NUCANA

A new Era in Oncology

Corporate Presentation

June 2022

Disclaimer

Forward-Looking Statements

This presentation contains "forward-looking" statements within the meaning of the Private Securities Litigation Reform Act of 1995 that are based on the beliefs and assumptions and on information currently available to management of NuCana plc (the "Company"). All statements other than statements of historical fact contained in this presentation are forward-looking statements. Forward-looking statements include information concerning the company's planned and ongoing preclinical and clinical studies for the Company's product candidates and the potential advantages of those product candidates, including NUC-3373 and NUC-7738; the initiation, enrollment, timing, progress, release of data from and results of the Company's planned and ongoing clinical studies; the impact of COVID-19 on its preclinical studies, clinical studies, business, financial condition and results of operations; the utility of prior preclinical and clinical data in determining future clinical results; the timing or likelihood of regulatory filings and approvals for any of its product candidates; the Company's intellectual property; the amount and sufficiency of the Company's cash and cash equivalents to achieve its projected milestones and to fund its planned operations into 2025; and estimates regarding the Company's expenses, future revenues and future capital requirements. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expects," "plans," "anticipates," "believes," "believes," "estimates," "potential" or "continue" or the negative of these terms or other comparable terminology.

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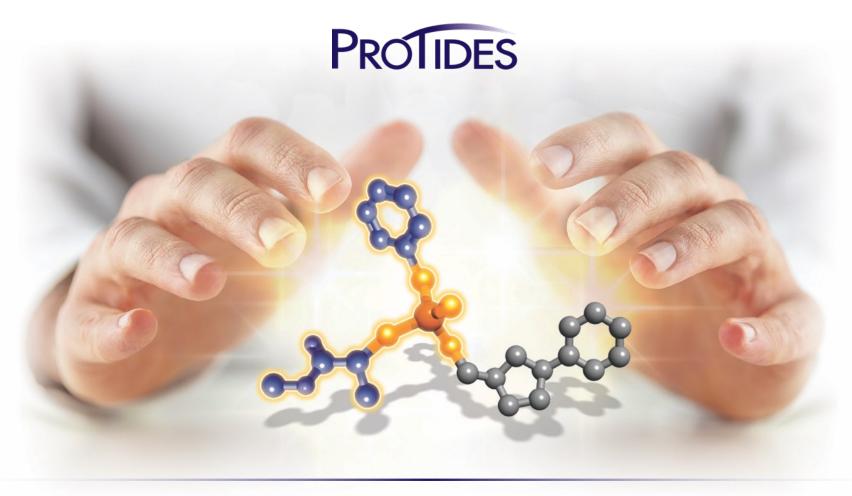
Forward-looking statements represent the Company's beliefs and assumptions only as of the date of this presentation. Although the Company believes that the expectations reflected in the forward-looking statements are reasonable, it cannot guarantee future results, levels of activity, performance or achievements. Except as required by law, the Company assumes no obligation to publicly update any forward-looking statements for any reason after the date of this presentation to conform any of the forward-looking statements to actual results or to changes in its expectations.

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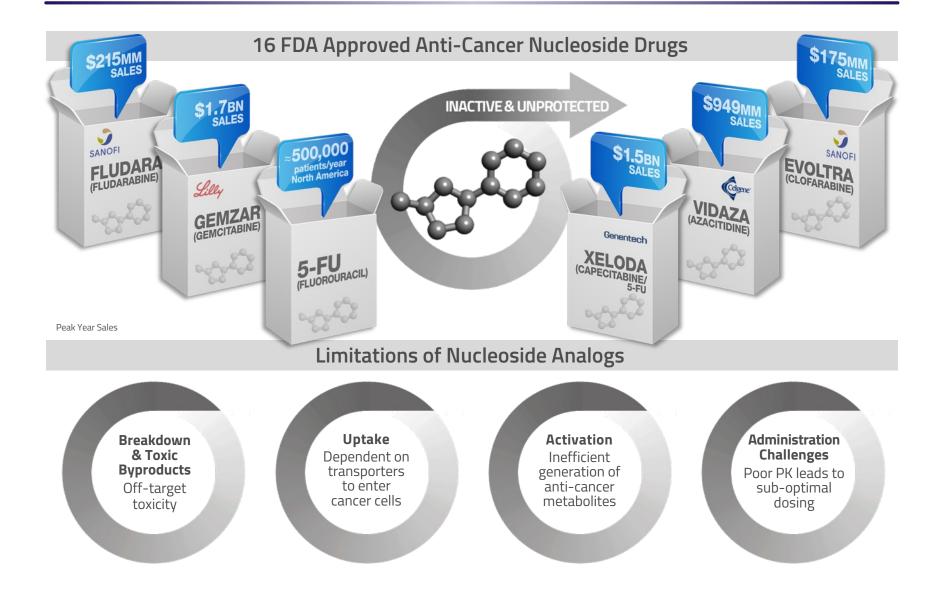
Harnessing the Power of Phosphoramidate Chemistry



A New Era in Oncology

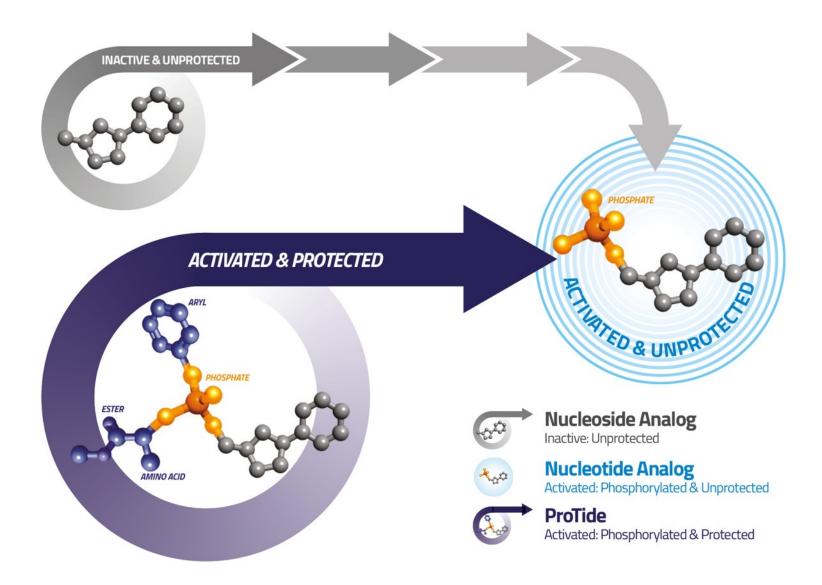


Nucleoside Analogs: Cornerstones of Cancer Treatment



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Transforming Nucleoside Analogs into ProTides



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ProTides: A New Era In Anti-Virals





Transforms Therapeutic Index

Overcomes Viral Resistance Mechanisms

¹ Sovaldi + Harvoni + Epclusa + Vosevi cumulative sales through 31 March 2022 ² Genvoya + Descovy + Odefsey + Biktarvy + Symtuza cumulative sales through 31 March 2022

³ Veklury cumulative sales through 31 December 2021



ProTides: A New Era in Oncology

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Transforms Therapeutic Index

Overcomes Cancer Resistance Mechanisms

¹ Pre-clinical data - Ghazaly *et al* ESMO September 2017 ² Pre-clinical data – Symeonides *et al* ESMO September 2020

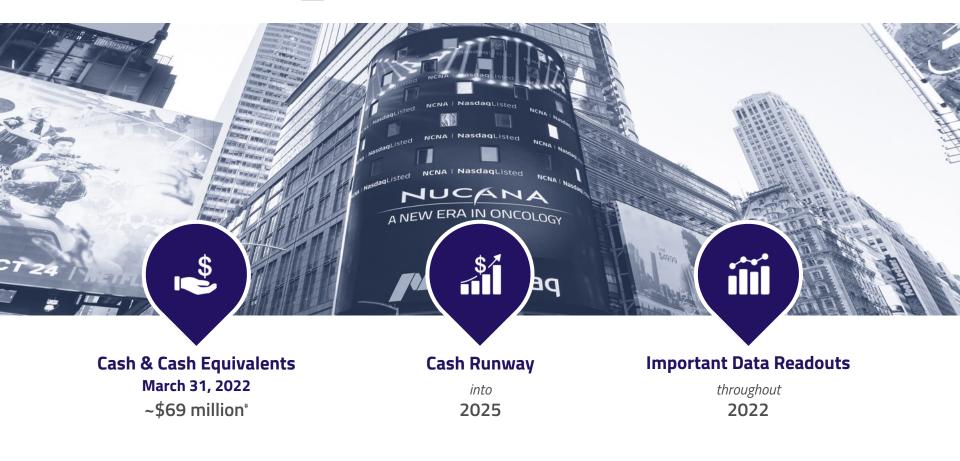
PROTIDE	STUDY	INDICATION	COMBINATIONS	PRE- CLINICAL	IND / CTA ENABLING	PHASE 1	PHASE 2	PHASE 3
			irinotecan					
NUC-3373	NUTIDE 302	Colorectal	± bevacizumab					
	NO NDE 302	Cancer	oxaliplatin ± bevacizumab					
NUC-3373	NUTIDE 323	Colorectal Cancer	irinotecan + bevacizumab					
NUC-3373	NUTIDE 303	Solid Tumors	pembrolizumab					
	INOTIDE 303	NSCLC	paclitaxel					

NUC-7738	NUTIDE 701	Solid Tumors					
		Solid Tumors	PD-1				

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Strong Balance Sheet & Multiple Inflection Points









A transformation of 5-FU

NUC-3373: Overview of Fluorouracil (5-FU)



- WHO List of Essential Medicines
- ~500,000 patients receive 5-FU annually in North America
- SOC for 16 of the 25 most common cancers
- 10-15% Overall Response Rate (first-line colorectal cancer)



Limitations of Fluorouracil (5-FU)



Breakdown & Toxicity >85% breakdown by DPD Toxic metabolites: FBAL & FUTP



active transport



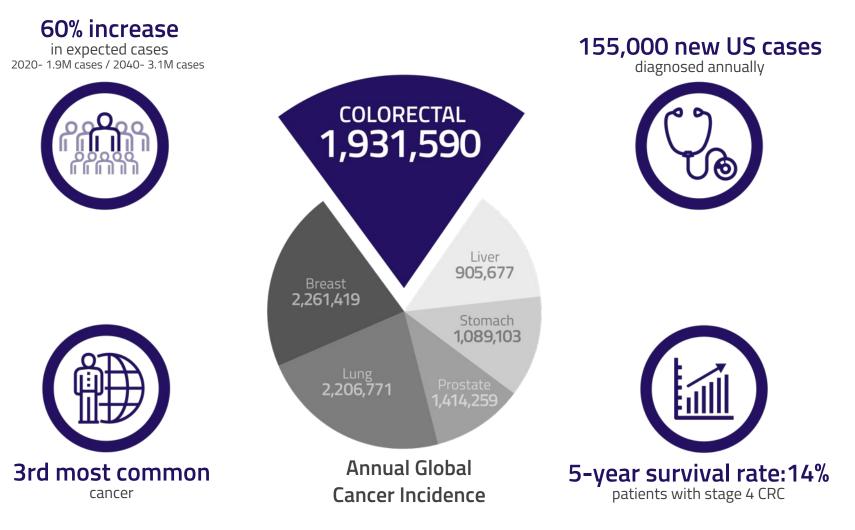
Inefficient generation of anti-cancer metabolite



46-hour continuous infusion

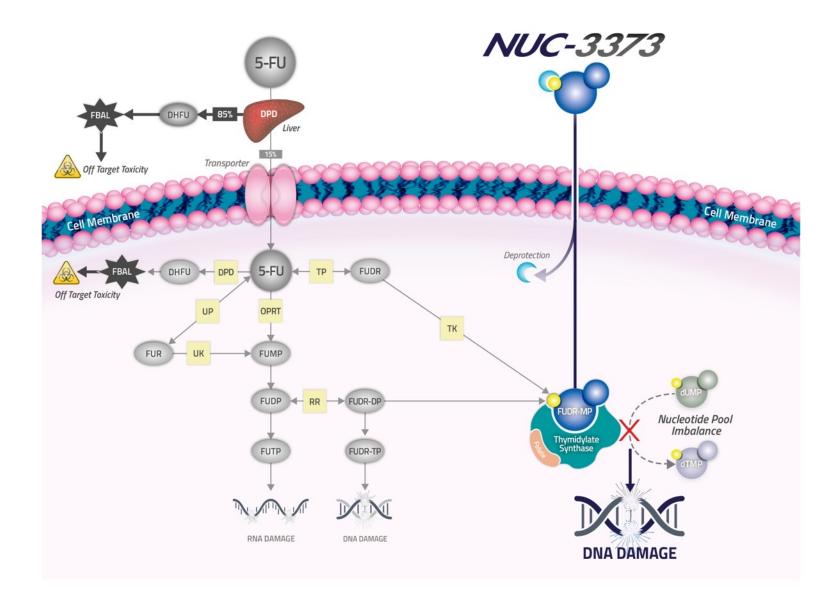


NUC-3373: Colorectal Cancer Market Opportunity

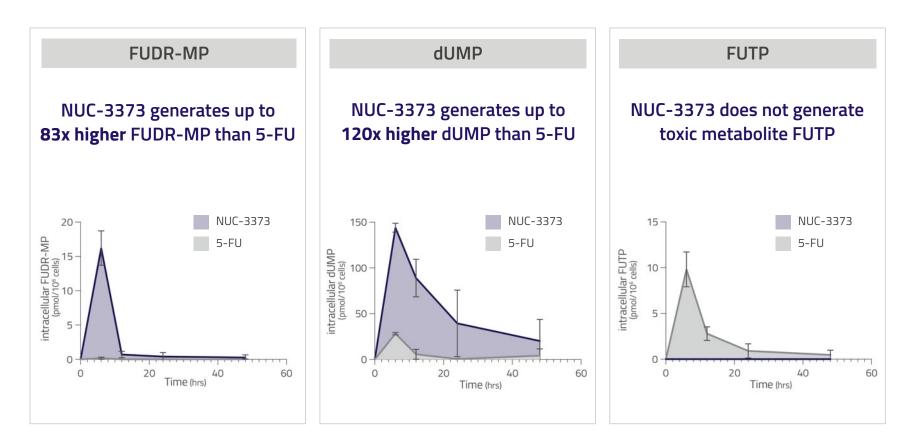


GLOBOCAN 2020, Cancer Incidence and Mortality Worldwide American Cancer Society, 2022

NUC-3373: 5-FU Metabolism Comparison & Mechanism of Action

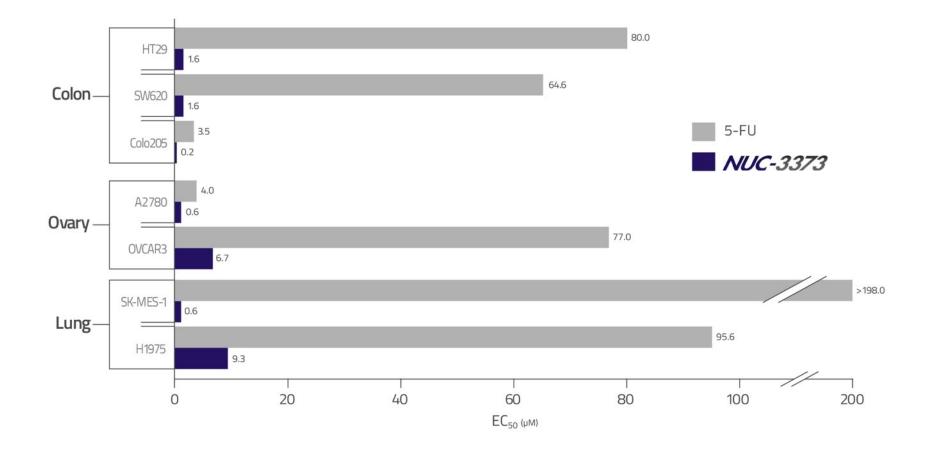


NUC-3373 is a potent TS inhibitor and does not generate the toxic metabolite FUTP



Bre *et al* (2022) Abstract ID 1835 (AACR poster April 2022) Non-clinical data presented as AUC in HCT116 human colorectal cancer cells treated with NUC-3373 or 5-FU

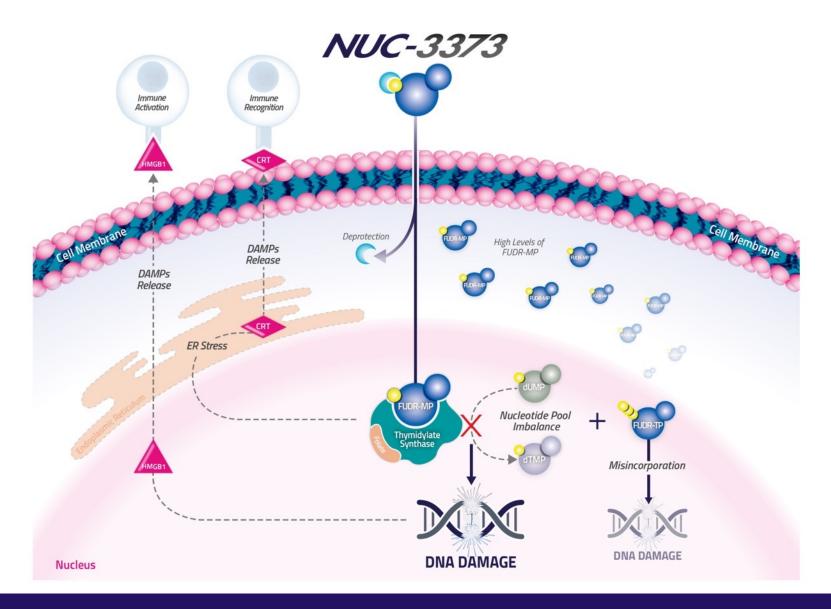
NUC-3373: Greater Anti-Cancer Activity than 5-FU



NUC-3373 had up to 330x greater anti-cancer activity than 5-FU

Ghazaly et al (2017) Ann Oncol; 25: Suppl 5 Abstract ID:385P (ESMO poster September 2017)

NUC-3373: Additional Mechanisms of Action



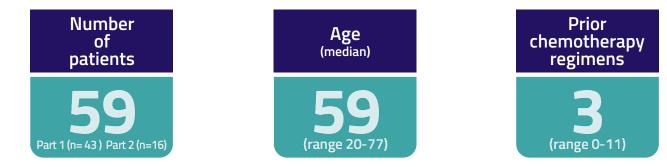
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NUC-3373: Solid Tumor Phase 1 Study (interim)



- Phase 1 dose-escalation study in patients with advanced solid tumors
- All patients have metastatic spread
- Rapidly progressing disease
- Exhausted all other therapeutic options
- Objective: Recommended Phase 2 dose + schedule

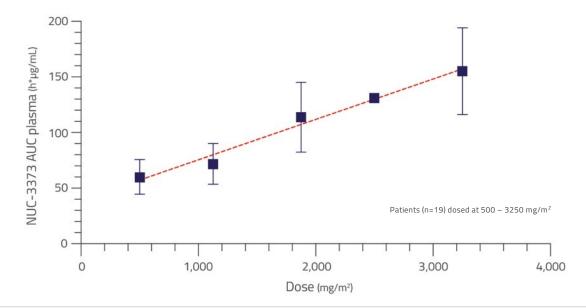




Spiliopoulou et al (2021) Ann Oncol; 32: Suppl 5 Abstract ID 549P (ESMO poster September 2021)

Favorable Pharmacokinetic Profile

- Long plasma half-life compared to 5-FU (6-14 hrs vs 8-14 mins)
 - Enables 2-hour infusion vs 46-hour infusion
- Dose proportional increase in AUC



Favorable Safety Profile (n=59)

- NUC-3373 is well-tolerated
- No NUC-3373 related deaths
- No Grade 4 treatment-related AEs

- Grade 3 treatment-related AEs in 10 pts
- RP2D for NUC-3373 monotherapy 2500 mg/m² Q1W

NUTIDE 301

Spiliopoulou *et al* (2021) *Ann Oncol;* 32: Suppl 5 Abstract ID 549P (ESMO poster September 2021)



NUC-3373: Solid Tumor Phase 1 Study (interim)

Metastatic Colorectal Cancer

70 years, male 6 prior lines

 5-FU: based chemoradiotherapy (adjuvant)
 FOLFIRI: for metastatic disease
 CAPOX: progressed within 2 months
 FOLFIRI: progressed within 8 months
 LONSURF: progressed within 3 months
 Irinotecan: treatment for 1 month

> NUC-3373 1,500 mg/m² Q1W

Stable Disease: 9 months

Metastatic Basal Cell Carcinoma

55 years, male **2 prior lines**

 Vismodegib: for **11 months** Paclitaxel + carboplatin: for **3 months**

Metastatic Cholangiocarcinoma

60 years, female **1 prior line**

1) Gemcitabine + cisplatin: progressed within **6 months**

NUC-3373 1,500 mg/m² Q2W

Stable Disease: 10 months

NUC-3373 1,125 mg/m² Q1W

Stable Disease: **11 months**

NUTIDE 301

Spiliopoulou *et al* (2021) *Ann Oncol;* 32: Suppl 5 Abstract ID 549P (ESMO poster September 2021) Data as of August 2021



Patients with advanced colorectal cancer

- Phase 1b
 - Received ≥2 prior lines of fluoropyrimidine-based regimens
 - Exhausted all other therapeutic options
- Phase 2
 - Received 1 or 2 prior lines of fluoropyrimidine-based regimens



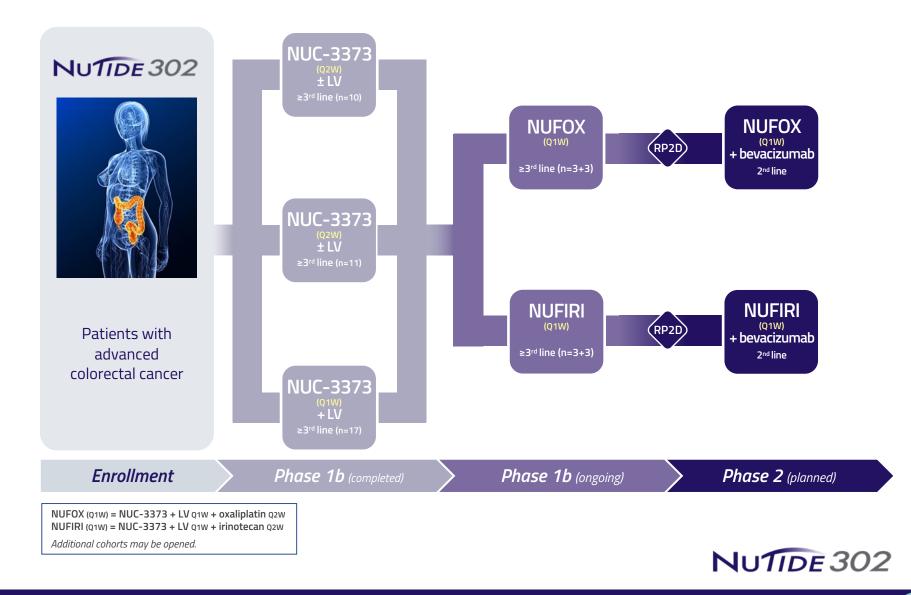
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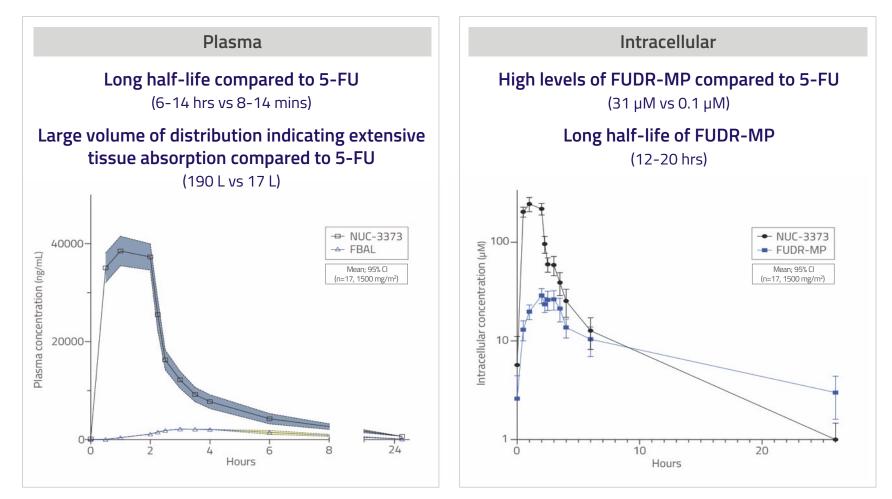


Berlin et al (2021) Ann Oncol; 32: Suppl 5 Abstract ID 745P (ESMO poster September 2021)



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Favorable Pharmacokinetic Profile





Coveler et al (2021). J Clin Oncol 39: Suppl 3; Abstract ID: 93 (ASCO GI poster 93, 15-17 January 2021)

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Favorable Safety Profile

	NUC-3373 (n=38) ¹		5-FU Bolus (n=219) ²		5-FU CIV (n=143) ²		Capecitabine (n=596) ³	
Category	All Grades (%)	G3 or G4 (%)	All Grades (%)	G3 or G4 (%)	All Grades (%)	G3 or G4 (%)	All Grades (%)	G3 or G4 (%)
Neutropenia	0	0	99	67	48	13	13	3
Anemia	18	5	99	6	91	2	80	3
Diarrhea	32	0	70	13	45	6	55	15
Nausea	45	5	68	8	55	4	43	4
Vomiting	42	0	46	4	32	3	27	5
Mucositis/Stomatitis	11	0	76	17	29	3	25	3
Hand-foot syndrome	0	0	NR	NR	13	1	54	17
Dermatitis	11	0	30	1	20	0	27	1
Fatigue/asthenia	47	5	65	12	48	4	42	4
Elevated bilirubin	11	5	92	8	36	11	48	23
NR; not reported	Heavily pre-treated patients NUC-3373 ± LV Q1W or Q2W		First-line patients 5-FU/LV bolus days 1-5, Q4W		First-line patients 5-FU/LV CIV days 1&2, Q2W		First-line patients Capecitabine BID 2wks on/1wk off	

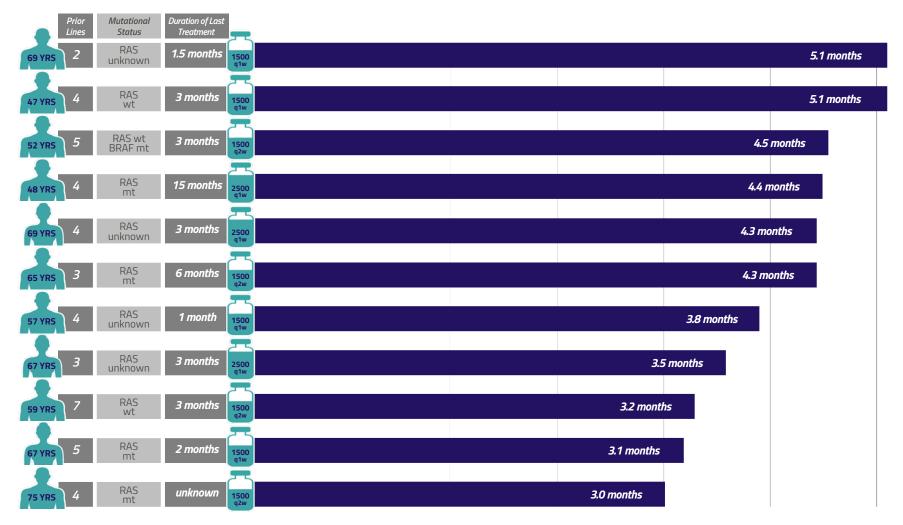
- Grade 4 treatment-related AE (1x bilirubin)
- Grade 3 treatment-related AEs (2x ALT, 2x ALP, 2x nausea, 2x anemia, 1x AST, 1x hyponatremia, 1x fever, 1x fatigue)
- FUTP, the primary cause of 5-FU toxicity and a dose-limiting factor, has not been detected in NUC-3373 treated patients

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NUC-3373 All-cause adverse events, selected relevant to comparator data

Berlin *et al.* (2021) Ann Oncol; 32: Suppl 5 Abstract ID 745P (ESMO poster September 2021)
 Camptosar Label
 XELODA label





Selected case studies in patients who achieved \geq 3 months on study

Berlin *et al* (2021) *Ann Oncol;* 32: Suppl 5 Abstract ID 745P (ESMO poster September 2021) Data as of April 2021



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Colorectal Cancer

67 years, female **3 prior lines**

 CAPOX (adjuvant): for **3 months** relapsed 9 months post-adjuvant therapy

2) FOLFIRI: progressed within **3 months**

3) Lonsurf: progressed within **3 months**

> RAS unknown Target lesions: 1 (peritoneum)

NUC-3373 2,500 mg/m² Q1W 40% reduction in target lesion

> Partial Response: **3.5 months**

Colorectal Cancer

69 years, male **2 prior lines**

Diagnosed with metastatic disease

- 1) CAPOX: progressed within **2 months** tumor **increase of 35%**
- 2) FOLFIRI: progressed within **1.5 months**

RAS unknown Target lesions: 2 (liver)

NUC-3373 1,500 mg/m² Q1W **28% reduction** in tumor volume

Stable Disease: 5.1 months*

* patient missed 6 consecutive doses due to COVID-19 and progressed, but continued on study for a total of 8 months due to clinical benefit

Colorectal Cancer

52 years, male **5 prior lines**

 FOLFOX (adjuvant): for 4 months relapsed 4 months post-adjuvant therapy
 FOLFIRI:

progressed within **6 months**

- 3) Irinotecan + panitumumab: progressed within **6 months**
- 4) Irinotecan + panitumumab + telaglenastat: progressed within **6 months**
- 5) Nivolumab + enadenotucirev: progressed within **3 months**

RAS wildtype; BRAF mutant Target lesions: 3 (2 lung; 1 liver)

NUC-3373 1,500 mg/m² Q2W

15% reduction in tumor volume

Stable Disease: 4.5 months



Graham *et al* (2020) *Ann Oncol* 31: Suppl 4 Abstract ID :464P (ESMO poster September 2020) Coveler *et al* (2021) *J Clin Oncol* 39: Suppl 3 Abstract ID: 93 (ASCO GI poster January 2021)

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Colorectal Cancer

47 years, male 4 prior lines

1) FOLFOX (adjuvant): for **5 months** relapsed 8 months post-adjuvant therapy

2) FOLFIRI + bevacizumab: progressed within **18 months**

3) FOLFIRI + cetuximab: progressed within **8 months**

4) Lonsurf: toxicity within **3 months**

> RAS wildtype Target lesions: 5 (2 lymph nodes; 2 peritoneum; 1 liver)

> > NUC-3373 1,500 mg/m² Q1W

Stable Disease: **5.1 months**

Colorectal Cancer

57 years, male 4 prior lines

 CAPOX (neoadjuvant/adjuvant): for 6 months relapsed 2 months post-adjuvant therapy
 FOLFIRI: progressed within 3 months

3) Lonsurf: progressed within **2 months**

4) RXCOO4 (Wnt inhibitor): progressed within **1 month**

> RAS unknown Target lesions: 3 (lung)

NUC-3373 1,500 mg/m² Q1W

Stable Disease: **3.8 months**

Colorectal Cancer

67 years, female 5 prior lines

1) FOLFOX (adjuvant): for **5 months** relapsed 2 years post-adjuvant therapy

2) FOLFIRI: for **5 months**

3) Irinotecan + Lonsurf + bevacizumab for **33 months**

4) CAPOX: progressed within **1 month**

5) Regorafenib: progressed within 2 months

RAS mutant Target lesions: 2 (1 liver; 1 abdomen)

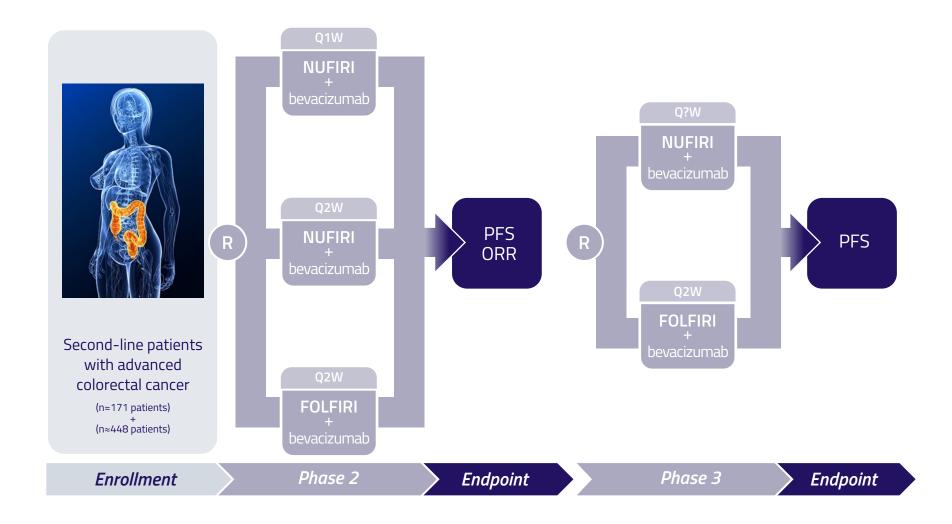
> NUC-3373 1,500 mg/m² Q1W

Stable Disease: **3.1 months**

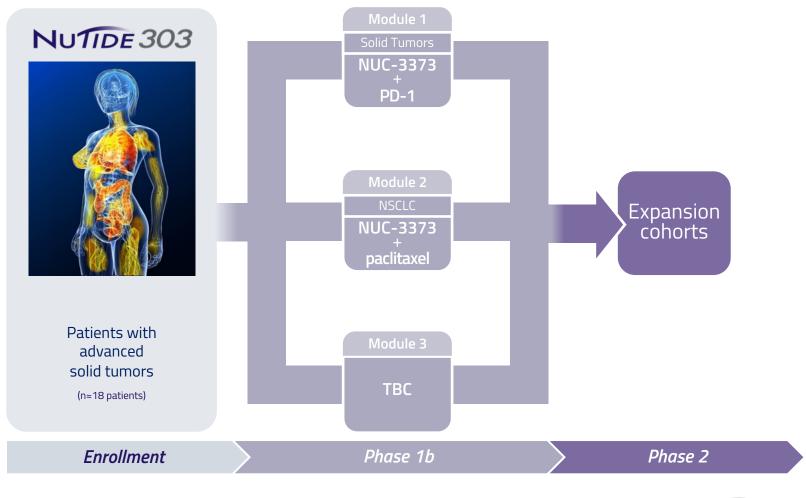
NUTIDE 302

Graham *et al* (2020) *Ann Oncol* 31: Suppl 4 Abstract ID :464P (ESMO poster September 2020) Coveler *et al* (2021) *J Clin Oncol* 39: Suppl 3 Abstract ID: 93 (ASCO GI poster January 2021)

NUC-3373: Optimized CRC Registration Program (readout end of Phase 2 & Phase 3)



NUC-3373: Additional Indications Phase 1b/2 Study

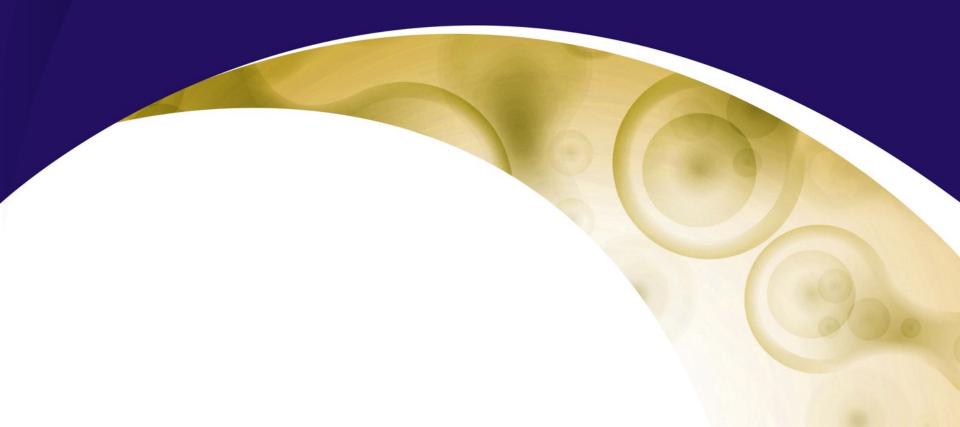


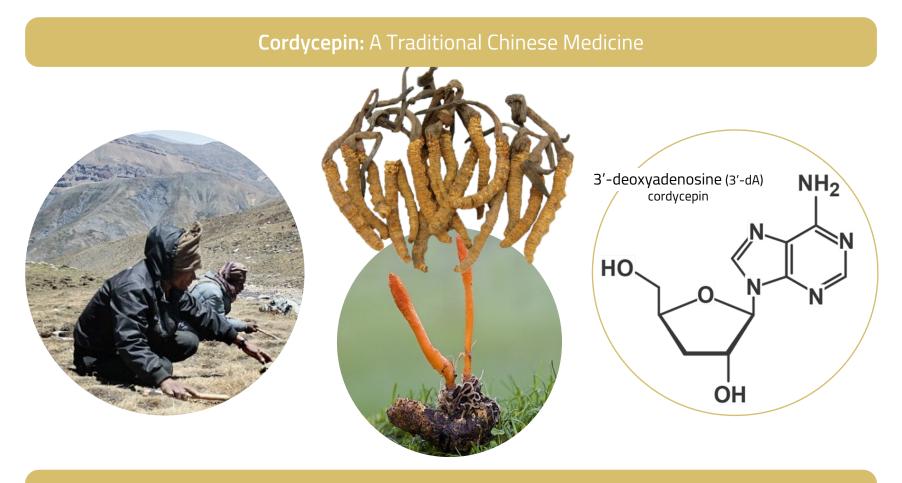
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A transformation of 3'-deoxyadenosine

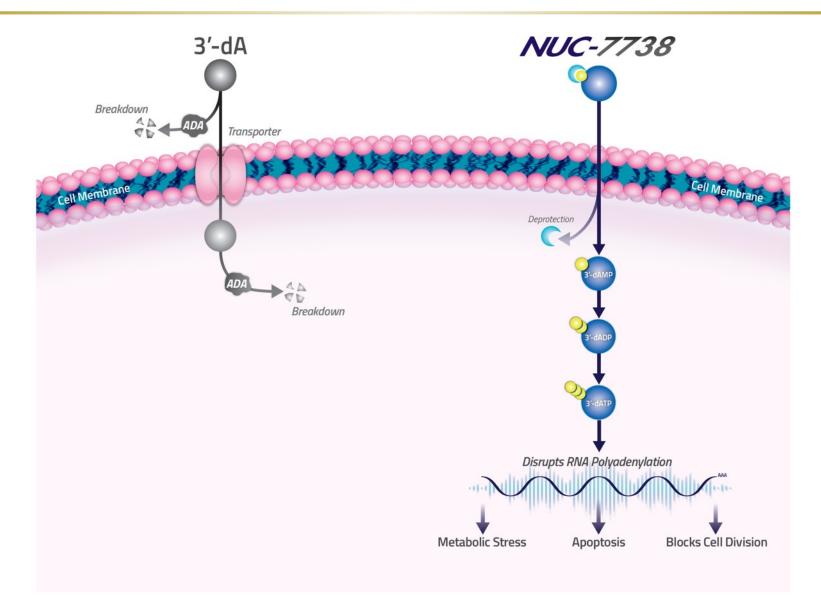


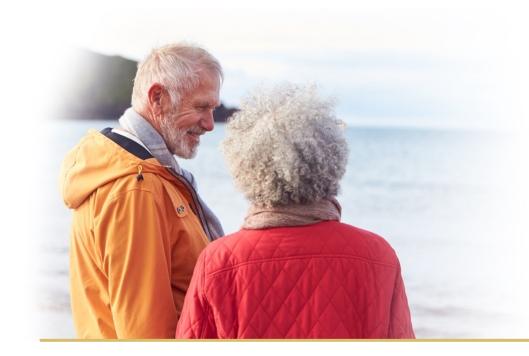


1950: **3'-dA** isolated from *Cordyceps sinensis*



NUC-7738: Multiple Anti-Cancer Modes of Action





Patients with metastatic cancer who have exhausted all therapeutic options

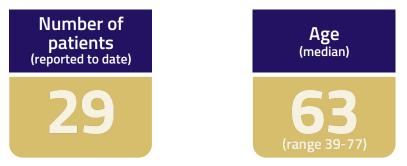
Phase 1

- Solid Tumors
- Objective: Recommended Phase 2 Dose

Phase 2

- Solid Tumors
- Objective: Efficacy and Safety

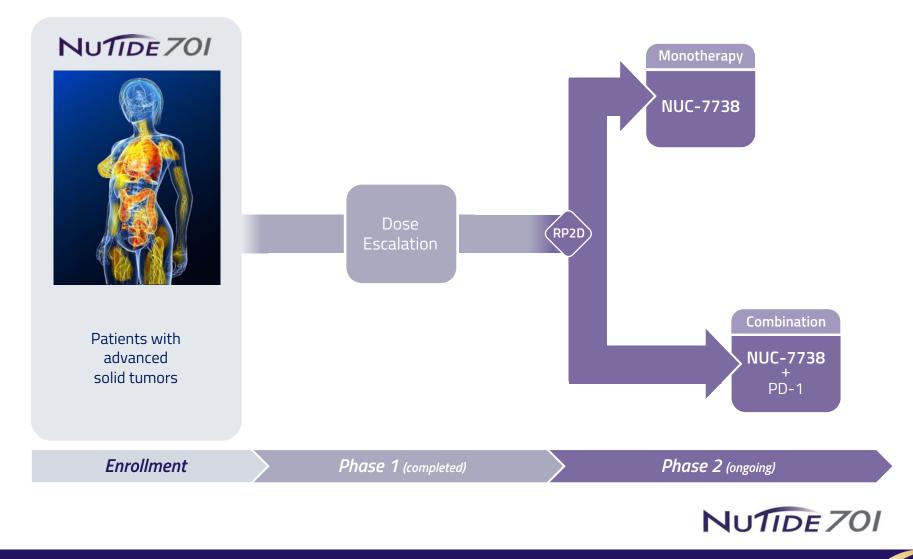




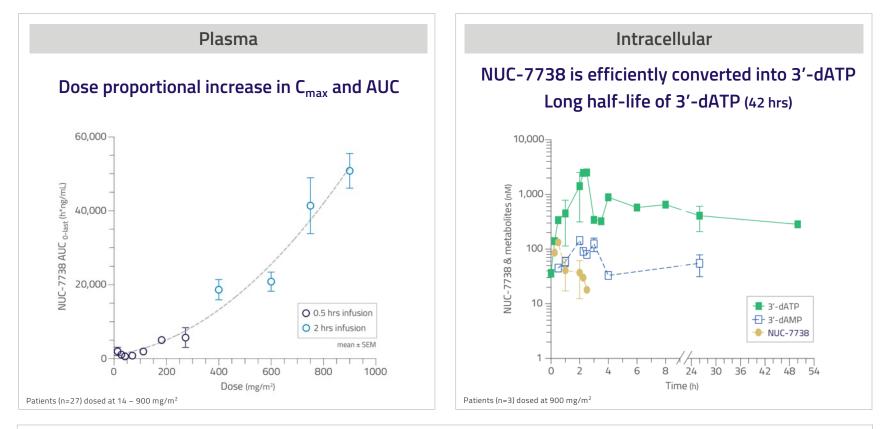


Blagden et al (2021) Ann Oncol: 32: Suppl 5 Abstract ID 566TiP (ESMO poster September 2021)

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Favorable Pharmacokinetic Profile



Favorable Safety Profile

- NUC-7738 is well tolerated
- No Grade 3 or 4 treatment-related AEs

No DLTs



Blagden *et al* (2021) *Ann Oncol*: 32: Suppl 5 Abstract ID 566TiP (ESMO poster September 2021)



Metastatic Melanoma

62 years, female 2 prior lines

1) Nivolumab + ipilimumab: discontinued within **1 month**

2) CK7 inhibitor: progressed within **1 month**

Target lesion: 1 (pelvic side wall)

NUC-7738 Starting dose 14 mg/m²Q1W (8 dose escalations)

14% reduction in tumor volume

Ongoing pleural effusion resolved: no further drainage required and lung function normalized

Treatment Duration: 18 months

(Stable disease for 12 months)*

Metastatic Melanoma

65 years, female **1 prior line**

1) Nivolumab + ipilimumab: discontinued within **1 month**

Target lesion: 1 (lung)

NUC-7738 Starting dose 400 mg/m²Q1W (1 dose escalation)

7% reduction in tumor volume

NUC-7738 treatment enabled complete resection (RO)

Treatment Duration: 11 months

(Stable disease for 9 months)*

Metastatic Lung Adenocarcinoma

65 years, male **2 prior lines**

1) Carboplatin + pemetrexed: progressed at **6 months**

2) Docetaxel: progressed at **4 months**

Target lesions: 2 (lung)

NUC-7738 Starting dose 42 mg/m²Q1W (4 dose escalations)

46% reduction in target lesion 1

Target lesion 2 changed in character; small dense core surrounded by larger diffuse "ground-glass" periphery

> Treatment Duration: 6 months



* Treatment beyond PD allowed per protocol for patients still receiving benefit

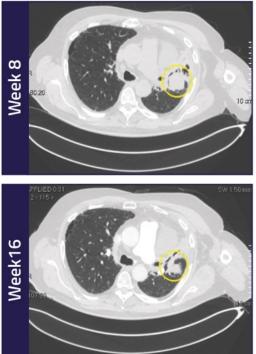
Blagden et al (2021) Ann Oncol: 32: Suppl 5 Abstract ID 566TiP (ESMO poster September 2021)

Metastatic Lung Adenocarcinoma

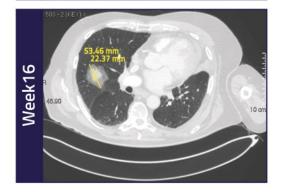
65 years, male - 2 prior lines

Target Lesion 1:

Encouraging signs of anti-tumor activity with a **46% reduction** in lesion between week 8 - 16 (41mm to 22mm)



Neek 8



Target Lesion 2:

Positive change in character (week 8 - 16), with a smaller dense core

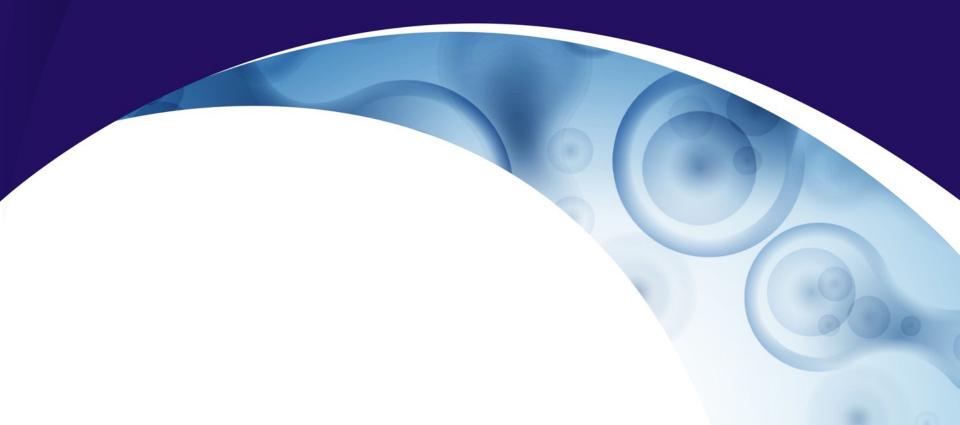
surrounded by a larger diffuse "ground-glass" periphery

NUTIDE 701

Symeonides et al (2020) Ann Oncol: 31: S501 Abstract ID: 600TiP (ESMO poster September 2020)



A transformation of gemcitabine



-ACELARIN: Biliary Phase 3 Study (interim analysis)



Initial Findings

- Higher response rate with Acelarin + cisplatin vs.
 gemcitabine + cisplatin (Blinded Independent Central Review)
- Acelarin + cisplatin was generally well tolerated
- Higher response rate did not translate to survival benefit
- Study unlikely to meet primary objective of ≥2.2 month median OS improvement and, as a result, the study was discontinued
- Analyses ongoing to understand results



* Efficacy evaluable patients: measurable disease at baseline; ≥1 cycle Acelarin; ≥1 follow-up radiographic assessment



NuCana ProTides: Different Anti-Cancer Agents

NUC-3373 NUC-7738 -ACELATIN Gemcitabine 5-FU 3'-dA Different HOH Parent Structure Different **ProTide Structure RNA** Different TS DNA Polyadenylation Inhibition Mode of Action Incorporation Disruptor Colorectal Solid **Biliary Tract Initial Indication** Tumors Cancer Cancer

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Worldwide exclusive rights for all programs: 893 granted patents and 337 pending applications*

Key Patents	Status	Expiration ⁺ (excluding any extensions)	Territories		
NUC-3373	122 granted, 103 pending, including:				
Composition of matter	Granted (US, EP, JP)	2032	+ others		
Formulation	Granted (JP), Pending (EP, US)	2036	+ others		
Manufacturing process	Pending	2038	+ others		
Use	Pending	2037 / 2038	+ others		
NUC-7738	65 granted, 44 pending, including:				
Composition of matter	Granted (EP, US, JP)	2035	+ others		
Formulation	Pending	2036	+ others		
Manufacturing process	Pending	2038	+ others		
Use	Pending	2042	+ others		
-ACELARIN	569 granted, 142 pending, including:				
Composition of matter	Granted (EP, US), Pending (JP)	2033 / 2035	+ others		
Formulation	Granted (EP, US, JP)	2035	+ others		
Manufacturing process	Granted (EP, US, JP)	2035 / 2036	+ others		
Use	Granted (EP, US, JP)	2035 / 2038	+ others		

*As of March 31, 2022 *Expiration for pending patents if granted

NUC-3373	INDICATION	PHASE	EVENT		
			Announce Phase 1b data		
NUTIDE 302	Colorectal Cancer	Phase 1b / 2	Expand to 2L CRC		
			Announce 2L CRC data		
NuTIDE 323	Colorectal Cancer	Phase 2	Initiate randomized 2L CRC study		
	Solid Tumors		Initiate study		
NUTIDE 303	NSCLC	Phase 1b / 2	Announce data		
NUC-7738					
NUTIDE 701	Solid Tumors	Phase 1 / 2	Announce Phase 1 data		
			Announce Phase 2 data		

Improving Survival Outcomes •

Harnessing phosphoramidate chemistry to establish a new era in oncology

Strong IP Protection

Worldwide exclusive rights

Significant Milestones

Numerous value inflection points throughout 2022

Strong Cash Position

Cash runway into 2025

Experienced Team

Nasdaq : NCNA

Accomplished management team Backed by leading biotech investors

NUC-3373: Seeking to Replace 5-FU

Targeted & more potent TS inhibitor Encouraging efficacy signals Favorable safety profile Improved dosing schedule

Addressing Blockbuster Market Opportunities

CRC is the 3rd most common cancer 5-FU is the global standard of care

NUC-7738: Novel Anti-Cancer Medicine

Differentiated mode of action Promising anti-cancer activity Phase 2 data expected in 2022







E: info@nucana.com

Global Headquarters: 3 Lochside Way, Edinburgh, EH12 9DT United Kingdom