

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): October 27, 2022

SALARIUS PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation)

001-36812

(Commission File Number)

46-5087339

(IRS Employer Identification Number)

**2450 Holcombe Blvd.
Suite X
Houston, TX**

(Address of principal executive offices)

77021

(Zip Code)

(832) 834-6992

(Registrant's telephone number, including area code)

N/A

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Trading Symbol(s)

Name of each exchange on which registered

Common Stock, par value \$0.0001

SLRX

The Nasdaq Capital Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§ 230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§ 240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 8.01 Other Events.

On October 27, 2022, Salariaus Pharmaceuticals, Inc. (the "Company") issued a press release announcing certain information discussed by Daniela Santiesteban, Ph.D., the Company's director of targeted protein degradation development, in her slide presentation delivered at the 5th Annual Targeted Protein Degradation Conference in Boston at 5:30 p.m. local time on October 26, 2022, including, but not limited to, the Company's development of SP-3164, a targeted protein degrader, the therapeutic benefits of a stereoselective molecular glue, and present in vitro and in vivo data confirming SP-3164 neo-substrates and therapeutic activity in cancer models. A copy of the press release and slide presentation are filed herewith as Exhibits 99.1 and 99.2, respectively, and the information contained therein is incorporated by reference to this Item 8.01.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release of Salariaus Pharmaceuticals, Inc., dated October 27, 2022
99.2	Salariaus Pharmaceuticals, Inc. Slide Presentation
104	Cover Page Interactive Data File (embedded within the inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.
SALARIUS PHARMACEUTICALS, INC.

Date: October 27, 2022

By:

/s/ Mark J. Rosenblum
Mark J. Rosenblum
Chief Financial Officer



Saliarius Pharmaceuticals Presents Favorable Preclinical Data on SP-3164 at the 5th Annual Targeted Protein Degradation Conference

Data showcased novel compound with potential for improved anti-cancer activity over other molecular glues

Saliarius plans to release additional preclinical results at the American Society of Hematology annual meeting later this year

HOUSTON (October 27, 2022) – Saliarius Pharmaceuticals, Inc. (NASDAQ: SLRX), a clinical-stage biopharmaceutical company using protein inhibition and protein degradation to develop cancer therapies for patients in need of new treatment options, today announced favorable preclinical data that support continued development of the company's Targeted Protein Degradation (TPD), SP-3164. The data were presented on October 26 at the 5th Annual Targeted Protein Degradation Conference by Daniela Santiesteban, Ph.D., Saliarius' director of targeted protein degradation development, in a presentation titled "Development of SP-3164, a Cereblon-Binding Molecular Glue." The presentation is available for viewing on the company's website [here](#).

Dr. Santiesteban's presentation included an overview of SP-3164 development and the therapeutic benefits of a stereoselective molecular glue. SP-3164 was developed to be the deuterium-stabilized, active S-enantiomer, or the preferred enantiomer, of avadomide or CC-122. Avadomide is a widely studied molecular glue with demonstrated clinical activity and established safety data. In *in vitro* studies, SP-3164 has shown potent cereblon binding, efficient degradation of neosubstrates and induction of cell death in both lymphoma and multiple myeloma cells. In *in vivo* studies, SP-3164 has shown minimal to no interconversion of the preferred S-enantiomer into the unwanted R-enantiomer, indicating successful stabilization.

In addition, SP-3164 showed significant tumor growth inhibition in *in vivo* studies including statistically significant improvement over the approved immunomodulatory drugs lenalidomide (Revlimid®) and pomalidomide (Pomalyst®) in a multiple myeloma NCI-H929 mouse model. Dr. Santiesteban concluded that by eliminating the unwanted R-enantiomer, SP-3164 may lead to improved activity and safety, as demonstrated by deuterated R-enantiomer's lack of anticancer activity and its potential role in supporting tumor growth.

"We are delighted by the reception Dr. Santiesteban's presentation received," said David Arthur, chief executive officer of Saliarius. "These initial data explain why we believe SP-3164 is so exciting, with the potential to make a positive difference in the treatment of hematologic cancers. Our near-term plans for SP-3164 include research in multiple blood cancers, additional pharmacokinetic and pharmacodynamic work to better understand potential clinical dosing advantages and additional studies to explore immuno-oncology effects and potential combinations for SP-3164.

"We are looking forward to providing additional preclinical information at the upcoming American Society of Hematology annual meeting later this year, completing our Investigational New Drug (IND)-enabling studies, submitting the SP-3164 IND to the U.S. Food and Drug Administration in the first half of 2023 and beginning clinical trials shortly thereafter," Mr. Arthur added.

About Saliarius Pharmaceuticals

Saliarius Pharmaceuticals, Inc. is a clinical-stage biopharmaceutical company developing therapies for patients with cancer in need of new treatment options. Saliarius' product portfolio includes seclidemstat,

the company's lead candidate, which is being studied as a potential treatment for pediatric cancers, sarcomas and other cancers with limited treatment options, and SP-3164, an oral small molecule protein degrader. Seclidemstat is currently in a Phase 1/2 clinical trial for relapsed/refractory Ewing sarcoma and certain additional sarcomas that share a similar biology. Seclidemstat has received fast track, orphan drug and rare pediatric disease designations for Ewing sarcoma from the U.S. Food and Drug Administration. Salarius is also exploring seclidemstat's potential in several cancers with high unmet medical need, with an investigator-initiated Phase 1/2 clinical study in hematologic cancers underway at MD Anderson Cancer Center. Salarius has received financial support from the National Pediatric Cancer Foundation to advance the Ewing program and was a recipient of a Product Development Award from the Cancer Prevention and Research Institute of Texas (CPRIT). SP-3164 is currently in IND-enabling studies and anticipated to enter the clinic in 2023. For more information, please visit saliariuspharma.com or follow Salarius on Twitter and LinkedIn.

Forward-Looking Statements

This announcement and the referenced presentation contain "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this presentation are forward-looking statements. These forward-looking statements may be identified by terms such as "will," "future," "believe," "developing," "expect," "may," "progress," "potential," "could," "look forward," "might," "should," and similar terms or expressions or the negative thereof. Examples of such statements include, but are not limited to, statements relating to the following: the advantages of seclidemstat (SP-2577) as a treatment for Ewing sarcoma, Ewing-related sarcomas, and other cancers and its ability to improve the life of patients; expected cohort readouts from the company's clinical trials and expected therapeutic options for SP-2577 and related effects and projected efficacy, including SP-2577's ability to inhibit LSD1; the future of the company's Phase 1/2 trial of seclidemstat as a treatment for Ewing sarcoma and FET-rearranged sarcomas following the SUSAR; the advantages of protein degraders including the value of SP-3164 as a cancer treatment; the timing of clinical trials for SP-3164 and expected therapeutic options for SP-3164 and related effects and projected efficacy; impact that the addition of new clinical sites will have on the development of our product candidates; the timing of our IND submissions to the U.S. Food and Drug Administration (FDA) and subsequent timing for initiating clinical trials; interim data related to our clinical trials, including the timing of when such data is available and made public; our growth strategy; whether the company will develop additional undisclosed cancer-fighting assets in the targeted protein degradation space; expanding the scope of our research and focus to high unmet need patient populations; and the commercial or market opportunity and expansion for each therapeutic option, including the availability and value of a pediatric priority review voucher for in-clinic treatments and potential for accelerated approval. We may not actually achieve the plans, carry out the intentions or meet the expectations or objectives disclosed in the forward-looking statements. You should not place undue reliance on these forward-looking statements. These statements are subject to risks and uncertainties which could cause actual results and performance to differ materially from those discussed in the forward-looking statements. These risks and uncertainties include, but are not limited to, the following: Seclidemstat's impact in Ewing sarcoma and as a potential new and less-toxic treatment; expected dose escalation and dose expansion; the imposition of restrictions imposed by the FDA on the company's Phase 1/2 trial of seclidemstat as a treatment for Ewing sarcoma and FET-rearranged sarcomas following the SUSAR, including a partial or full clinical hold; our ability to resume enrollment in the clinical trial following its review of the available data surrounding the SUSAR; the adequacy of our capital to support our future operations and our ability to successfully initiate and complete clinical trials and regulatory submissions; the ability of, and need for, us to raise additional capital to meet our business operational needs and to achieve its business objectives and strategy; future clinical trial results and the impact of such results on us; that the results of studies and clinical trials may not be predictive of future clinical trial results; risks related to the drug development and the regulatory approval process; the competitive landscape and other industry-related risks; and other risks described in our filings with the Securities and Exchange Commission, including its Annual Report on Form 10-K for the fiscal year ended December 31, 2021, as revised or supplemented by its Quarterly Reports on Form 10-Q and other documents filed with the SEC. The forward-looking statements contained in this announcement and the referenced presentation speak only as of the date of this announcement and the referenced presentation and are based on management's assumptions and estimates as of such date. We disclaim any intent or obligation to

update these forward-looking statements to reflect events or circumstances that exist after the date on which they were made.

CONTACT:

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212-838-3777

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***SP-3164, a cereblon-binding
molecular glue***

5th Annual Targeted Protein Degradation Summit
October 26, 2022

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Safe Harbor Statement

This presentation contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this presentation are forward-looking statements. These forward-looking statements may be identified by terms such as "will," "future," "believe," "developing," "expect," "may," "progress," "potential," "could," "look forward," "might," "should," and similar terms or expressions or the negative thereof. Examples of such statements include, but are not limited to, statements relating to the following: the advantages of secidemstat (SP-2577) as a treatment for Ewing sarcoma, Ewing-related sarcomas, and other cancers and its ability to improve the life of patients; expected cohort readouts from the Company's clinical trials and expected therapeutic options for SP-2577 and related effects and projected efficacy, including SP-2577's ability to inhibit LSD1; the future of the company's Phase 1/2 trial of secidemstat as a treatment for Ewing sarcoma and FET-rearranged sarcomas following the SUSAR; the advantages of protein degraders including the value of SP-3164 as a cancer treatment; the timing of clinical trials for SP-3164 and expected therapeutic options for SP-3164 and related effects and projected efficacy; impact that the addition of new clinical sites will have on the development of our product candidates; the timing of our IND submissions to the U.S. Food and Drug Administration (FDA) and subsequent timing for initiating clinical trials; interim data related to our clinical trials, including the timing of when such data is available and made public; our growth strategy; whether the company will develop additional undisclosed cancer-fighting assets in the targeted protein degradation space; expanding the scope of our research and focus to high unmet need patient populations; and the commercial or market opportunity and expansion for each therapeutic option, including the availability and value of a pediatric priority review voucher for in-clinic treatments and potential for accelerated approval. We may not actually achieve the plans, carry out the intentions or meet the expectations or objectives disclosed in the forward-looking statements. You should not place undue reliance on these forward-looking statements. These statements are subject to risks and uncertainties which could cause actual results and performance to differ materially from those discussed in the forward-looking statements. These risks and uncertainties include, but are not limited to, the following: Secidemstat's impact in Ewing sarcoma and as a potential new and less-toxic treatment; expected dose escalation and dose expansion; the imposition of restrictions imposed by the FDA on the company's Phase 1/2 trial of secidemstat as a treatment for Ewing sarcoma and FET-rearranged sarcomas following the SUSAR, including a partial or full clinical hold; our ability to resume enrollment in the clinical trial following its review of the available data surrounding the SUSAR, the adequacy of our capital to support our future operations and our ability to successfully initiate and complete clinical trials and regulatory submissions; the ability of, and need for, us to raise additional capital to meet our business operational needs and to achieve its business objectives and strategy; future clinical trial results and the impact of such results on us; that the results of studies and clinical trials may not be predictive of future clinical trial results; risks related to the drug development and the regulatory approval process; the competitive landscape and other industry-related risks; and other risks described in our filings with the Securities and Exchange Commission, including its Annual Report on Form 10-K for the fiscal year ended December 31, 2021, as revised or supplemented by its Quarterly Reports on Form 10-Q and other documents filed with the SEC. The forward-looking statements contained in this presentation speak only as of the date of this presentation and are based on management's assumptions and estimates as of such date. We disclaim any intent or obligation to update these forward-looking statements to reflect events or circumstances that exist after the date on which they were made.



Salaris Pharmaceuticals, Inc.



- An oncology-focused biopharmaceutical company in Houston, TX
- 15 FTEs plus experienced consultants
 - Seasoned leadership team with Big Pharma and Biotech backgrounds

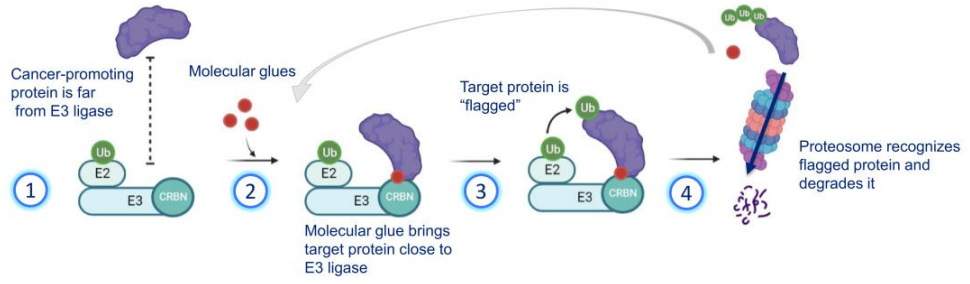
- Our mission is to develop novel therapies for patients who need them the most
 - Pipeline focused on agents that correct gene dysregulation



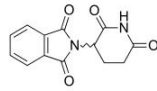
Pipeline Overview



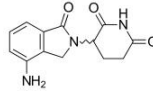
CRBN-Binding Molecular Glues Induce Proteasomal Degradation



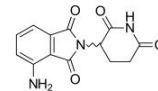
IMiDs[®] (Immunomodulatory Drugs) – Approved for hematological malignancies



Thalidomide



Lenalidomide

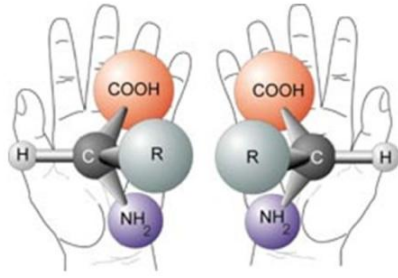


Pomalidomide



Chirality Occurs in Nature & Therapeutics

Left- or Right-Handedness Leads to Dramatic Differences



Hands & Chiral Compounds

*non-superimposable mirror images
(enantiomers)*



Turpentine

***S-Limonene**
Left-handed enantiomer*



Orange Peel Oil

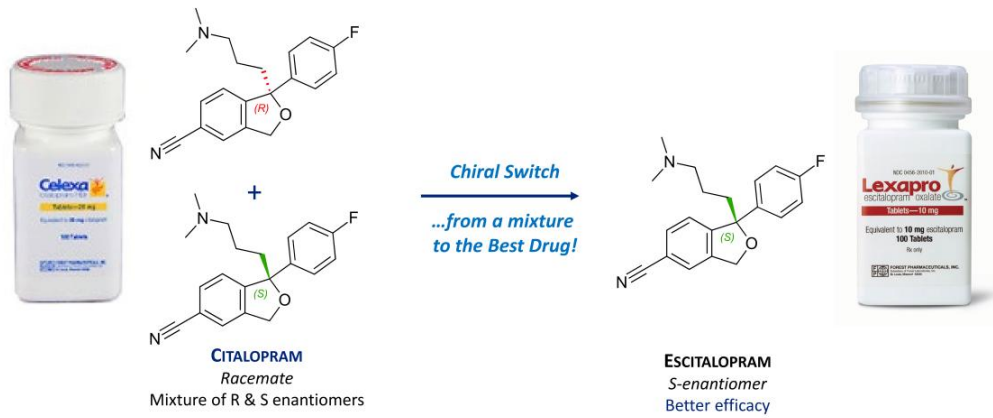
***R-Limonene**
Right-handed enantiomer*



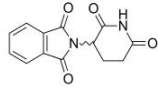
Classic Chiral Switch Example: Celexa® ⇌ Lexapro®

Improved Drug Profile with the Single, Preferred Enantiomer

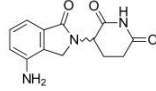
Applied since the 1990s for racemic drugs *with stable chiral centers*



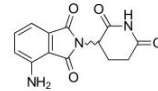
Some Racemic Drugs Cannot Undergo Chiral Switching Because Two Enantiomers Interconvert Due to Unstable Chiral Centers



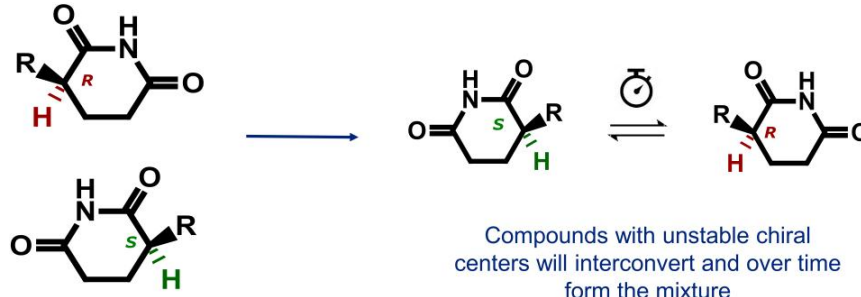
Thalidomide
Racemic



Lenalidomide
Racemic



Pomalidomide
Racemic

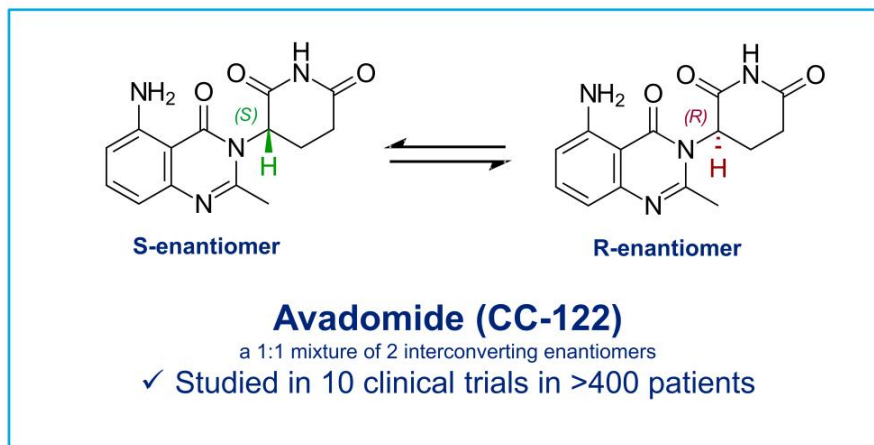


*Representative chemical structure depicts glutarimide portion of thalidomide analogs

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Avadomide, an Extensively Studied CELMoD[®] Exists as a Mixture of 2 Enantiomers



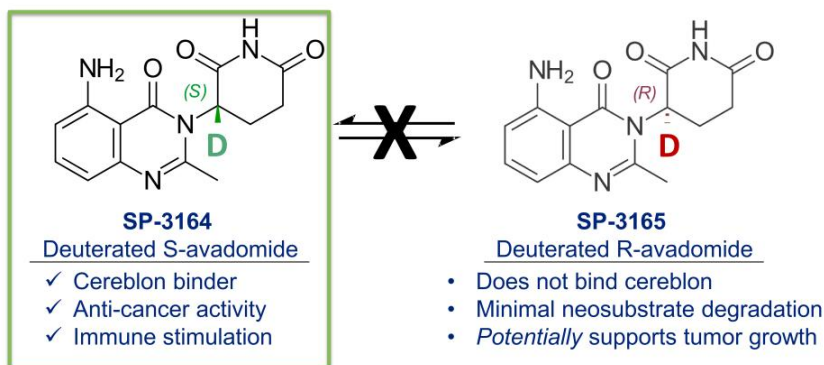
CELMoD – Cereblon E3 Ligase Modulation Drugs, a registered trademark of Celgene / BMS

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SP-3164: The Deuterium-Stabilized S-Enantiomer of Avadomide

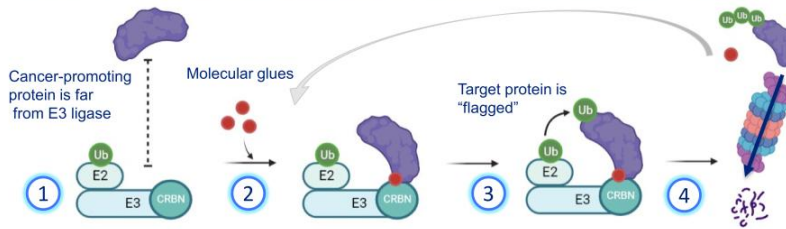
- Stabilization of avadomide enantiomers with deuterium blocks interconversion



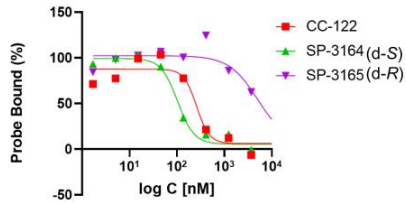
- An NCE with its own, issued composition of matter patent
- Potential for **improved efficacy and safety compared to avadomide**



SP-3164 Demonstrates Improved Protein Degradation Characteristics Compared to Avadomide (CC-122)



Cereblon Binding

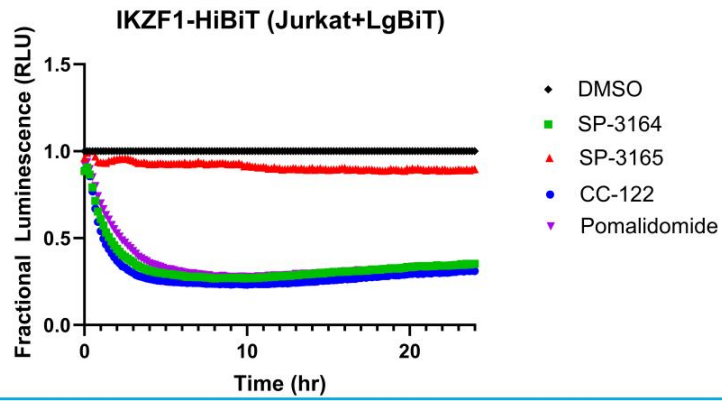


Compound	Kd (nM)
CC-122	330
SP-3164 (d-S)	110
SP-3165 (d-R)	14000

SP-3164 binds more potently to cereblon than the racemate (avadomide, CC-122) while SP-3165 (d-R-enantiomer) does not bind at meaningful concentrations.



SP-3164 Rapidly Degrades IKZF1 (Ikaros)

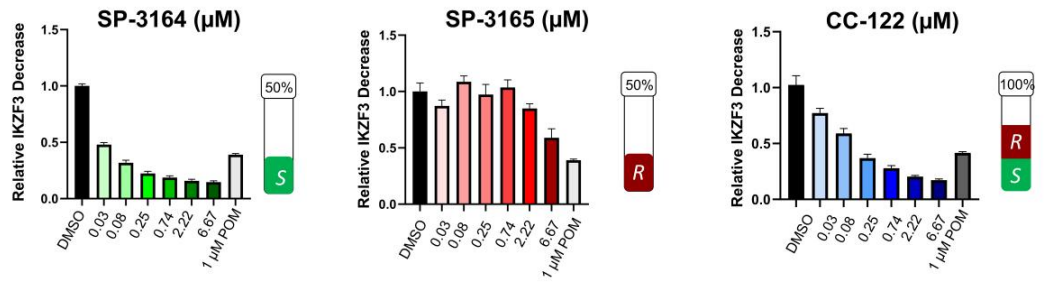


- SP-3164 has a similar Dmax to CC-122 (1 uM)
- SP-3165 does not cause any protein degradation



SP-3164 Rapidly Degrades IKZF3 (Aiolos) at Low Concentrations

HiBiT-IKZF3 MM.1S Degradation (2 hours)



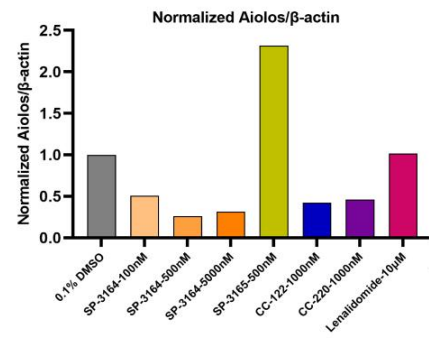
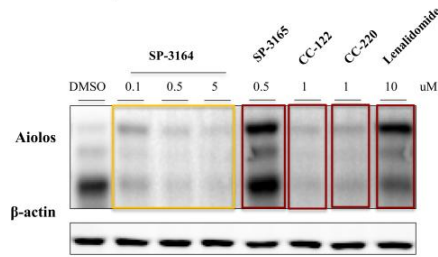
- Treatment with SP-3164 for 2 hrs results in deep and rapid degradation of the target protein, IKZF3.
- SP-3165 does not result in protein degradation except for at high concentrations.
- At comparable concentrations, SP-3164 induced more degradation of IKZF3 compared to CC-122



SP-3164 Exhibits Dose-Dependent Aiolos Degradation

Compounds studied in WSU-DLCL2 lymphoma cell line (6 hrs)

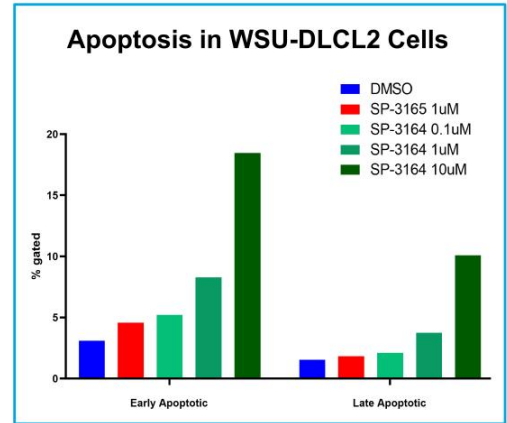
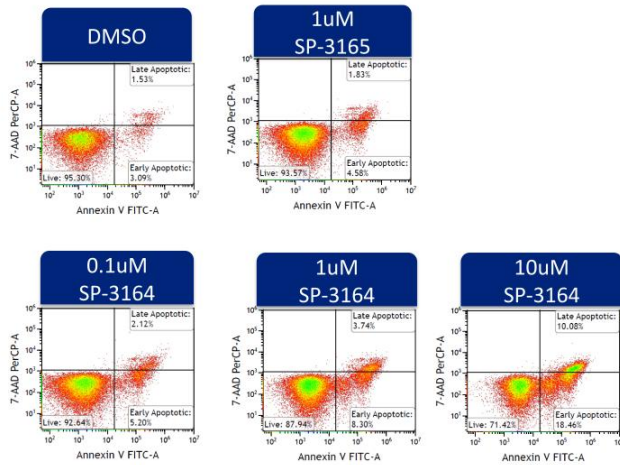
- SP-3164 (100, 500 nM and 5 μ M)
- SP-3165 (500 nM)
- CC-122 (1 μ M)
- CC-220 (1 μ M)
- Len (10 μ M)



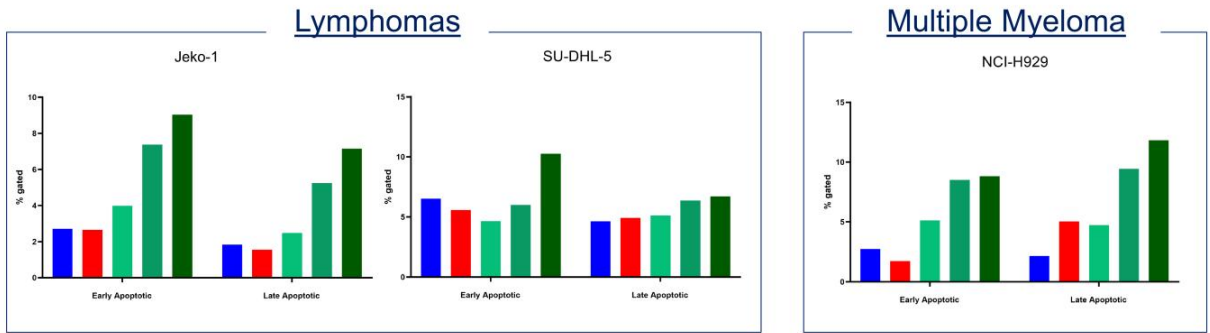
- SP-3164 exhibits dose-dependent Aiolos degradation
- SP-3165 exhibits minimal neosubstrate degradation
- SP-3164 (500 nM) is comparable to CC-122 and CC-220 (1 μ M), better than LEN (10 μ M)



SP-3164 Induces Apoptosis in WSU-DLCL2 (DLBCL) Cells (72h)



SP-3164 Induces Apoptosis in Lymphomas Cells (72h)

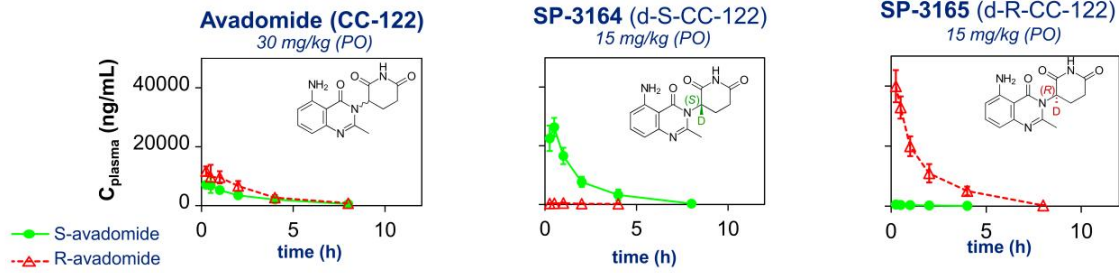


- DMSO
- SP-3165 1uM
- SP-3164 0.1uM
- SP-3164 1uM
- SP-3164 10uM



SP-3164 *In Vivo* Pharmacokinetics - Stabilization Demonstrated

Exclusive Exposure to Single Enantiomers in Mice

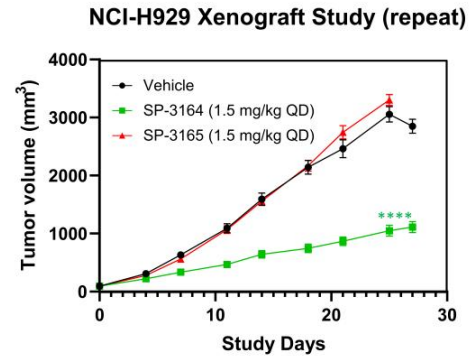
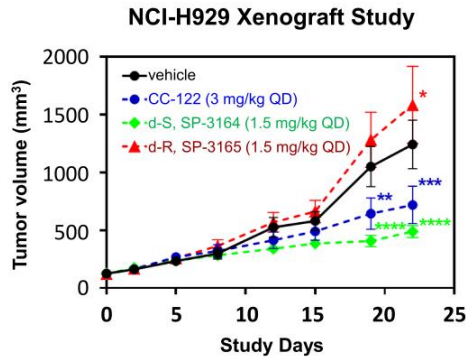


- Avadomide (CC-122): Stereoselective for undesired R-enantiomer after dosing (R>S)
- Little to no interconversion with deuterium-stabilized enantiomers
- Increased C_{max} with single enantiomer vs racemate* → opportunity to lower doses in clinic
- SP-3164 has a shorter T_{max} and $t_{1/2}$ compared to CC-122



SP-3164 Shows Significant Activity in MM H929 Xenograft Model

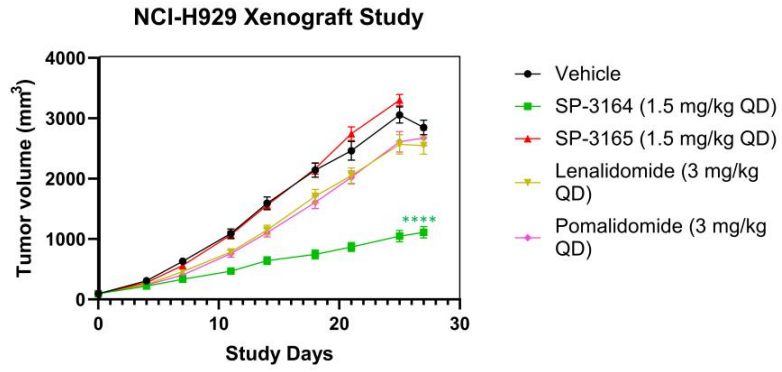
R-Enantiomer (SP-3165) is Inactive



- SP-3164: Significant tumor growth inhibition (TGI) compared to vehicle
- SP-3164: Trended towards more TGI compared to CC-122
- SP-3165: No significant TGI, rather a trend towards supporting tumor growth



SP-3164 Shows Significant TGI Compared to Other IMiDs[®] In MM H929 Xenograft Model



- SP-3164 exhibits significant TGI compared to approved IMiDs for MM¹
- Future studies will evaluate SP-3164 in IMiD-refractory MM cell lines



1. Revlimid[®] (lenalidomide) and Pomalyst[®] (pomalidomide)

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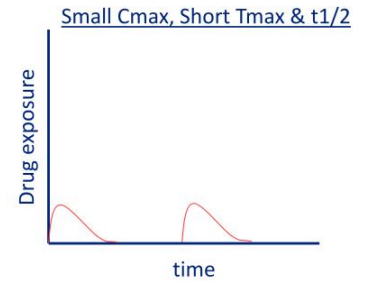
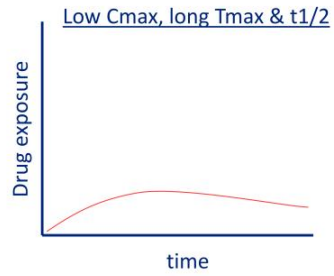
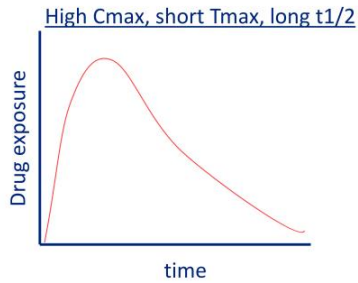
Abbreviations: Tumor Growth Inhibition (TGI), Multiple Myeloma (MM)

Compared to vehicle, **** $p < 0.0001$

SP-3164: Clinical Dosing Considerations

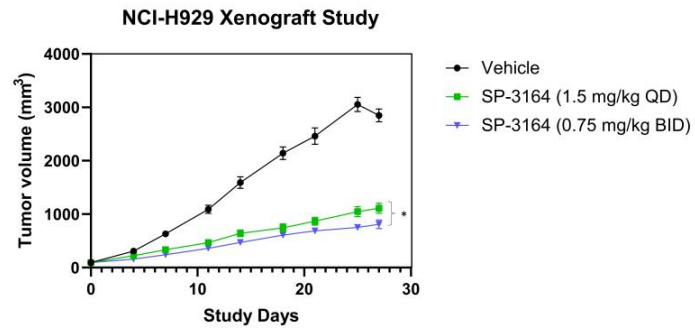
Identification of Optimal Dose and Schedule to Maximize Effect

- Degradable dosing schedule requires unique considerations
 - Different compared to occupancy-driven inhibitors
 - Take into account compound half-life, sustained PD effect, protein resynthesis, and on-target toxicities
- Preclinical studies may elucidate potential dose schedules to investigate in clinic



SP-3164: Clinical Dosing Considerations

SP-3164 Dosed BID Has Improved Activity Compared To QD

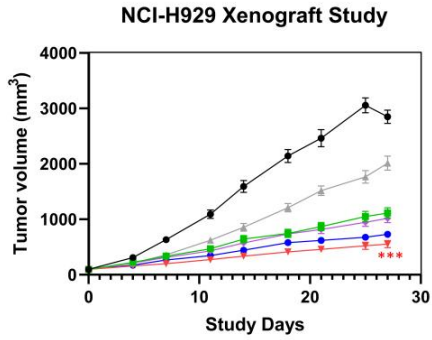


- For equivalent daily exposures (1.5 mg/kg QD and 0.75 mg/kg BID), the BID dose resulted in significantly improved TGI compared to the QD dose
 - Better to have a lower C_{max} , but increased duration of an effective exposure to SP-3164 than a bolus-like exposure

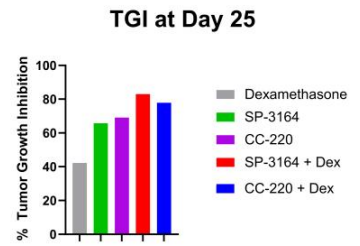


SP-3164 Shows Enhanced TGI In Combo With Dexamethasone

Comparable activity to CC-220



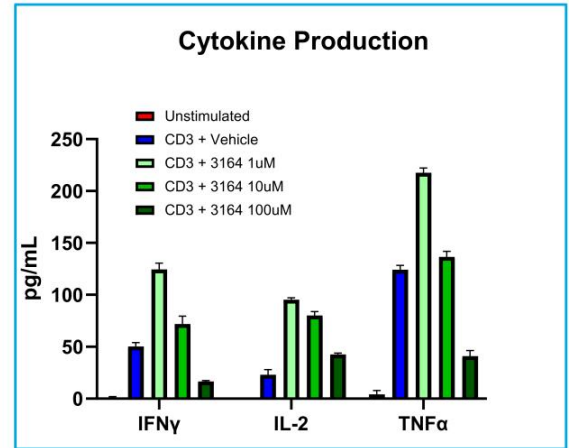
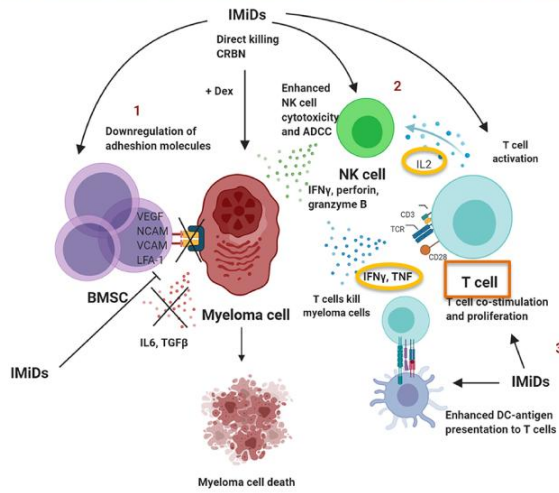
- Vehicle
- SP-3164 (1.5 mg/kg QD)
- ▲ Dexamethasone (10 mg/kg QD)
- ▼ SP-3164 (1.5 mg/kg QD) + Dex (10 mg/kg QD)
- ◆ CC-220 (1.5 mg/kg QD)
- CC-220 (1.5 mg/kg QD) + Dex (10 mg/kg QD)



- Combo SP-3164 + dexamethasone (Dex) showed increased TGI vs either agent alone.
 - Compared favorably to CC-220 (iberdomide) + Dex
- Future studies with combos of SP-3164 and MM standard-of-care (SOC) agents



SP-3164 Exhibits Immune Modulation Effects



D'Souza, C. et al. *Frontiers in Immunology* 12 (2021)

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Conclusions and Future Directions

Conclusions

- Selecting for preferred enantiomers is a proven method for successful drug development
- We successfully developed SP-3164 to be the stabilized, active S-enantiomer of CC-122, a widely studied molecular glue with clinical activity/safety data. SP-3164 demonstrates:
 - ✓ Potent cereblon binding, efficient degradation of neosubstrates, induction of apoptosis
 - ✓ Minimal to no interconversion to the R-enantiomer in *in vivo* studies; differential PK could lead to dosing advantages
 - ✓ Significant TGI in *in vivo* studies; improvement over approved IMiDs and comparable to CC-220 (Ph3)
- Elimination of the R-enantiomer may lead to improved activity and safety, as demonstrated by SP-3165's lack of anticancer activity and its potential role in supporting of tumor growth.

Future Directions

- Explore SP-3164 in other heme malignancies; *presenting at ASH 2022*
- Continue assessing PK/PD effects to better understand clinical dosing
- Continue exploring immuno-oncology effects and potential combinations for SP-3164



Acknowledgements

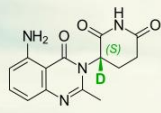


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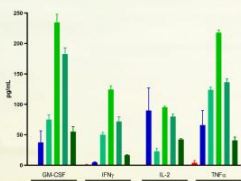


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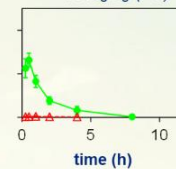
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SP-3164



SP-3164 (d-S-CC-122)
15 mg/kg (PO)



Thank you!



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NCI-H929 Xenograft Study

