



PRESS RELEASE

Onivyde[®] regimen demonstrated statistically significant improvement in overall survival in previously untreated metastatic pancreatic ductal adenocarcinoma

- Trial met its primary endpoint with Onivyde[®] (irinotecan liposome injection) in the NALIRIFOX treatment regimen showing statistically significant improvement in overall survival compared to nab-paclitaxel plus gemcitabine regimen
- Study met key secondary endpoint of progression-free survival with a safety profile consistent with the previous study
- Clinical trial results will be presented at an upcoming medical conference

PARIS, FRANCE, 9 November 2022 – Ipsen (Euronext: IPN; ADR: IPSEY) announced the Phase III NAPOLI 3 trial of Onivyde[®] (irinotecan liposome injection) plus 5 fluorouracil/leucovorin and oxaliplatin (NALIRIFOX regimen) met its primary endpoint demonstrating clinically meaningful and statistically significant improvement in overall survival compared to nab-paclitaxel plus gemcitabine in 770 previously untreated patients with metastatic pancreatic ductal adenocarcinoma (mPDAC) and key secondary efficacy outcome of progression-free survival (PFS) also showed significant improvement over the comparator arm. The safety profile of Onivyde in the NAPOLI 3 trial was consistent with those observed in the previous phase I/II mPDAC study.

Ipsen intends to file a supplemental New Drug Application with the U.S. Food and Drug Administration for Onivyde in combination with oxaliplatin plus 5- fluorouracil/leucovorin for the treatment of patients with previously untreated mPDAC following the Fast Track Designation granted in 2020. The clinical trial results will be presented at an upcoming medical conference.

“The positive results from the NAPOLI 3 trial demonstrate that compared with the standard-of-care, the investigational Onivyde treatment regimen extended the lives of people living with metastatic pancreatic ductal adenocarcinoma who were previously untreated,” said Howard Mayer, Executive Vice President and Head of Research and Development for Ipsen. “The prognosis for people diagnosed with pancreatic cancer is extremely poor and we plan to submit these new findings to the regulatory authority as, if approved, we believe this regimen could offer up an important new treatment option for people living with an aggressive and hard-to-treat cancer. We thank the patients who participated in the study, their families and their healthcare teams.”

PDAC is the most common type of cancer that forms in the pancreas with approximately 60,000 people diagnosed in the U.S. each year and nearly 500,000 people globally.^{1,2} Since there are no specific symptoms in the early stages, PDAC is often detected late and after the disease has spread to other parts of the body (metastatic or stage IV).³ Even in later stages, weight loss, abdominal pain and jaundice are the most common symptoms making PDAC difficult to detect.⁴ Currently, fewer than 20 percent of people diagnosed with PDAC survive longer than one year and overall, pancreatic cancer has the lowest five-year survival rate of all cancer types globally and in the U.S.^{1,2}

Phase III NAPOLI 3 Study

NAPOLI 3 is a randomized, open-label Phase III trial of Onivyde treatment regimen (NALIRIFOX) in patients who have not previously received chemotherapy for metastatic pancreatic ductal adenocarcinoma. Onivyde plus oxaliplatin and 5 FU/LV was administered twice in a month (days 1 and 15 of 28 day cycle) compared to an injection of nab-paclitaxel and gemcitabine administered three times

a month (days 1, 8, 15 of a 28 day cycle). Approximately 770 patients were enrolled in the trial with the primary outcome measure of overall survival. Secondary outcome measures included progression-free survival, objective response rate, quality of life assessment, incidence of treatment-emergent adverse events, serious adverse events and laboratory abnormalities. Adverse events and laboratory analyses were also analyzed.

Onivyde® (irinotecan liposome injection)

Onivyde is a long-circulating, liposomal topoisomerase inhibitor designed to interrupt DNA replication in cancer cells. Onivyde enters cancer cells using a naturally occurring process (enhanced permeability and retention or EPR effect) and as macrophages unpack the liposomes, Onivyde is activated facilitating the release of the cytotoxic payload into the tumor, including irinotecan and its conversion into SN-38, its active metabolite. Ipsen has exclusive commercialization rights for the current and potential future indications for Onivyde in the U.S. Servier, an independent international pharmaceutical company with a strong international presence in 150 countries, is responsible for the commercialization of Onivyde outside of the U.S. and Taiwan. PharmaEngine is a commercial stage oncology company headquartered in Taipei and is responsible for the commercialization of Onivyde in Taiwan.

Onivyde is currently approved in most major markets including the U.S., Europe and Asia in combination with fluorouracil (5-FU) and leucovorin (LV) for the treatment of patients with metastatic adenocarcinoma of the pancreas after disease progression following gemcitabine-based therapy. Onivyde is not indicated as a single agent for the treatment of patients with metastatic adenocarcinoma of the pancreas.

U.S. IMPORTANT SAFETY INFORMATION

BOXED WARNINGS: SEVERE NEUTROPENIA and SEVERE DIARRHEA

Fatal neutropenic sepsis occurred in 0.8% of patients receiving Onivyde. Severe or life-threatening neutropenic fever or sepsis occurred in 3% and severe or life-threatening neutropenia occurred in 20% of patients receiving Onivyde in combination with 5-FU and LV. Withhold Onivyde for absolute neutrophil count below 1500/mm³ or neutropenic fever. Monitor blood cell counts periodically during treatment.

Severe diarrhea occurred in 13% of patients receiving Onivyde in combination with 5-FU/LV. Do not administer Onivyde to patients with bowel obstruction. Withhold Onivyde for diarrhea of Grade 2–4 severity. Administer loperamide for late diarrhea of any severity. Administer atropine, if not contraindicated, for early diarrhea of any severity.

CONTRAINDICATION

Onivyde is contraindicated in patients who have experienced a severe hypersensitivity reaction to Onivyde or irinotecan hydrochloride.

Warnings and precautions

Severe neutropenia: see boxed WARNING. In patients receiving Onivyde/5-FU/LV, the incidence of Grade 3/4 neutropenia was higher among Asian (18/33 [55%]) vs White patients (13/73 [18%]). Neutropenic fever/neutropenic sepsis was reported in 6% of Asian vs 1% of White patients

Severe diarrhea: see boxed WARNING. Severe and life-threatening late-onset (onset >24 hours after chemotherapy [9%]) and early-onset diarrhea (onset ≤24 hours after chemotherapy [3%], sometimes with other symptoms of cholinergic reaction) were observed

Interstitial lung disease (ILD): Irinotecan HCl can cause severe and fatal ILD. Withhold Onivyde patients with new or progressive dyspnea, cough, and fever, pending diagnostic evaluation. Discontinue Onivyde in patients with a confirmed diagnosis of ILD

Severe hypersensitivity reactions: Irinotecan HCl can cause severe hypersensitivity reactions, including anaphylactic reactions. Permanently discontinue Onivyde in patients who experience a severe hypersensitivity reaction

Embryo-fetal toxicity: Onivyde can cause fetal harm when administered to a pregnant woman. Advise females of reproductive potential to use effective contraception during and for 1 month after Onivyde treatment

Adverse reactions

- The most common adverse reactions ($\geq 20\%$) were diarrhea (59%), fatigue/asthenia (56%), vomiting (52%), nausea (51%), decreased appetite (44%), stomatitis (32%), and pyrexia (23%)
- The most common Grade 3/4 adverse reactions ($\geq 10\%$) were diarrhea (13%), fatigue/asthenia (21%), and vomiting (11%)
- Adverse reactions led to permanent discontinuation of Onivyde in 11% of patients receiving Onivyde/5-FU/LV; The most frequent adverse reactions resulting in discontinuation of Onivyde were diarrhea, vomiting, and sepsis
- Dose reductions of Onivyde for adverse reactions occurred in 33% of patients receiving Onivyde/5-FU/LV; the most frequent adverse reactions requiring dose reductions were neutropenia, diarrhea, nausea, and anemia
- Onivyde was withheld or delayed for adverse reactions in 62% of patients receiving Onivyde/5-FU/LV; the most frequent adverse reactions requiring interruption or delays were neutropenia, diarrhea, fatigue, vomiting, and thrombocytopenia
- The most common laboratory abnormalities ($\geq 20\%$) were anemia (97%), lymphopenia (81%), neutropenia (52%), increased ALT (51%), hypoalbuminemia (43%), thrombocytopenia (41%), hypomagnesemia (35%), hypokalemia (32%), hypocalcemia (32%), hypophosphatemia (29%), and hyponatremia (27%)

Drug Interactions

1. Avoid the use of strong CYP3A4 inducers, if possible, and substitute non-enzyme inducing therapies ≥ 2 weeks prior to initiation of Onivyde
2. Avoid the use of strong CYP3A4 or UGT1A1 inhibitors, if possible, and discontinue strong CYP3A4 inhibitors ≥ 1 week prior to starting therapy

Special Populations

- Pregnancy and Reproductive Potential: See WARNINGS & PRECAUTIONS. Advise males with female partners of reproductive potential to use condoms during and for 4 months after Onivyde treatment
- Lactation: Advise nursing women not to breastfeed during and for 1 month after Onivyde treatment

Please see full U.S. [Prescribing Information](#) including Boxed WARNING for Onivyde.

ENDS

About Ipsen

Ipsen is a global, mid-sized biopharmaceutical company focused on transformative medicines in Oncology, Rare Disease and Neuroscience. With Specialty Care sales of €2.6bn in FY 2021, Ipsen sells medicines in over 100 countries. Alongside its external-innovation strategy, the Company's research and development efforts are focused on its innovative and differentiated technological platforms located in the heart of leading biotechnological and life-science hubs: Paris-Saclay, France; Oxford, U.K.; Cambridge, U.S.; Shanghai, China. Ipsen, excluding its Consumer HealthCare business, has around 4,500 colleagues worldwide and is listed in Paris (Euronext: IPN) and in the U.S. through a Sponsored Level I American Depositary Receipt program (ADR: IPSEY). For more information, visit [ipсен.com](https://www.ipсен.com)

Ipsen's Forward-Looking Statements

The forward-looking statements, objectives and targets contained herein are based on Ipsen's management strategy, current views and assumptions. Such statements involve known and unknown risks and uncertainties that may cause actual results, performance or events to differ materially from those anticipated herein. All of the above risks could affect Ipsen's future ability to achieve its financial targets,

which were set assuming reasonable macroeconomic conditions based on the information available today. Use of the words 'believes', 'anticipates' and 'expects' and similar expressions are intended to identify forward-looking statements, including Ipsen's expectations regarding future events, including regulatory filings and determinations. Moreover, the targets described in this document were prepared without taking into account external growth assumptions and potential future acquisitions, which may alter these parameters. These objectives are based on data and assumptions regarded as reasonable by Ipsen. These targets depend on conditions or facts likely to happen in the future, and not exclusively on historical data. Actual results may depart significantly from these targets given the occurrence of certain risks and uncertainties, notably the fact that a promising medicine in early development phase or clinical trial may end up never being launched on the market or reaching its commercial targets, notably for regulatory or competition reasons. Ipsen must face or might face competition from generic medicine that might translate into a loss of market share. Furthermore, the research and development process involves several stages each of which involves the substantial risk that Ipsen may fail to achieve its objectives and be forced to abandon its efforts with regards to a medicine in which it has invested significant sums. Therefore, Ipsen cannot be certain that favorable results obtained during preclinical trials will be confirmed subsequently during clinical trials, or that the results of clinical trials will be sufficient to demonstrate the safe and effective nature of the medicine concerned. There can be no guarantees a medicine will receive the necessary regulatory approvals or that the medicine will prove to be commercially successful. If underlying assumptions prove inaccurate or risks or uncertainties materialize, actual results may differ materially from those set forth in the forward-looking statements. Other risks and uncertainties include but are not limited to, general industry conditions and competition; general economic factors, including interest rate and currency exchange rate fluctuations; the impact of pharmaceutical industry regulation and healthcare legislation; global trends toward healthcare cost containment; technological advances, new medicine and patents attained by competitors; challenges inherent in new-medicine development, including obtaining regulatory approval; Ipsen's ability to accurately predict future market conditions; manufacturing difficulties or delays; financial instability of international economies and sovereign risk; dependence on the effectiveness of Ipsen's patents and other protections for innovative medicines; and the exposure to litigation, including patent litigation, and/or regulatory actions. Ipsen also depends on third parties to develop and market some of its medicines which could potentially generate substantial royalties; these partners could behave in such ways which could cause damage to Ipsen's activities and financial results. Ipsen cannot be certain that its partners will fulfil their obligations. It might be unable to obtain any benefit from those agreements. A default by any of Ipsen's partners could generate lower revenues than expected. Such situations could have a negative impact on Ipsen's business, financial position or performance. Ipsen expressly disclaims any obligation or undertaking to update or revise any forward-looking statements, targets or estimates contained in this press release to reflect any change in events, conditions, assumptions or circumstances on which any such statements are based, unless so required by applicable law. Ipsen's business is subject to the risk factors outlined in its registration documents filed with the French Autorité des Marchés Financiers. The risks and uncertainties set out are not exhaustive and the reader is advised to refer to Ipsen's 2021 Universal Registration Document, available on [ipsen.com](https://www.ipsen.com)

For further information:

Contacts

Investors

Craig Marks

Vice President, Investor Relations
+44 7584 349 193

Media

Joanna Parish

Global Head of Franchise Communications
Oncology
+44 7840 023 741

Rachel Reiff

US Head of Franchise Communications
+1 908 616 1680

References

1. <https://seer.cancer.gov/statfacts/html/pancreas.html>
2. <https://www.cancer.net/cancer-types/pancreatic-cancer/statistics>
3. Orth, M., Metzger, P., Gerum, S. et al. Pancreatic ductal adenocarcinoma: biological hallmarks, current status, and future perspectives of combined modality treatment approaches. *Radiat Oncol* 14, 141 (2019). <https://doi.org/10.1186/s13014-019-1345-6>
4. <https://www.cancer.org/cancer/pancreatic-cancer/detection-diagnosis-staging/signs-and-symptoms.html>