UNITED STATES
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): January 13, 2020

MORPHIC HOLDING, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of incorporation)

Delaware	**001-38940**	**47-3878772**
(State or other jurisdiction of incorporation or organization)	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

35 Gatehouse Drive, A2 **Waltham, MA** **(Address of principal executive offices)**	**02451** **(Zip Code)**

(781) 996-0955
(Registrant's telephone number, including area code)

Not Applicable
(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:

☐ 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))

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, $0.0001 par value per share	MORF	Nasdaq Global Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (17 CFR 230.405) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR 240.12b-2).

Emerging growth company ☒

If an emerging grown 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 7.01 Regulation FD Disclosure.

Morphic Holding, Inc. plans to present the investor presentation attached hereto as Exhibit 99.1 at the J.P. Morgan Healthcare Conference on January 15, 2020, and is filing its strategic deck, which will be used in meetings, attached hereto as Exhibit 99.2.

The information furnished with this report, including Exhibit 99.1 and Exhibit 99.2, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference into any other filing under the Exchange Act or the Securities Act of 1933, as amended, except as expressly set forth by specific reference in such a filing.

Item 9.01 Financial Statements and Exhibits.

d) Exhibits

Exhibit Number	Description
99.1	Morphic Investor Presentation
99.2	Morphic Strategic Deck

SIGNATURE

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.

Date: January 13, 2020

MORPHIC HOLDING, INC.

By: /s/ Robert E. Farrell, Jr.
Robert E. Farrell, Jr.
Vice President of Finance and Operations and Treasurer

MORPHIC THERAPEUTIC

DELIVERING A NEW GENERATION OF INTEGRIN MEDICINES

Praveen Tipirneni, MD

JP Morgan 38th Annual Healthcare Conference

January 11, 2020

Forward Looking Statements

This presentation contains "forward-looking" statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, including, but not limited to: Morphic's plan to develop and commercialize oral small-molecule integrin therapeutics, the results of such research, and Morphic's expectations about timing and ability to obtain regulatory approvals for MORF-720, MORF-057 and $\alpha_4\beta_7$-specific integrin inhibitors. Statements including words such as "looks forward to," "believe," "plan," "continue," "expect," "delivering," "transforming," or "ongoing" and statements in the future tense are forward-looking statements. These forward-looking statements involve risks and uncertainties, as well as assumptions, which, if they do not fully materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. Forward-looking statements are subject to risks and uncertainties that may cause Morphic's actual activities or results to differ significantly from those expressed in any forward-looking statement, including risks and uncertainties related to Morphic's ability to develop, obtain regulatory approval for and commercialize MORF-720 and $\alpha_4\beta_7$-specific integrin inhibitors and other product candidates, the timing and results of preclinical studies and clinical trials, Morphic's ability to protect intellectual property; and other risks set forth in our filings with the Securities and Exchange Commission. These forward-looking statements speak only as of the date hereof and Morphic specifically disclaims any obligation to update these forward-looking statements or reasons why actual results might differ, whether as a result of new information, future events or otherwise, except as required by law.

Morphic:
Transforming the treatment of major chronic diseases with oral integrin drugs

Unique Opportunity to Mine Integrins: Well Validated Target Class

Validated Target Class with Large Market Opportunity	• All approved integrin therapies are non-oral options for a wide variety of serious chronic diseases • Estimated 2018 sales of at least $4.6 billion[1]
THE Integrin Platform	• Leveraging proprietary databases, world-class know-how and decades of Springer laboratory research • Designed to target and modulate every known human integrin
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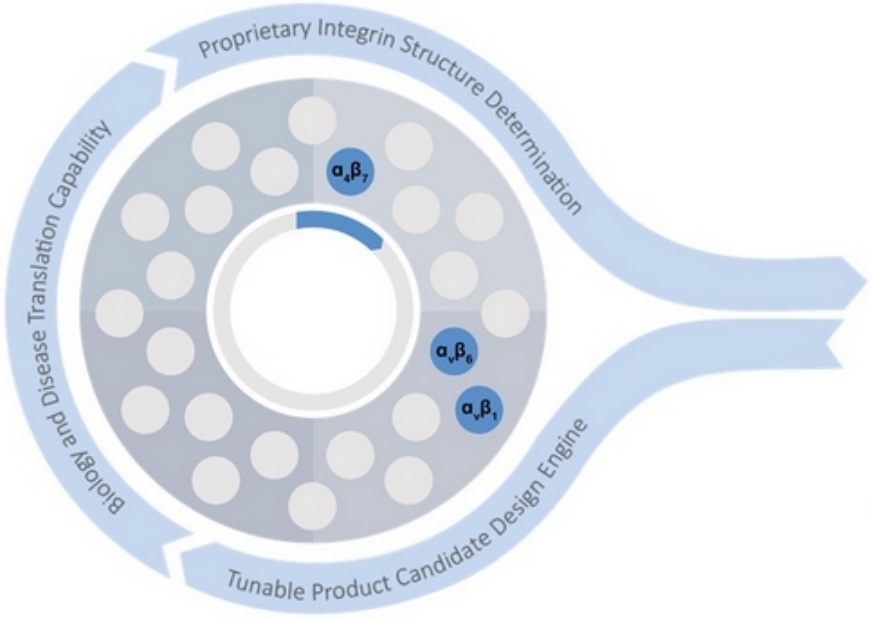
Strong Cash Position	• Q3 2019 cash position: $251.7 million, through at least 2022

[1]Global Data

Morphic Integrin Technology (MInT) Platform



J Cell Biol, 2012

Morphic: Focused on Major Chronic Conditions

Development Pipeline

Our Programs	Indication	Status	Product Rights
MORF-057 Target: $\alpha_4\beta_7$	Inflammatory bowel disease (IBD)		Wholly Owned
MORF-720 Target:$\alpha_v\beta_6$	Idiopathic pulmonary fibrosis		abbvie
MR β_6 #2 Target:$\alpha_v\beta_6$	Primary Sclerosing Cholangitis		Morphic/AbbVie

Status: Discovery | Preclinical | IND | Phase 1

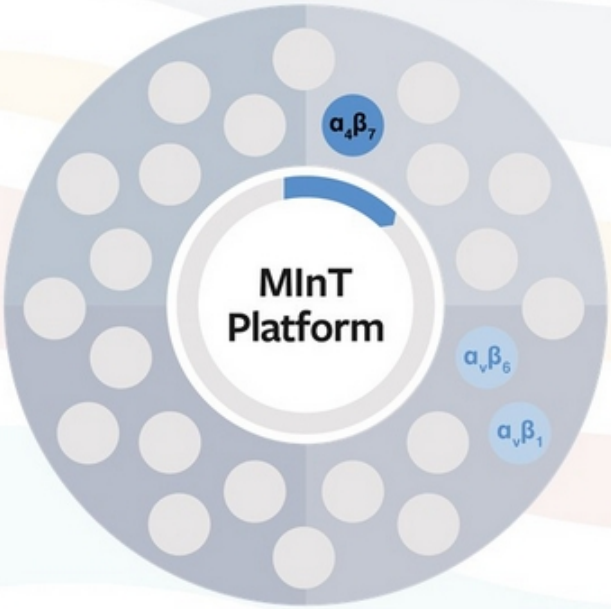
Research Pipeline

Focus	$\alpha_v\beta_1$ inhibition for fibrotic disease	TGF-β activation for solid tumors	TGF-β activation for fibrotic disease	Undisclosed targets, including αI domain integrins
Collaborator	Wholly owned	Wholly owned	abbvie	janssen

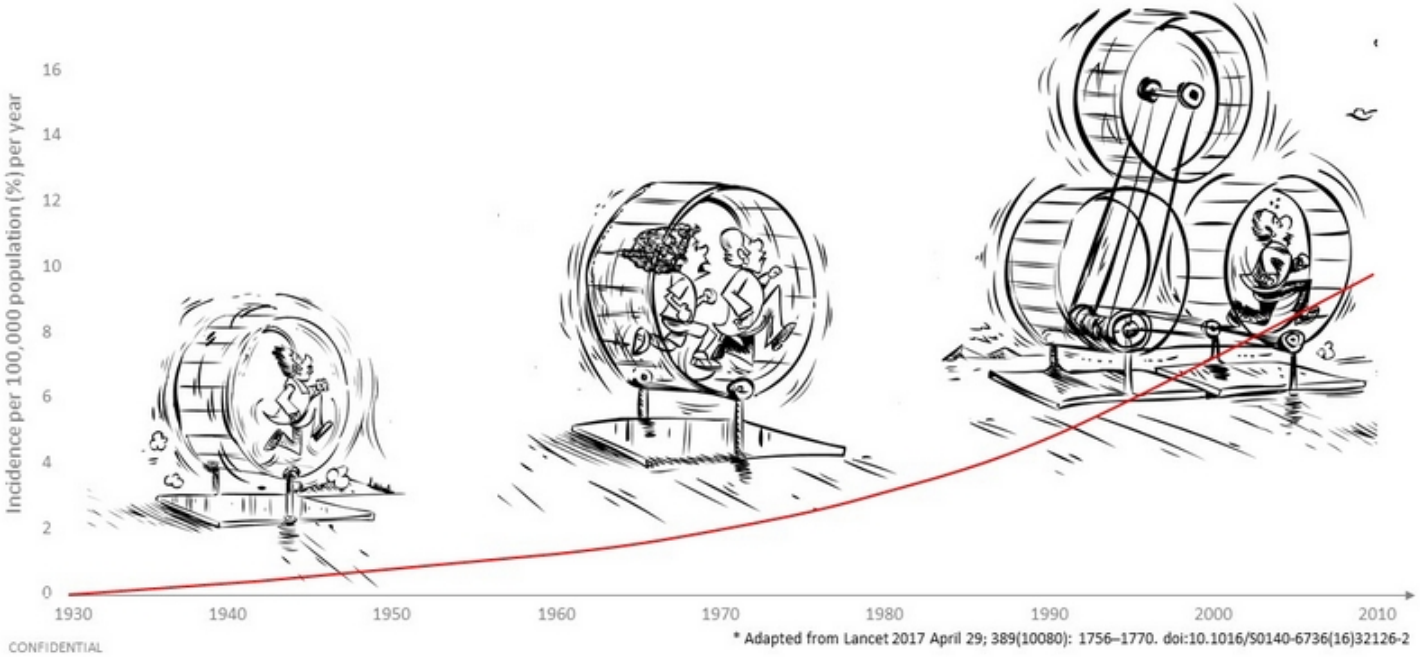
MORF-057

Targeting $\alpha_4\beta_7$

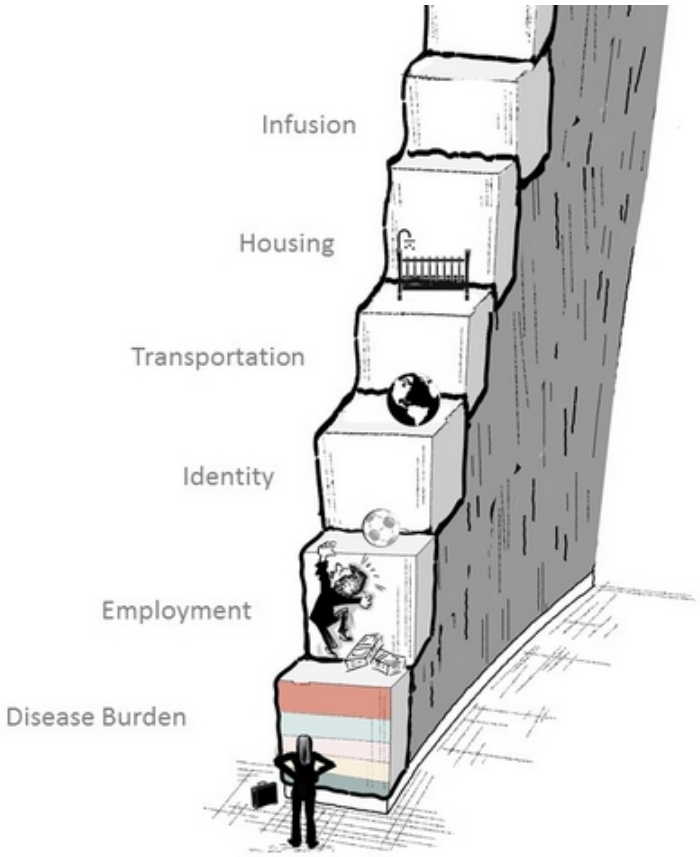
for Inflammatory Bowel Disease



IBD: A Complex Disease Exacerbated by Complex Times



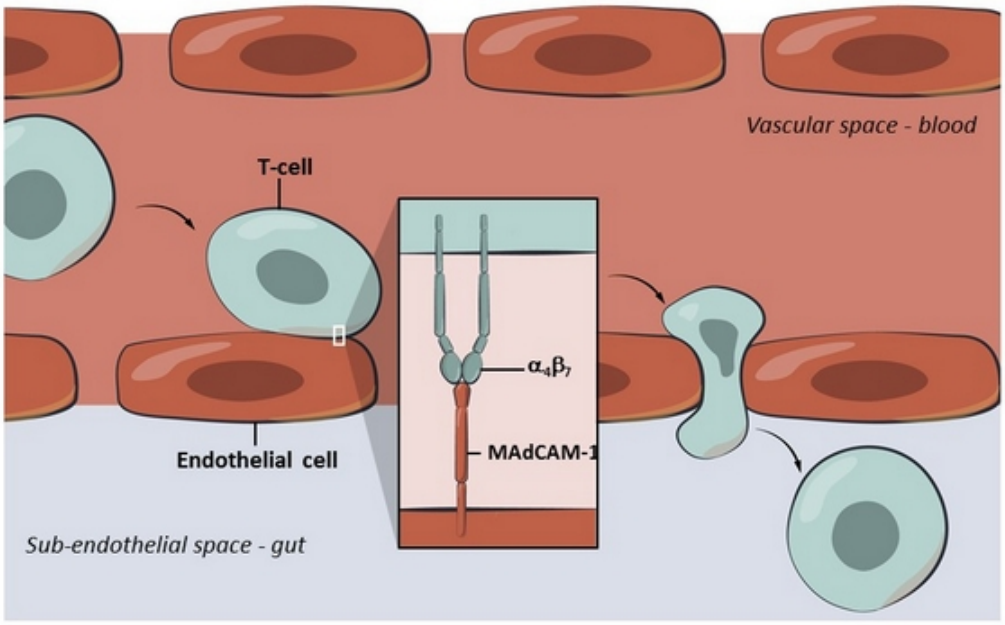
* Adapted from Lancet 2017 April 29; 389(10080): 1756–1770. doi:10.1016/S0140-6736(16)32126-2


Infusion
Housing
Transportation
Identity
Employment
Disease Burden

$\alpha_4\beta_7$: A Proven Mechanism of Action in IBD

Approved vedolizumab: IV only

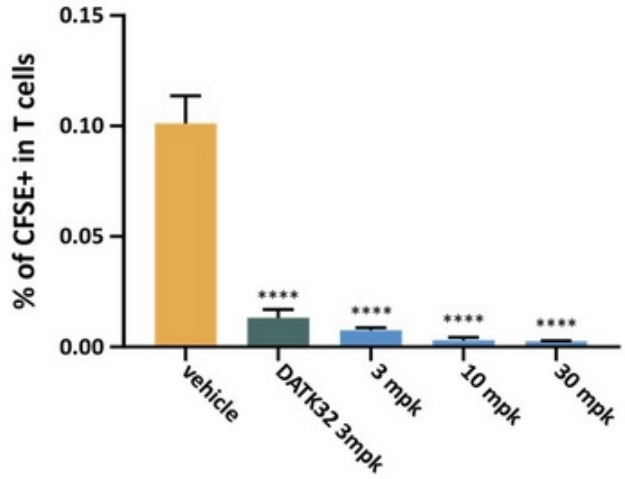
- IBD involves trafficking of $\alpha_4\beta_7$+ leukocytes to gut tissue via MAdCAM-1 binding, causing inflammation
- Vedolizumab (IV) inhibits this action and was approved for Ulcerative Colitis and Crohn's Disease in 2014
- 150,000 patients dosed since approval in 2014[1]
- 2018 EOY ~$2B[2]



[1]Takeda
[2]Global Data

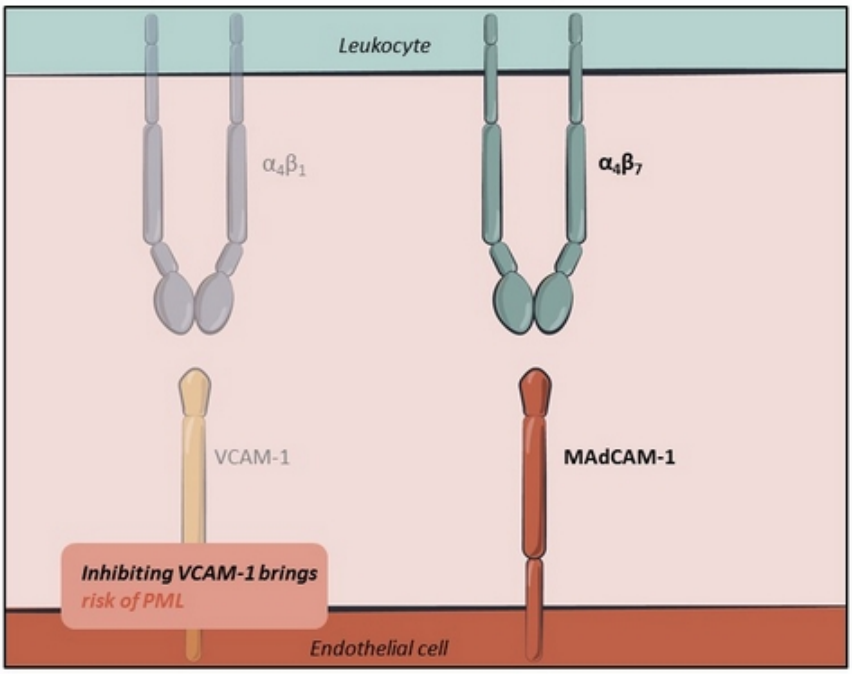
MORF-057: Pre-clinical Data Dose-dependent Anti-inflammatory Activity

T lymphocyte homing into mesenteric lymph nodes
Mean ± SEM



- p<0.05, ** p<0.01, ***p<0.001, and ****p<0.0001 vs. vehicle by One Way Anova followed by Dunnett's multiple comparisons
- DATK32 is a mouse surrogate of the $\alpha_4\beta_7$ antibody vedolizumab

MORF-057: Specifically Designed to Avoid Off-target Risk



	Cell Adhesion Potency IC_{50} [nM]		
	$\alpha_4\beta_7$ MadCAM	$\alpha_4\beta_1$ VCAM	$\alpha_4\beta_1$ /$\alpha_4\beta_7$ Selectivity Ratio
vedolizumab	0.03	>50,000	
natalizumab	0.6	0.14	0.9
AJM-300	138	770	5.6
MORF-057	1.1	3,633	3,303

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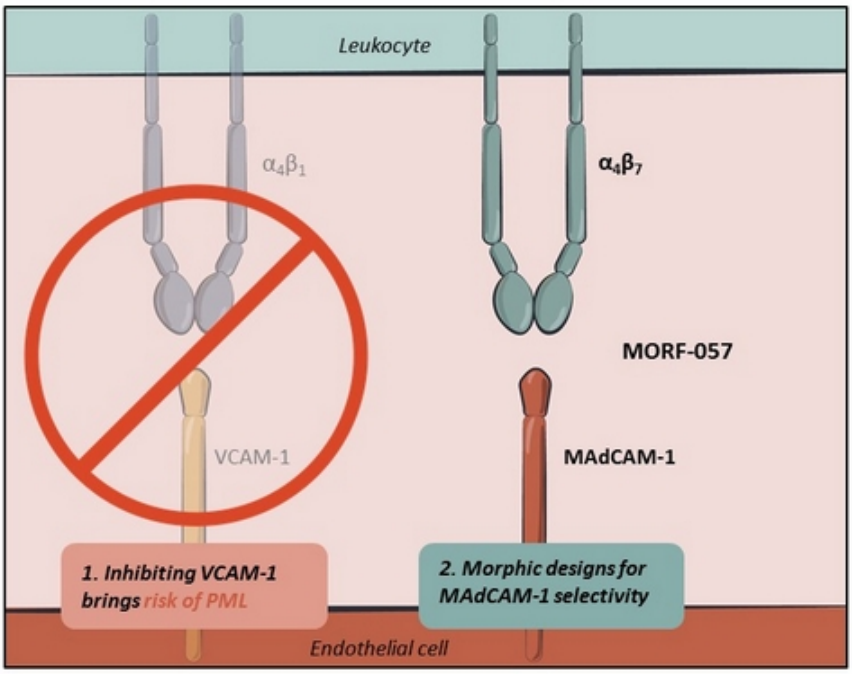

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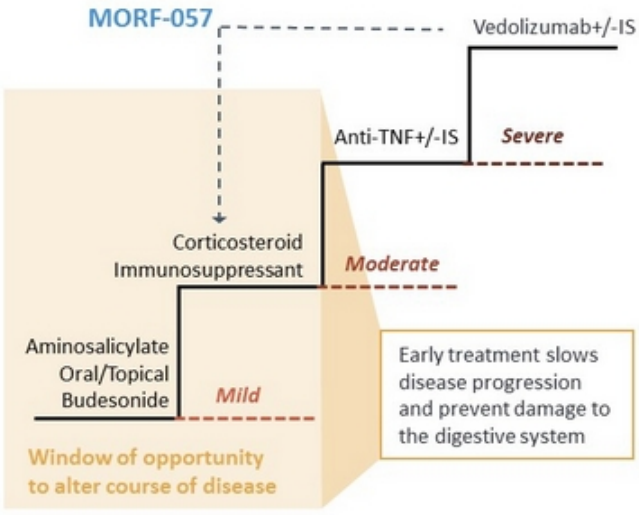
MORF-057 Goal: Oral Vedolizumab

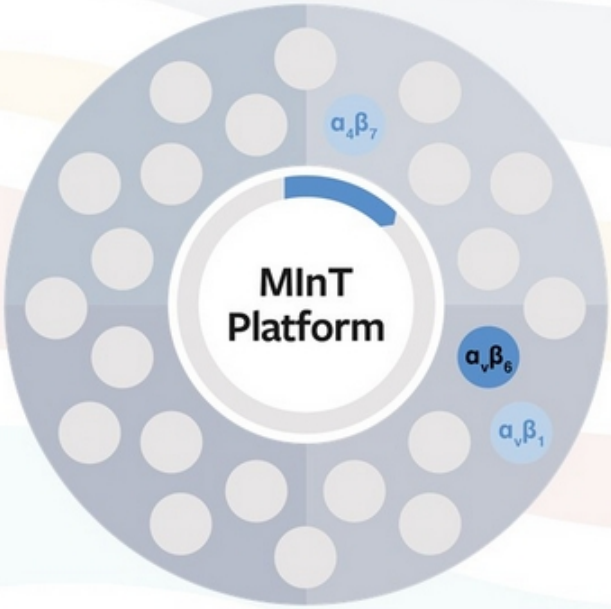
In addition to later-stage treatment, oral option could intervene much earlier in disease progression



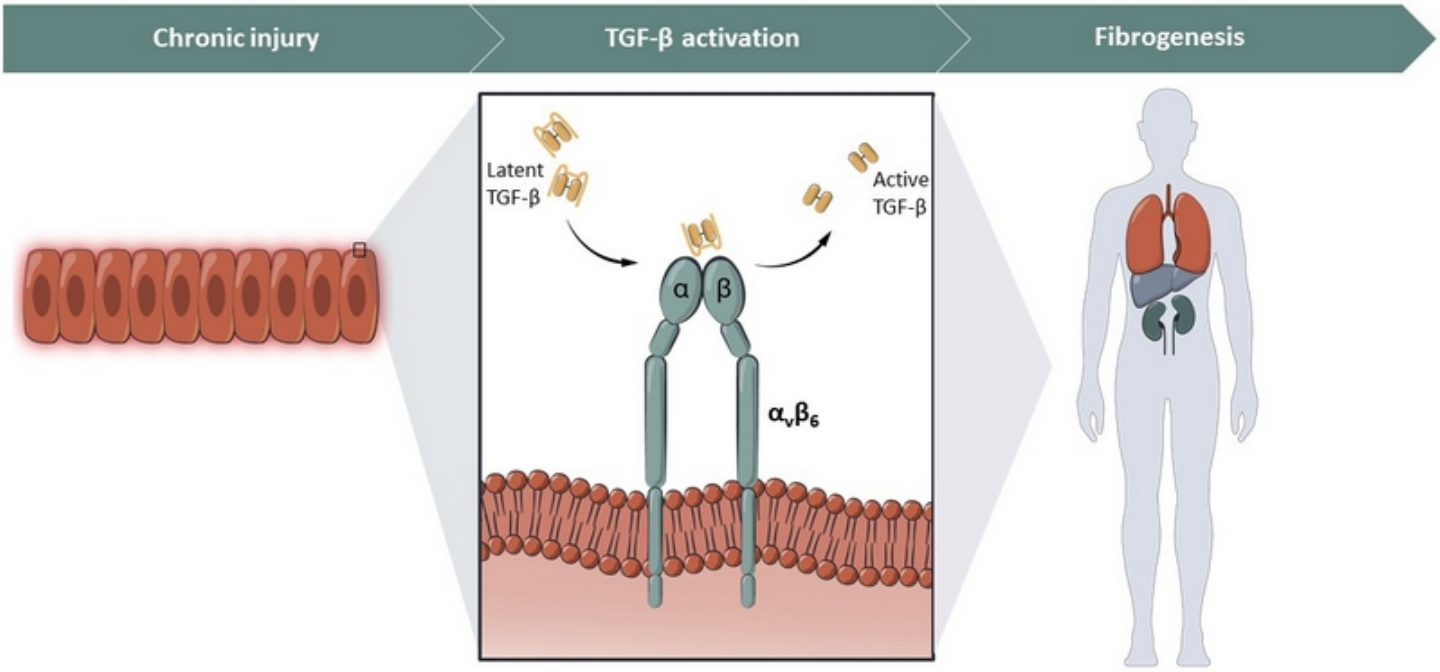
[1] This figure is illustrative and not based on actual data

MORF-720

Targeting $\alpha_v\beta_6$ to block TGF-β-driving fibrosis in multiple diseases with AbbVie



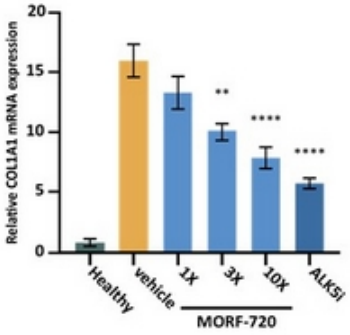
$\alpha_v\beta_6$: Essential Activator of TGF-β Signaling



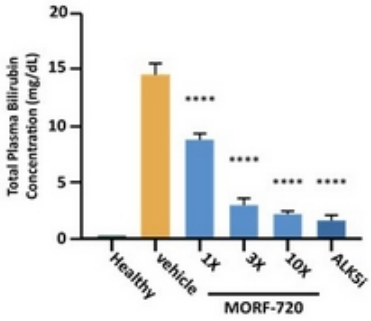
Morphic Oral $\alpha_v\beta_6$ Inhibitor: Strong Support for Mechanism of Action and Design

- MORF-720 delivers dose-dependent reductions in liver fibrosis in mice model
- Shown to stabilize closed conformation of $\alpha_v\beta_6$
- Excellent multi-species PK
- Highly potent and selective

COL1A1
Mean ± SEM



Total Bilirubin
Mean ± SEM



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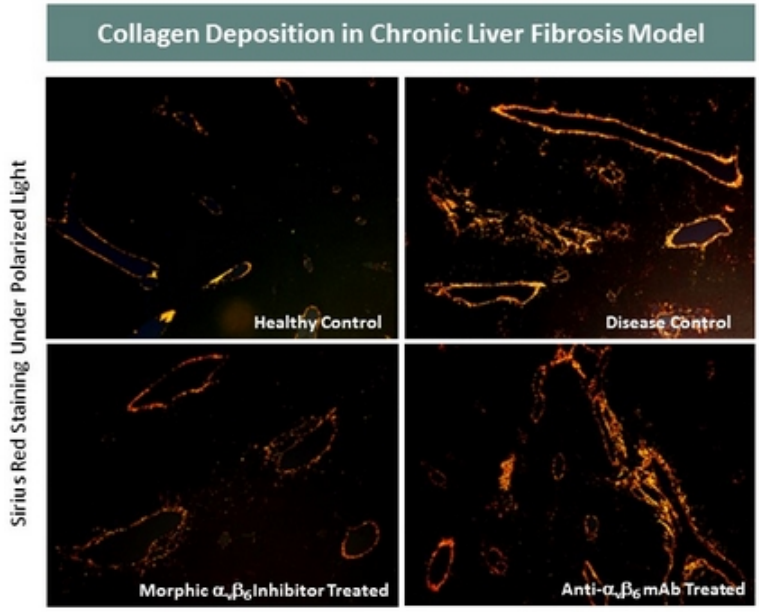
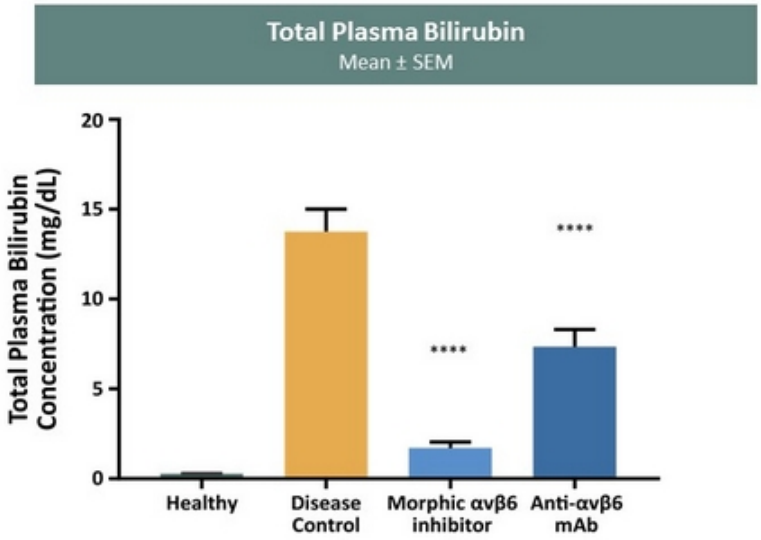
Morphic Oral Integrin Inhibitor: Activity in Anti-$\alpha_V\beta_6$ mAb in Collagen Model of Fibrosis



Morphic Oral $\alpha_v\beta_6$ Inhibitor: Superior in Bilirubin Model of Fibrosis

- Bilirubin is a marker of liver tissue damage



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Building the Future of Integrin Medicines

Deep specialist expertise across management, Board and Advisors

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President and Chief Executive Officer
CUBIST

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Chief Scientific Officer
cerevel Pfizer

ALEXEY A. LUGOVSKOY, PhD
Chief Development Officer
merrimack Biogen

BLAISE LIPPA, PhD
Head of Chemistry
Pfizer CUBIST

ADRIAN RAY, PhD
Head of Translational Sciences
GILEAD

WILLIAM DeVAUL
General Counsel and Secretary
EVELO CUBIST

Well capitalized, partnered and poised to advance oral integrins

Launch	Series A	Series B	abbvie	janssen	IPO	*Planned clinical trials in 2020*
	$51 M	$80M	$100M	$10M	$103.5M[1]	
Aug 2015	Jun 2016	Sep 2018	Oct 2018	Feb 2019	Jun 2019	Q319 Cash: $251.7 million

[1]$103.5M gross proceeds before fees

MORPHIC THERAPEUTIC

THANK YOU

January 11, 2020

MORPHIC THERAPEUTIC

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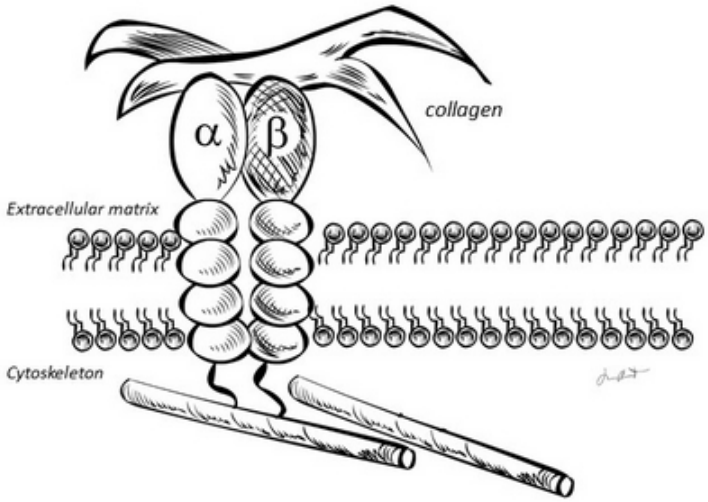
The Role of Integrins

A family of cell surface receptors with unique ability to signal bi-directionally

Named integrins because they 'integrate' extracellular and intracellular stimuli

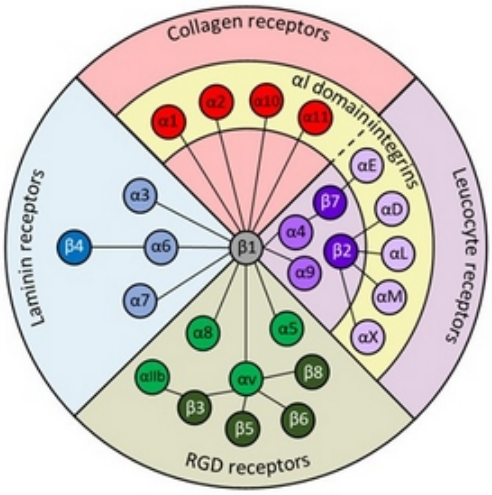
They function as signal transduction platforms, mechano-sensors and adhesion molecules (e.g. leukocyte trafficking)

They 'integrate' *cell–cell* and *cell–extracellular* matrix interactions within organs.



CONFIDENTIAL

Integrin Therapies Are Applicable across a Broad Range of Chronic Diseases



FY 2018 Sales[1] $4.6B

Abciximab	Natalizumab
Eptifibatide	Vedolizumab
Tirofiban	Lifitegrast
	Efalizumab

Autoimmune

α4β7 α1β1
α4β1 α2β1
αEβ7 α10β1
αLβ2 α5β1
αDβ2 αvβ8

Inflammatory bowel disease, multiple sclerosis, psoriasis, rheumatoid arthritis, asthma, dry eye, disease, uveitis, chronic obstructive pulmonary disease

Fibrosis

αvβ6
αvβ1 / αvβ6
αvβ3
α5β1
αvβ5
pan-αv

Idiopathic pulmonary fibrosis, primary sclerosing cholangitis, primary biliary fibrosis, scleroderma, age-related macular degeneration

Cancer

αvβ8 αMβ2
αvβ8 / αvβ6 α9β1
pan-αv α3β1
α5β1 α11β1

Gastrointestinal cancers, immuno-oncology indications

Metabolic

α11β1
αvβ1
α2β1
α3β1

Chronic kidney disease, nonalcoholic steatohepatitis, diabetic macular edema

Cardiovascular

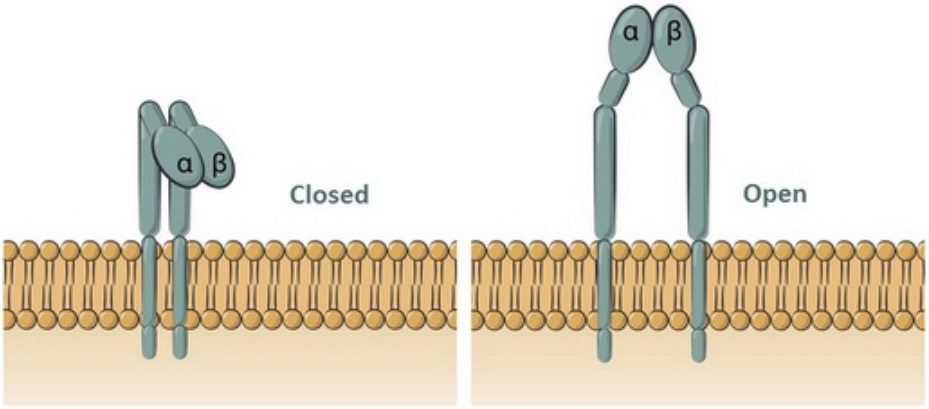
αIIbβ3
α5β1
αvβ1 / αvβ3 / αvβ5

Acute coronary syndrome, pulmonary arterial hypertension

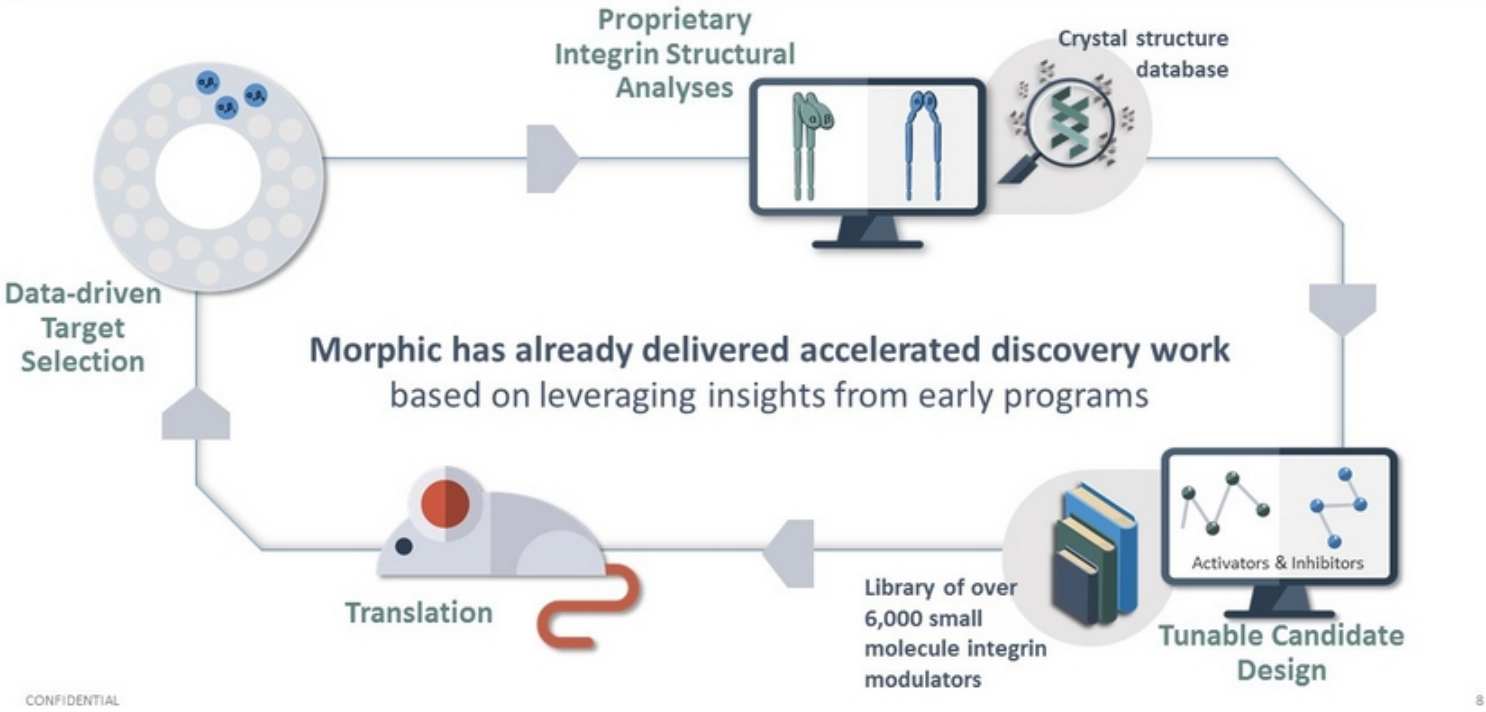
(1) Evaluate Pharma. Combined revenue in respective FY2018.

Integrins: Conformation is Key to Function

- **Integrins shift between an open and closed conformation**
- Morphic develops **small molecules designed to lock "healthy" integrin conformations in place**
- Previous oral integrin inhibitors locked conformation in a "diseased" active state, leading to clinical failures
- This was **a key discovery of the Springer Lab** that led to the first small molecules targeting conformational change, and the formation of Morphic



In-house Platform Driving Pipeline Growth



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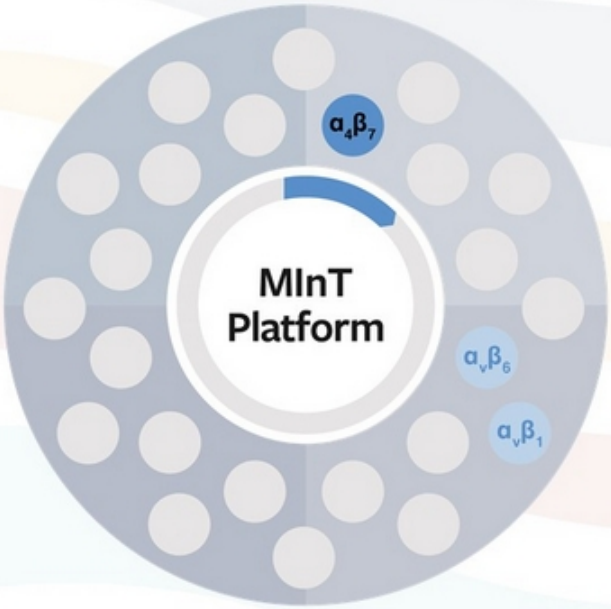
MORF-057

Targeting $\alpha_4\beta_7$

for Inflammatory Bowel Disease



$\alpha_4\beta_7$: A Proven Mechanism of Action in IBD

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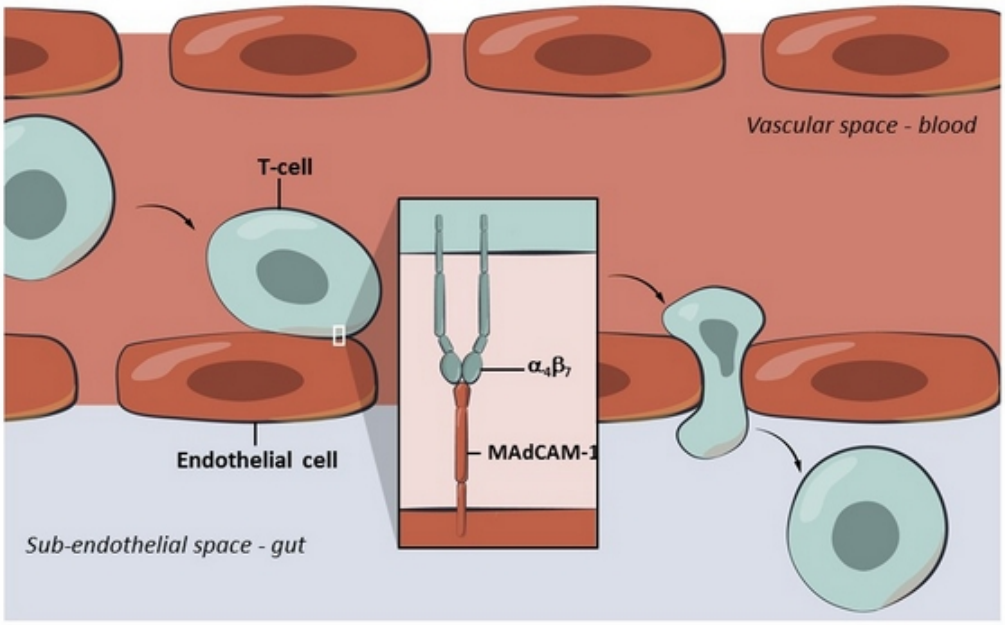

MORF-057 Goal: Oral Vedolizumab

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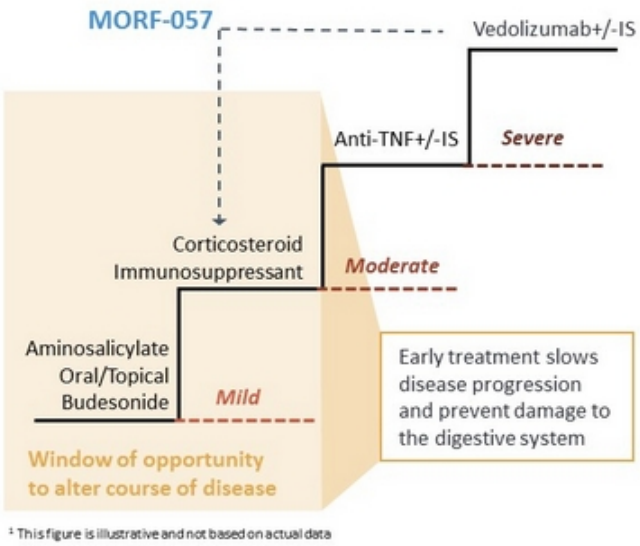

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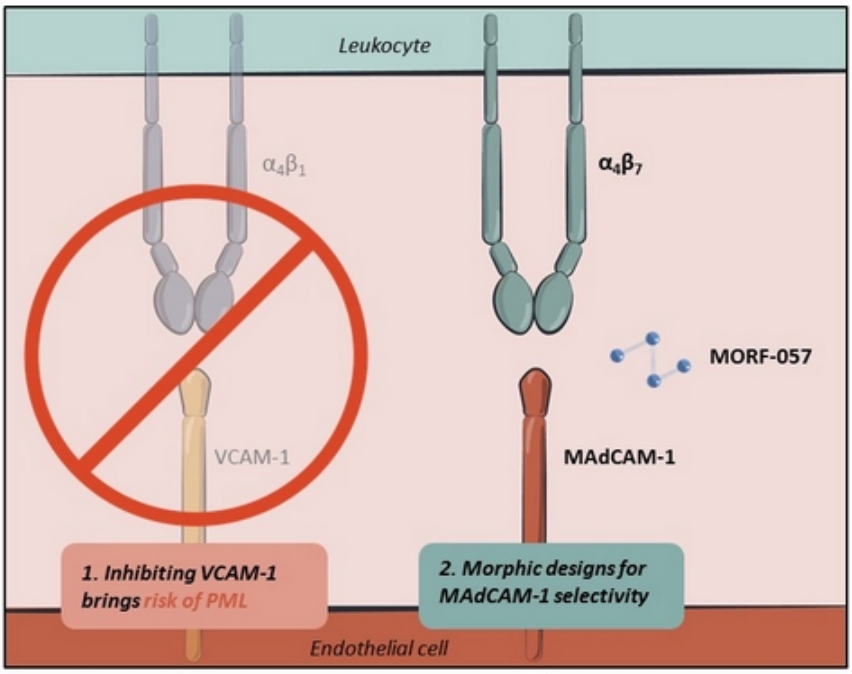

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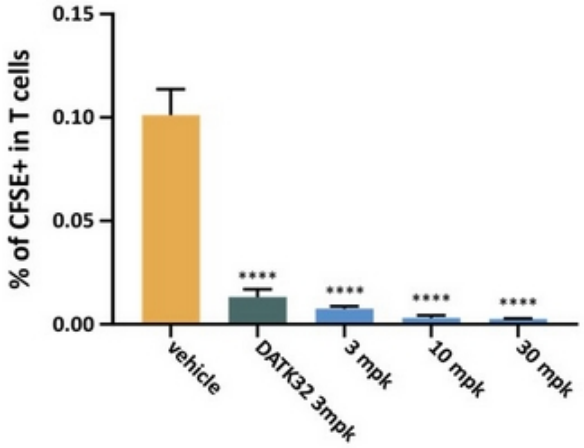
vedolizumab	0.03	>50,000	
natalizumab	0.6	0.14	0.9
AJM-300	138	770	5.6
MORF-057	1.1	3,633	3,303

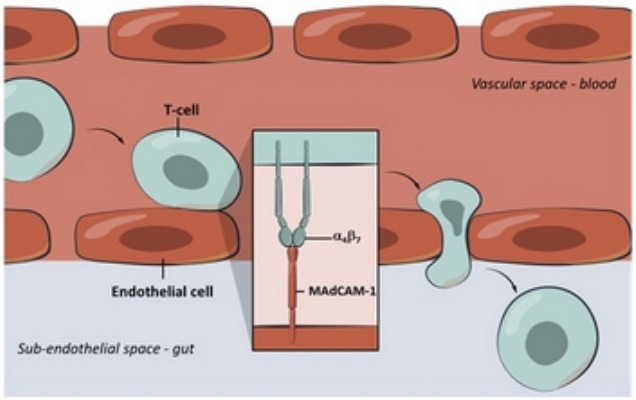
1. Activating $\alpha_4\beta_1$'s ligand, VCAM-1, is associated with a risk of progressive multifocal leukoencephalopathy (PML).

2. Morphic's candidates have **demonstrated far higher selectivity for $\alpha_4\beta_7$'s ligand, MAdCAM-1.**

MORF-057: Pre-clinical Data: Dose-dependent Anti-inflammatory Activity

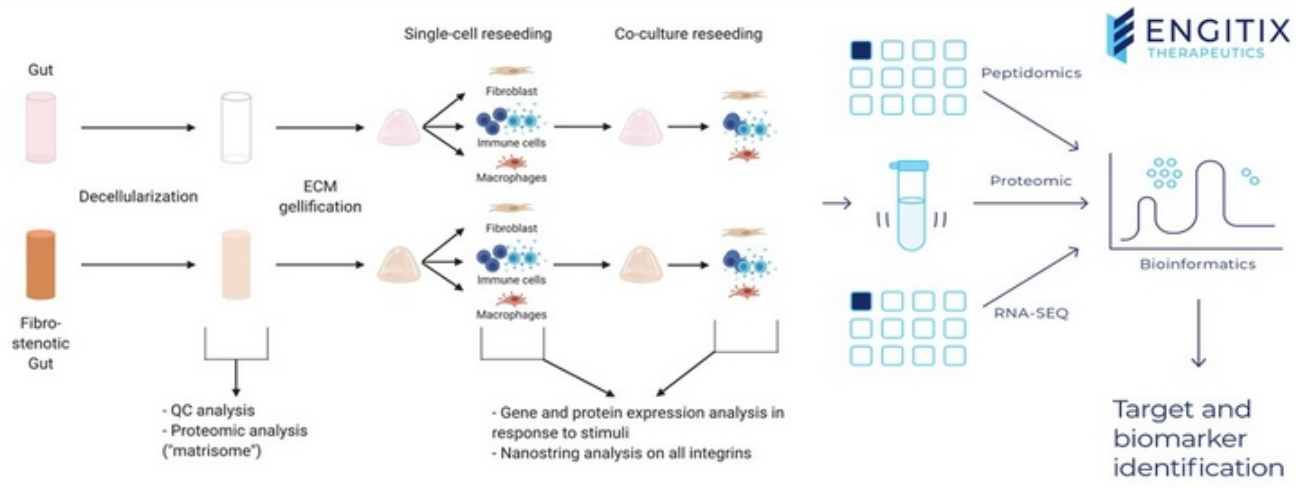
T lymphocyte homing into mesenteric lymph nodes
Mean ± SEM





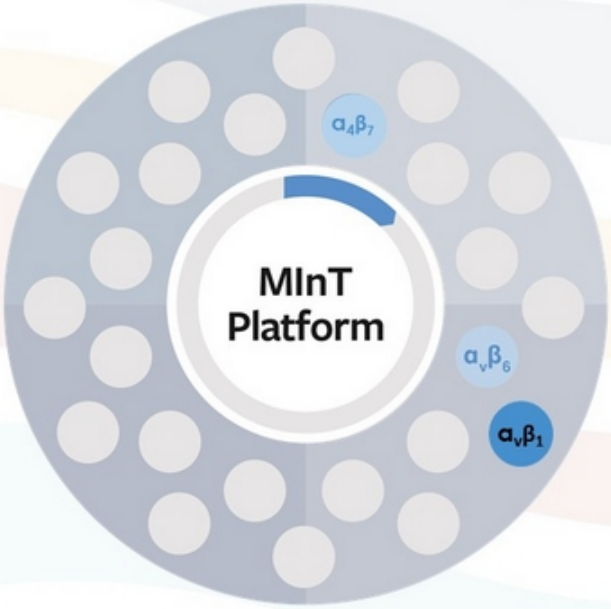
- p<0.05, ** p<0.01, ***p<0.001, and ****p<0.0001 vs. vehicle by One Way Anova followed by Dunnett's multiple comparisons
- DATK32 is a mouse surrogate of the $\alpha_4\beta_7$ antibody vedolizumab

Morphic-Engitix Collaboration to Identify ECM-Related Targets in Fibrostenotic IBD



- Fibrostenotic IBD accounts for up to 30% of poorly treated Crohn's disease cases
- Tissue destruction (fistulisation) and fibrosis (fibrostenosis), disease complications of persistent inflammation, are direct consequences of ECM remodeling events
- Collaboration to study the interplay of integrin signaling pathways and the ECM to uncover new interference points in fibrostenotic IBD

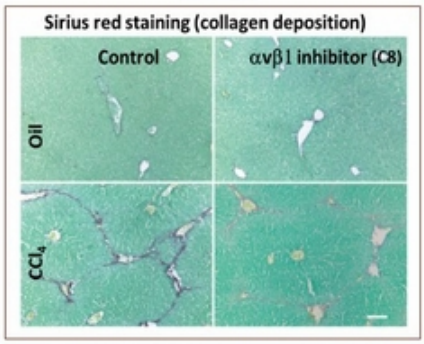
Targeting αvβ1 for fibrotic disease



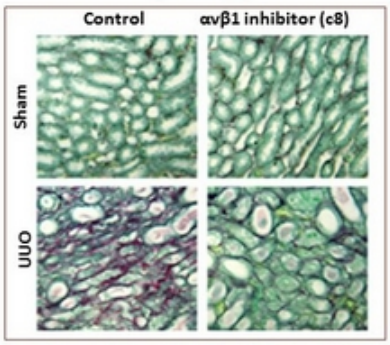
$\alpha_v\beta_1$ Inhibition Ameliorates Fibrosis in Animal Models

- Expressed in hepatic stellate cells, kidney fibroblasts, and lung fibroblasts
- $\alpha_v\beta_1$ tool inhibitor reduces fibrosis in murine models of lung, kidney and liver fibrosis
- Morphic research suggests that $\alpha_v\beta_1$ inhibitor can act independently of TGF-β suppression
- Morphic lead compound is active across multiple animal models of fibrosis

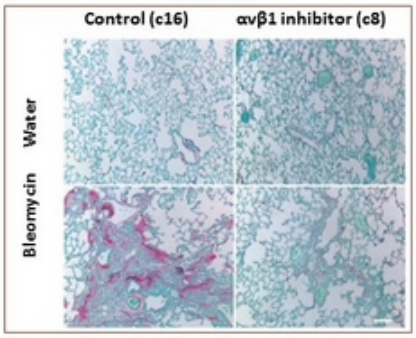
Liver



Kidney



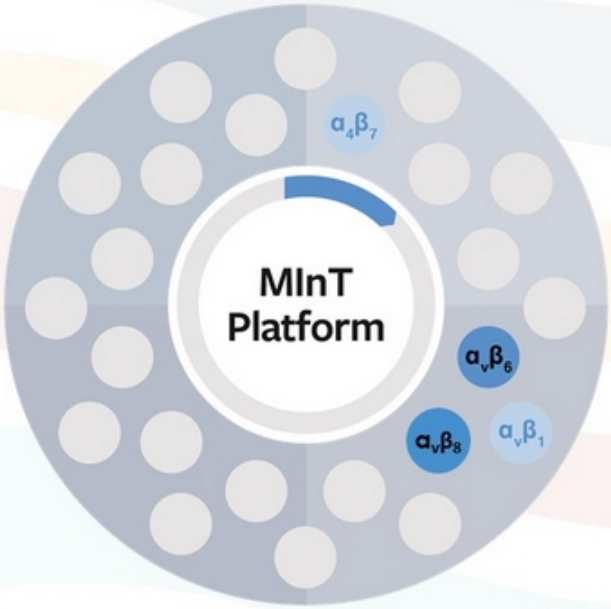
Lung



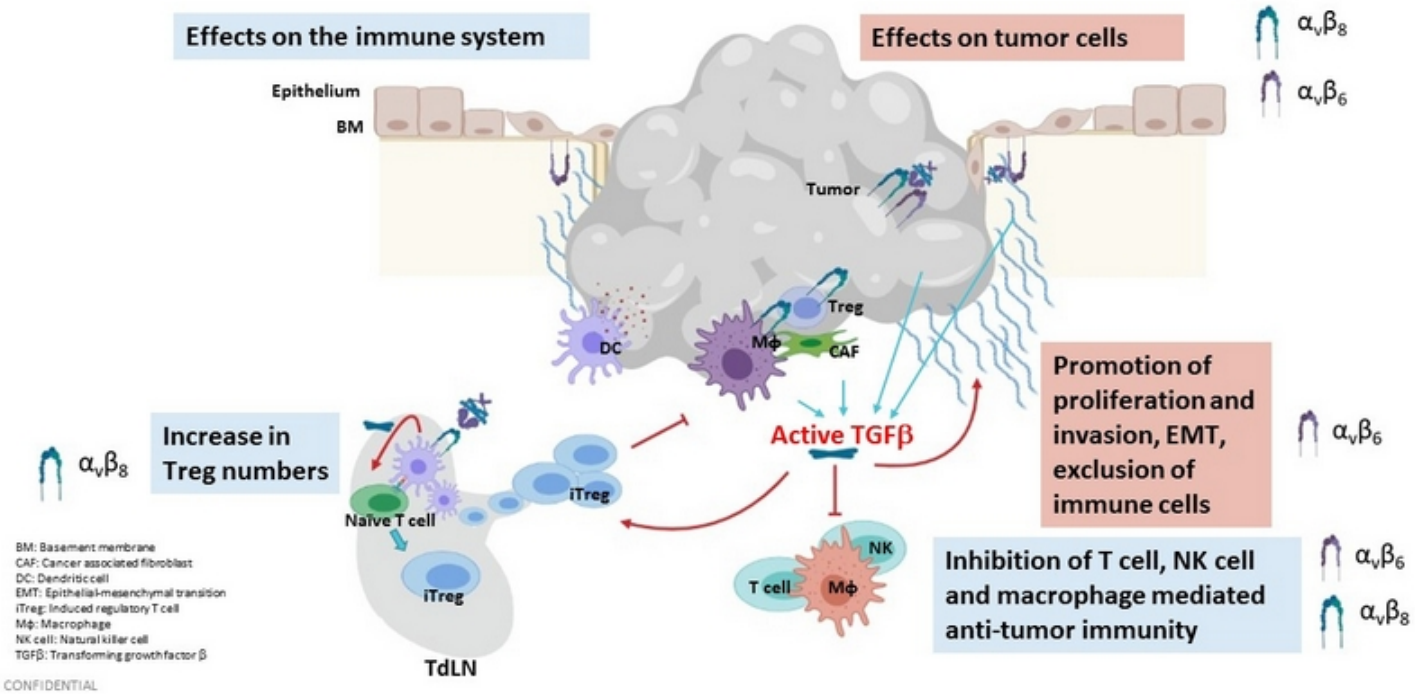
Reed N, Sci Transl Med. 2015; Yang WH, J Dental Res 2016

CONFIDENTIAL

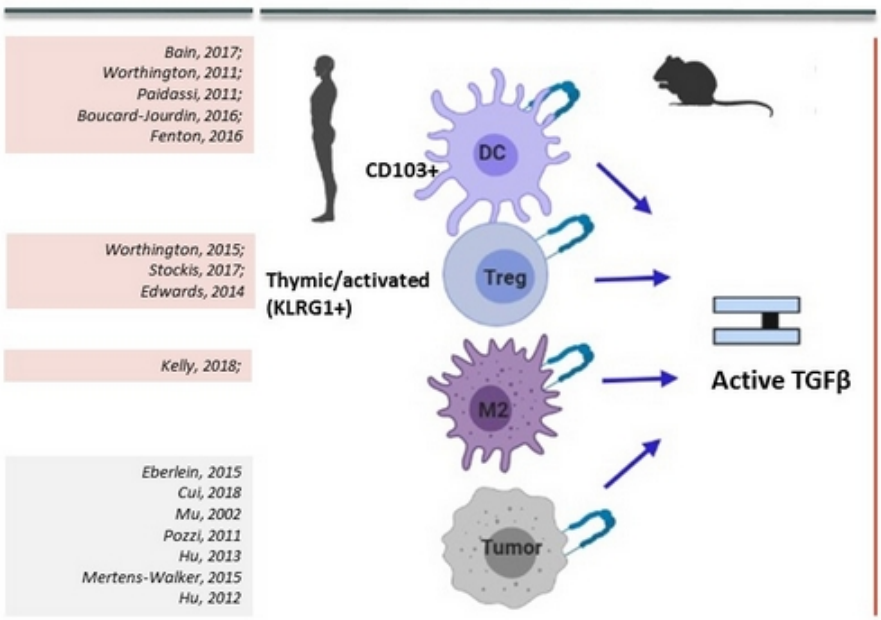
Targeting αvβ8 and αvβ6 to address TGF-β mediated resistance in solid tumors



Mechanism of Action of $\alpha_v\beta_8$ and $\alpha_v\beta_6$ in Tumors



$\alpha_v\beta_8$ Integrin Expression Conservation

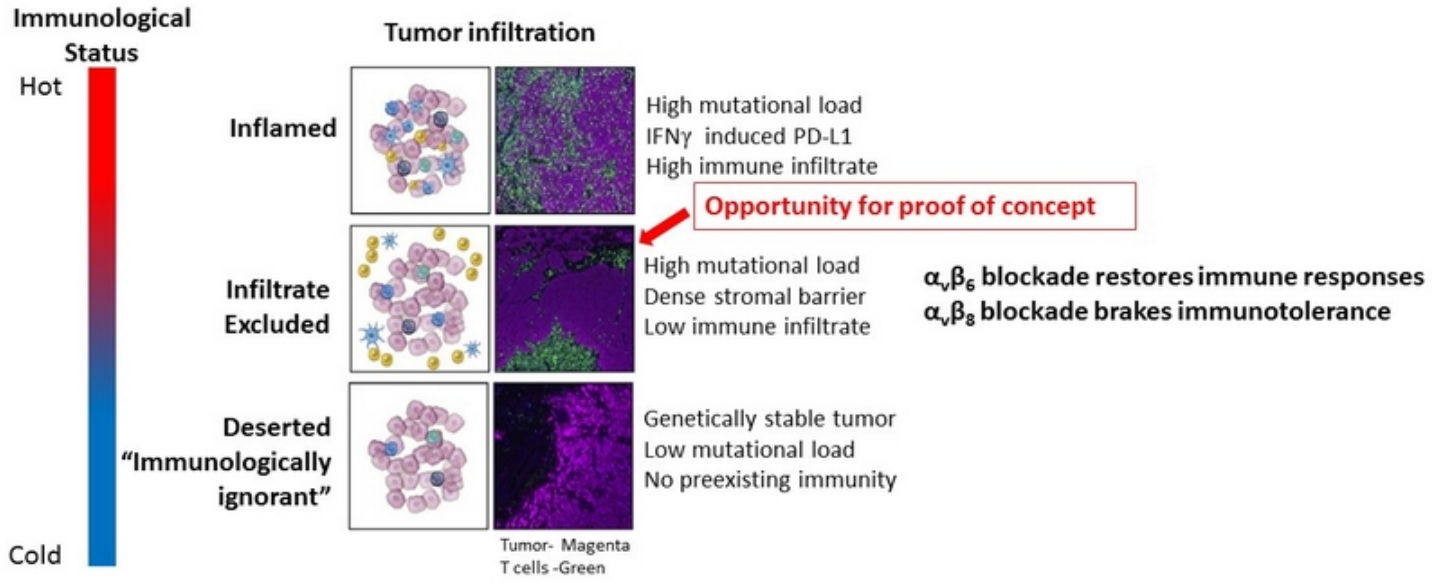


Conserved $\alpha_v\beta_8$ expression in mouse and human

Expression in model systems is upregulated by inflammatory stimuli

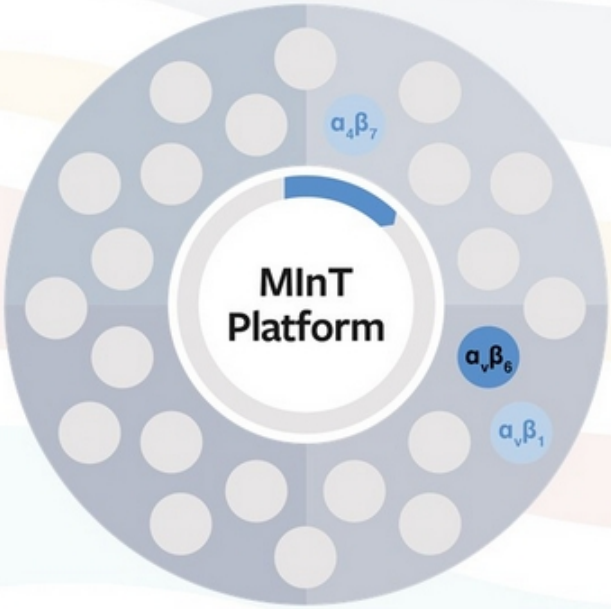
DC: Dendritic cell
KLRG1: Killer cell lectin-like receptor subfamily G member 1
M2: M2 macrophage
TGFβ: Transforming growth factor β

$\alpha_v\beta_8/\alpha_v\beta_6$ Integrin Therapy for TGF-β Mediated Resistance in Solid Tumors

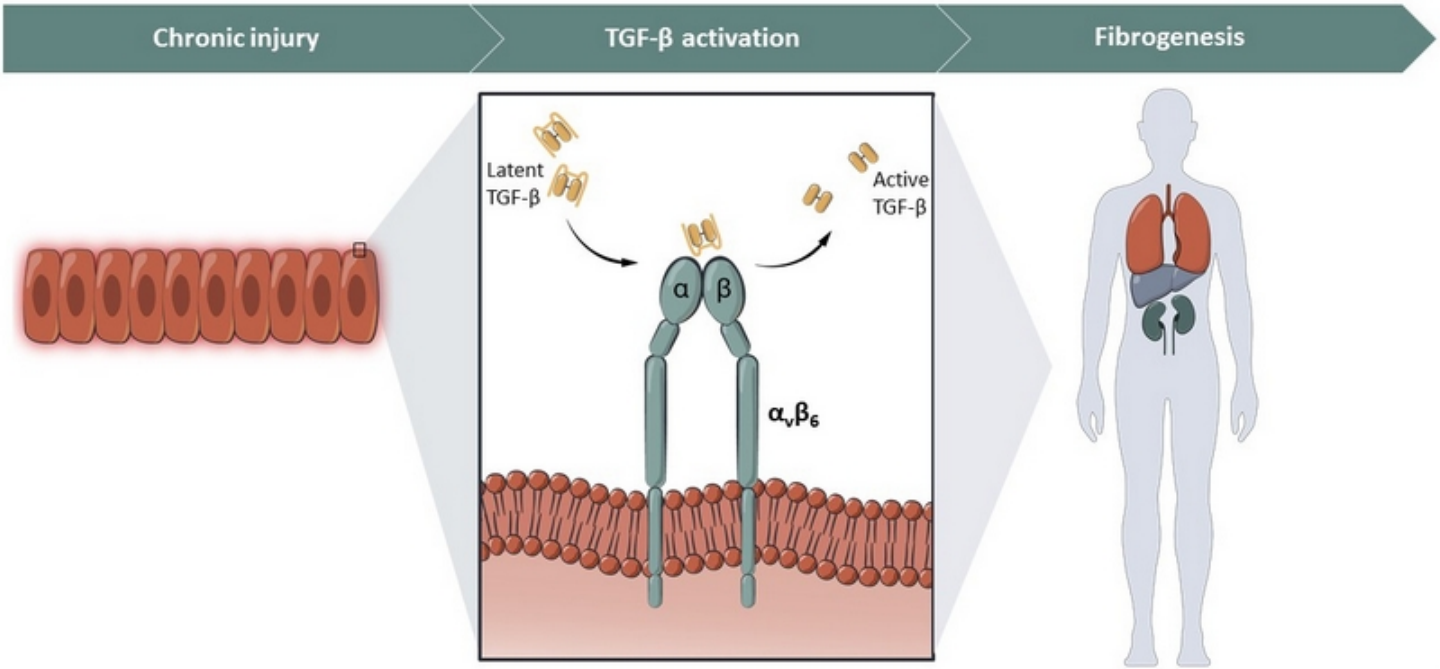


MORF-720

Targeting $\alpha_v\beta_6$ to block TGF-β-driving fibrosis in multiple diseases



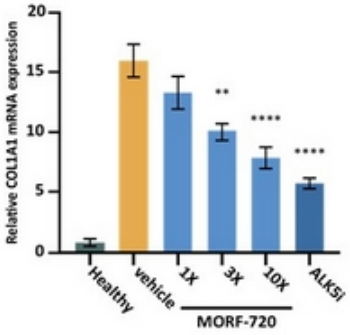
$\alpha_v\beta_6$: Essential Activator of TGF-β Signaling



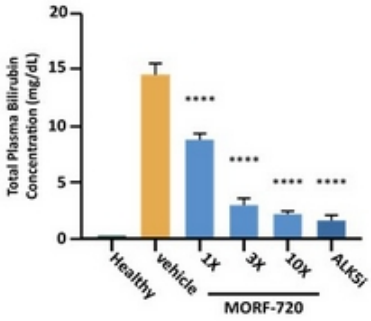
Morphic Oral $\alpha_v\beta_6$ Inhibitor: Strong Support for Mechanism of Action and Design

- MORF-720 delivers dose-dependent reductions in liver fibrosis in mice model
- Shown to stabilize closed conformation of $\alpha_v\beta_6$
- Excellent multi-species PK
- Highly potent and selective

COL1A1
Mean ± SEM

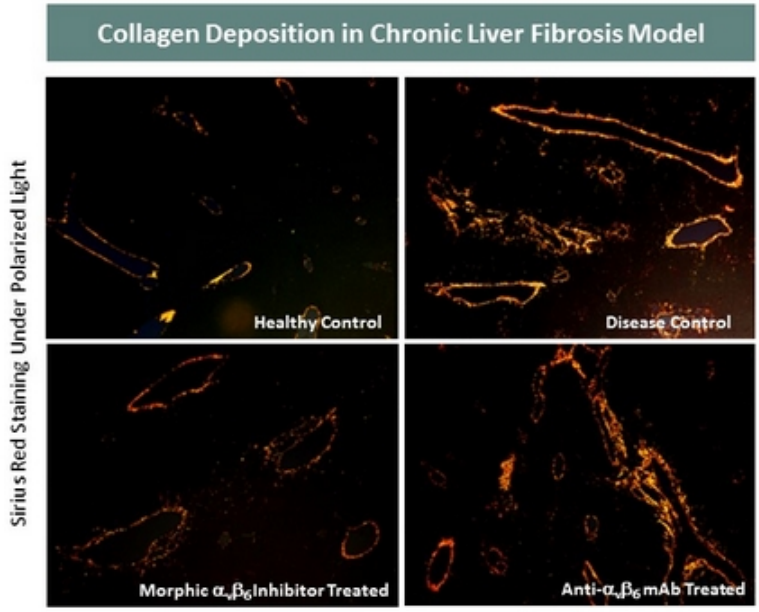


Total Bilirubin
Mean ± SEM



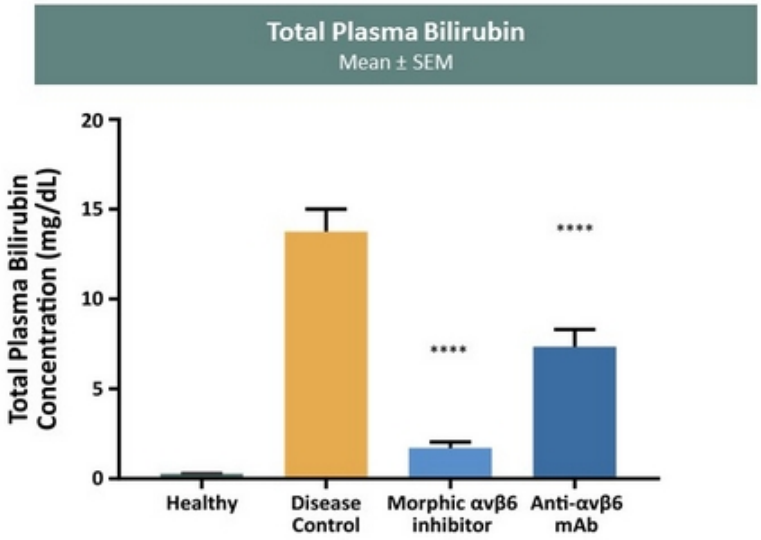
- p<0.05, ** p<0.01, ***p<0.001, and ****p<0.0001 vs. vehicle by One Way Anova followed by Dunnett's multiple comparisons

Morphic Oral Integrin Inhibitor: Activity in Anti-$\alpha_V\beta_6$ mAb in Collagen Model of Fibrosis



Morphic Oral $\alpha_v\beta_6$ Inhibitor: Superior in Bilirubin Model of Fibrosis

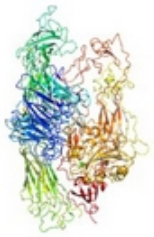
- Bilirubin is a marker of liver tissue damage



* p<0.05, ** p<0.01, ***p<0.001, and ****p<0.0001 vs. vehicle by One Way Anova followed by Dunnett's multiple comparisons

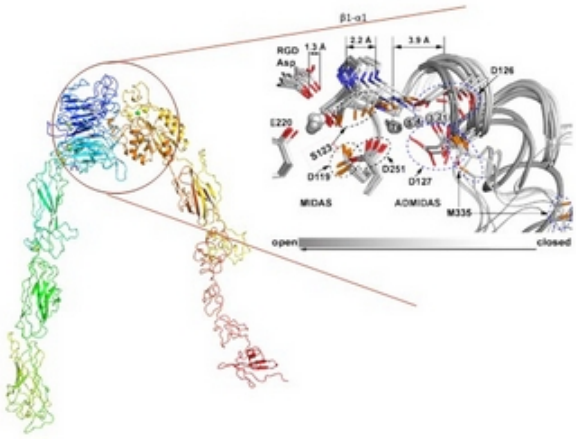
Backup

Integrins: Conformation is Key to Function



Bent-closed Conformation

Extended-closed Conformation



Extended-open Conformation

Springer JCB 2013, 201, 1053-1068; DOI: 10.1083/jcb.201212087