | |
| NS-917 <in-license></in-license> | NME | Relapsed/refractory acute myeloid leukemia | | | | | |
| NS-87 <in-license></in-license> | NME | Secondary acute myeloid leukemia | | | | | |





R&D Compounds (Overseas)



| Code No. (Generic name) <origin></origin> | Application type | Indications | Preparation for development | PI | PII | PIII | NDA filing |
|--|------------------|-----------------------------|-----------------------------|----|-----|------|------------|
| prulifloxacin <in-house></in-house> | NME | Bacterial infections | | | | | |
| NS-065/NCNP-01 (viltolarsen) <in-house></in-house> | NME | Duchenne muscular dystrophy | | | | | |
| NS-018 <in-house></in-house> | NME | Myelofibrosis | | | | | |

Reference Materials



Consolidated Balance Sheet



| (Million von) | End of | End of 2Q | YoY Change | | End of | End of 2Q | YoY Change |
|----------------|---------|-----------|------------|----------------------------------|---------|-----------|------------|
| (Million yen) | FY2017 | FY2018 | Amt | | FY2017 | FY2018 | Amt |
| Assets | 155,887 | 160,377 | +4,490 | Liabilities | 30,197 | 29,480 | -717 |
| Current assets | 95,176 | 99,515 | +4,339 | Current liabilities | 22,454 | 22,496 | +42 |
| Fixed assets | 60,710 | 60,862 | +151 | Long-term liabilities | 7,743 | 6,983 | -759 |
| | | | | Net assets | 125,689 | 130,897 | +5,208 |
| Total assets | 155,887 | 160,377 | +4,490 | Total liabilities and net assets | 155,887 | 160,377 | +4,490 |

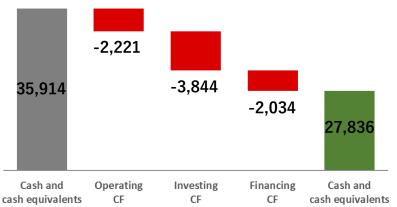
| = Assets = | | = Liabilities and Net assets = | |
|-------------------------------|--------|--------------------------------|--------|
| Cash and deposits | +2,610 | Notes and accounts payable | -1,150 |
| Notes and accounts receivable | +2,063 | Accounts payable | +425 |
| Inventories | -428 | Retained earnings | +4,286 |
| Investment securities | +1,065 | | |
| | | | |

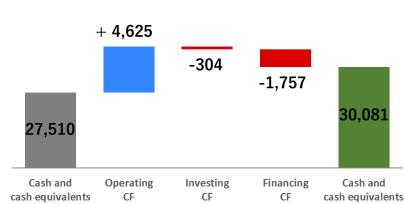
Consolidated Statements of Cash Flows



| (Million yen) | 1H FY2017 Results | 1H FY2018 Results | YoY Change Amt |
|--|----------------------|----------------------|-------------------|
| Operating activities | -2,221 | 4,625 | +6,846 |
| Investing activities | -3,844 | -304 | +3,539 |
| Financing activities | -2,034 | -1,757 | +277 |
| Cash and cash equivalents at end of year | 27,836 | 30,081 | +2,244 |

 (Million yen)
 1H FY2017
 1H FY2018







NS-73 (defibrotide)

0

- Treatment of hepatic veno-occlusive disease -

| Development Phase | Japan : NDA filing (treatment) Japan : PIII (prevention) |
|---------------------|---|
| Origin | [Mar. 2017] Licensed-in from: Jazz Pharmaceuticals |
| Development | Nippon Shinyaku in Japan (treatment) Co-development in Japan : Jazz Pharmaceuticals (prevention) |
| Mechanism of action | Protective action on vascular endothelium, normalization of the coagulation/fibrinolysis balance |
| Indication | Hepatic veno-occlusive disease (VOD) |
| Dosage form | Injection |
| Feature | VOD is a life-threatening complication which develops in patients following HSCT, and in severe cases, leading to death at high rates. NS-73 is the only drug for the treatment of VOD (EU/US guideline). It has been launched in 35 countries. NS-73 is the only drug for the prevention of VOD. |



NS-304 (selexipag)



- Treatment for pulmonary hypertension, arteriosclerosis obliterans, lumbar spinal stenosis -

| Development Phase | <cteph> Japan: PIII <aso> Japan: PIIb <lss> Japan: PIIa</lss></aso></cteph> | |
|---------------------|--|--|
| Origin | Nippon Shinyaku | |
| Development | [Apr. 2008] Licensed-out to (outside Japan): Actelion Pharmaceuticals Ltd. (Switzerland) Co-development in Japan: Actelion Pharmaceuticals Japan Ltd. (CTEPH) Nippon Shinyaku (ASO) Nippon Shinyaku (LSS) | |
| Mechanism of action | Selective IP receptor agonist | |
| Indication | Chronic thromboembolic pulmonary hypertension (CTEPH) Arteriosclerosis obliterans (ASO) Lumbar spinal stenosis (LSS) | |
| Dosage form | Tablet | |
| Feature | Long-acting oral drug | |





| Development Phase | Japan: Plla |
|---------------------|---|
| Origin | Nippon Shinyaku |
| Development | Nippon Shinyaku |
| Mechanism of action | Inhibition of membrane-associated prostaglandin E syntase-1 |
| Indication | Endometriosis |
| Dosage form | Oral agent |
| Feature | Treatment for endometriosis without hormonal effect and with possible analgesic potency |



- Treatment for acute myeloid leukemia -

| Development Phase | Japan: PII |
|---------------------|--|
| Origin | [Oct. 2006] Licensed-in from :Celgene Corporation |
| Development | Nippon Shinyaku |
| Mechanism of action | Inhibition of DNA methylation, Cytotoxic effects |
| Indication | Acute myeloid leukemia |
| Dosage form | Injection |
| Feature | Standard Treatment for acute myeloid leukemia that ineligible for intensive chemotherapy Improvement for life prognosis |



NS-065/NCNP-01 (viltolarsen)

0

- Treatment for Duchenne muscular dystrophy -

| Development Phase | •USA : PII •Japan: PI/II |
|---------------------|---|
| Origin | Co-development: National Center of Neurology and Psychiatry |
| Development | Nippon Shinyaku |
| Mechanism of action | Exon 53 Skipping |
| Indication | Duchenne muscular dystrophy |
| Dosage form | Injection |
| Feature | Improvement in symptoms and prevention of the disease progression by recovery of dystrophin protein expression Morpholino based oligonucleotide with possible high safety profile and maximized activity |

0

- Treatment for iron deficiency anemia -

| Development Phase | Japan: PI |
|---------------------|---|
| Origin | [Dec. 2016] Licensed-in from: Pharmacosmos A/S |
| Development | Nippon Shinyaku |
| Mechanism of action | Strongly bound Iron Carbohydrate complex enabling iron correction in a single or low number of visits |
| Indication | Iron deficiency anemia |
| Dosage form | Injection |
| Feature | Allows high iron doses to be given with a good safety profile Minimal potential toxicity from release of labile iron due to tight iron binding in a matrix structure of interchanging isomaltoside and iron Low immunogenic potential based on the short and linear oligosaccharide, isomaltoside No profound hypophosphatemia |





- Treatment for relapsed or refractory acute myeloid leukemia -

| Development Phase | Japan: Preparation for Clinical Development |
|---------------------|---|
| Origin | [Mar. 2017] Licensed-in from: Delta-Fly Pharma |
| Development | Nippon Shinyaku |
| Mechanism of action | DNA strand-break by incorporating itself into DNA |
| Indication | Relapsed or refractory (r/r) acute myeloid leukemia (AML) |
| Dosage form | Injection |
| Feature | Significant anti-leukemic activity with unique mechanism of action from other nucleoside analogs at low dose continuous infusion Tolerable safety profile available to elderly patients with r/r AML |



- Treatment of secondary acute myeloid leukemia -

| Development Phase | Japan: Preparation for Clinical Development |
|---------------------|--|
| Origin | [Mar. 2017] Licensed-in from : Jazz Pharmaceuticals |
| Development | Nippon Shinyaku |
| Mechanism of action | Liposomal combination of cytrabine and daunorubicin |
| Indication | Secondary acute myeloid leukemia (secondary AML) |
| Dosage form | Injection |
| Feature | NS-87 is the first therapy for the treatment of secondary AML in Japan. The enhancement of antitumor activity and reducing adverse events are expected by NS-87 accumulated in bone marrow. |

Prulifloxacin

- Quinolone antibacterial -



Japan

| Licensee | Development phase |
|--|--------------------------------------|
| Meiji Seika Pharma Co., Ltd. | -Launch (Dec. 2002) / Sword® Tablets |

Overseas

| Licensee | Development phase |
|---|--|
| -Angelini (Italy) | Approval (Sep. 2004)Launch in Italy (Nov. 2004)Approval in European countries (Apr. 2005) |
| •Lee's Pharmaceutical Holdings Ltd. (Hong Kong) | NDA filing in China |
| -Algorithm (Lebanon) | Launch in Lebanon (Jan. 2012) Preparation for launch in 1 country and NDA filing in 5 countries |





- Treatment for myelofibrosis -

| Development Phase | Overseas (USA): PI/II |
|---------------------|--|
| Origin | Nippon Shinyaku |
| Development | Nippon Shinyaku |
| Mechanism of action | JAK2 inhibitor |
| Indication | Myelofibrosis |
| Dosage form | Tablet |
| Feature | Highly selective for active form of JAK2 Possibly best-in-class treatment for myelofibrosis |



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 materials, and competition with others.
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