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): **June 21, 2023**

DIAMEDICA THERAPEUTICS INC.

(Exact name of registrant as specified in its charter)

British Columbia, Canada	**001-36291**	**Not Applicable**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)
301 Carlson Parkway, Suite 210 Minneapolis, Minnesota		**55305**
(Address of principal executive offices)		(Zip Code)

(763) 496-5454
(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))

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Voting common shares, no par value per share	DMAC	The Nasdaq Stock Market LLC

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 7.01 Regulation FD Disclosure.

On June 21, 2023, DiaMedica Therapeutics Inc. (the "Company") made available an investor presentation in connection with its announcement that the U.S. Food and Drug Administration (the "FDA") has removed the clinical hold placed on the investigational new drug application for the Company's ReMEDy2 phase 2/3 clinical trial studying DM199 in the treatment of acute ischemic stroke (the "Investor Presentation"). The Investor Presentation is furnished as Exhibit 99.1 to this Current Report on Form 8-K and the information set forth therein is incorporated herein by reference and constitutes a part of this Item 7.01.

Representatives of the Company intend to use the Investor Presentation in connection with presentations at investor conferences, meetings and in other forums. The Company intends to disclose the information contained in the Investor Presentation, in whole or in part, and with updates and possibly modifications, in connection with presentations to investors, analysts and others and on its corporate website.

The information contained in this Current Report on Form 8-K and the exhibit hereto is summary information that is intended to be considered in the context of the Company's United States Securities and Exchange Commission (the "SEC") filings and other public announcements that the Company may make, by press release or otherwise, from time to time. The Company undertakes no duty or obligation to publicly update or revise the information contained in this report and the exhibit hereto, although it may do so from time to time as its management believes is warranted. Any such updating may be made through the filing of other reports or documents with the SEC, through press releases or through other public disclosure. By filing this report and furnishing this information, the Company makes no admission as to the materiality of any information contained in this report, including the exhibit hereto.

The information contained in this report and the exhibit hereto shall not be deemed to be "filed" with the SEC for purposes of Section 18 of the United States Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed to be incorporated by reference into any registration statement or other document filed by the Company under the United States Securities Act of 1933, as amended, or the Exchange Act, except as may be expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Investor Presentation issued by DiaMedica Therapeutics Inc. on June 21, 2023 (furnished herewith)
104	The Cover Page from this Current Report on Form 8-K, formatted in Inline XBRL

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.

DIAMEDICA THERAPEUTICS INC.

By: /s/ Scott Kellen

Scott Kellen

Chief Financial Officer and Secretary

Date: June 21, 2023

Exhibit 99.1

DiaMedica THERAPEUTICS

Corporate Presentation

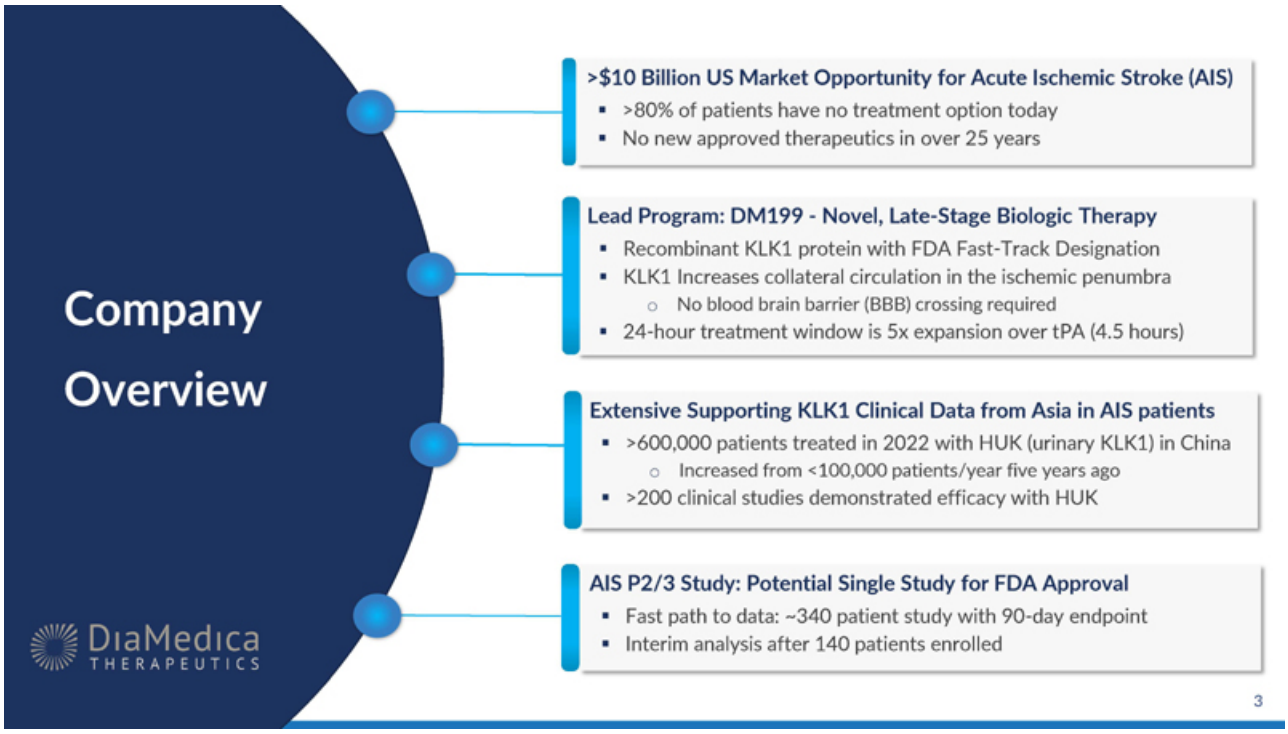
June 2023

Cautionary Note Regarding Forward-Looking Statements

This presentation contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and forward-looking information that are based on the beliefs of management and reflect management's current expectations. When used in this presentation, the words "estimate," "believe," "anticipate," "intend," "expect," "plan," "continue," "potential," "will," "may" or "should," the negative of these words or such variations thereon or comparable terminology and the use of future dates are intended to identify forward-looking statements and information.

The forward-looking statements reflect management's current plans, objectives, market opportunity and other estimates, expectations and intentions, benefits and potential of DM199 and anticipated timing of future events and involve assumptions that may never materialize of may prove to be incorrect and inherently involve significant risks and uncertainties, including factors beyond DiaMedica's control that could cause actual results, performance or achievements, or other future events, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Applicable risks and uncertainties include, among others, the risk that the Company's belief as to the cause of the hypotension events that occurred and led to the clinical hold or that its plan to resolve the issues and prevent future events may not be successful; uncertainties relating to regulatory applications and related filing and approval timelines; the possibility of additional future adverse events associated with or unfavorable results from the ReMEDy2 trial; the possibility of unfavorable results from DiaMedica's ongoing or future clinical trials of DM199; the risk that existing preclinical and clinical data may not be predictive of the results of ongoing or later clinical trials; DiaMedica's plans to develop, obtain regulatory approval for and commercialize its DM199 product candidate for the treatment of acute ischemic stroke and chronic kidney disease and its expectations regarding the benefits of DM199; DiaMedica's ability to conduct successful clinical testing of DM199 and within its anticipated parameters, enrollment numbers, costs and timeframes; the adaptive design of the ReMEDy2 trial and the possibility that the targeted enrollment and other aspects of the trial could change depending upon certain factors, including additional input from the FDA and the blinded interim analysis; the perceived benefits of DM199 over existing treatment options; the potential direct or indirect impact of COVID-19, hospital and medical facility staffing shortages, and worldwide global supply chain shortages on DiaMedica's business and clinical trials, including its ability to meet its site activation and enrollment goals; uncertainties relating to regulatory applications and related filing and approval timelines; DiaMedica's reliance on collaboration with third parties to conduct clinical trials; DiaMedica's ability to continue to obtain funding for its operations, including funding necessary to complete planned clinical trials and obtain regulatory approvals for DM199 for acute ischemic stroke and chronic kidney disease, and the risks identified under the heading "Risk Factors" in DiaMedica's annual report on Form 10-K for the fiscal year ended December 31, 2022 and subsequent U.S. Securities and Exchange Commission filings, including its most recent quarterly report on Form 10-Q for the quarterly period ended March 31, 2023, including its most recent quarterly report on Form 10-Q for the quarterly period ended March 31, 2023.

Other risk and uncertainties of which DiaMedica is not currently aware may also affect the Company's forward-looking statements and may cause actual results and the timing of events to differ materially from those anticipated. All forward-looking statements contained in this presentation speak only as of the date on which they were made and are based on management's assumptions and estimates as of such date. DiaMedica undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.


Company Overview
DiaMedica THERAPEUTICS
>$10 Billion US Market Opportunity for Acute Ischemic Stroke (AIS)
>80% of patients have no treatment option today
No new approved therapeutics in over 25 years
Lead Program: DM199 - Novel, Late-Stage Biologic Therapy
Recombinant KLK1 protein with FDA Fast-Track Designation
KLK1 Increases collateral circulation in the ischemic penumbra
No blood brain barrier (BBB) crossing required
24-hour treatment window is 5x expansion over tPA (4.5 hours)
Extensive Supporting KLK1 Clinical Data from Asia in AIS patients
>600,000 patients treated in 2022 with HUK (urinary KLK1) in China
Increased from <100,000 patients/year five years ago
>200 clinical studies demonstrated efficacy with HUK
AIS P2/3 Study: Potential Single Study for FDA Approval
Fast path to data: ~340 patient study with 90-day endpoint
Interim analysis after 140 patients enrolled
3

Recent Developments

Significantly Strengthened Senior Leadership Team

- 4 of 6 members of the senior leadership joined DiaMedica in the last 18 months
  - New Chief Medical Officer, Chief Commercial Officer, Chief Business Officer and Head of Clinical Operations

Key Leadership Experience At:

Significantly Strengthened Board of Directors

- 3 of 6 non-executive Board members joined DiaMedica in the last 18 months
  - Adds critical competencies to benefit our P2/3 study execution

Key Leadership Experience At:

FDA - Full Lift of Clinical Hold

- FDA approves full lift of the clinical hold and re-start of P2/3 study in acute ischemic stroke
  - On hold since July 2022

Key Clinical Protocol Updates:

1. Single Primary Endpoint (MRS 0-1)
2. Additional Safety Precautions

DiaMedica Pipeline

Current Focus is on AIS Pivotal Study

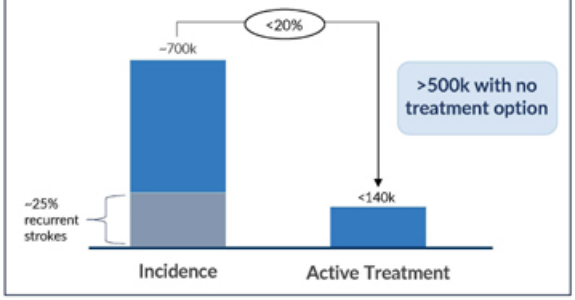
	Program	Product	Preclinical	Phase I	Phase 2	Pivotal	Milestones
Neuro	**Acute Ischemic Stroke (AIS):** Primary: Stroke Recovery (mRS 0-1) Sub-Study: Stroke Recurrence	DM199 IV/SC	ReMEDy2 Pivotal Phase 2/3				√ FDA clinical hold lifted in June 2023 √ FDA Fast Tack Designation
Cardio-Renal	Planned to be Disclosed in 2H 2023	DM199	Phase 2 Ready				To be disclosed indication in Cardio-renal
Other	Severe Inflammatory Diseases	DM300	Preclinical				Ongoing development

High Unmet Need in Acute Ischemic Stroke

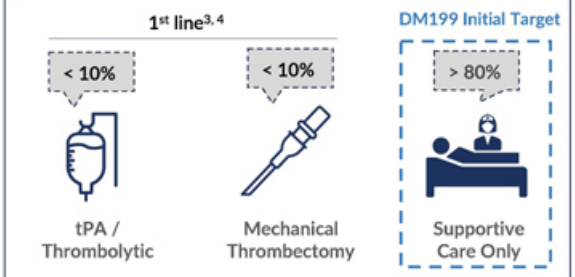
>7.5 Million Acute Ischemic Strokes Globally[5]: ~80% of Patients Have No Treatment Options

Low Treatment Rates

US Annual Acute Ischemic Strokes[1,2,3]



Limited Treatment Options



No New Pharmaceuticals Approved In Over 25 Years

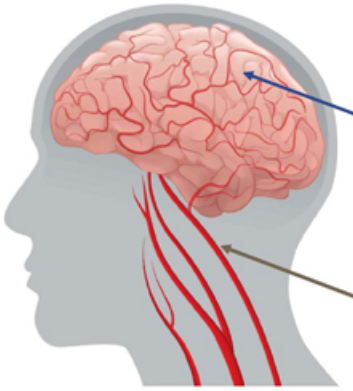
DM199 US Estimated Market Size = $10+ Billion

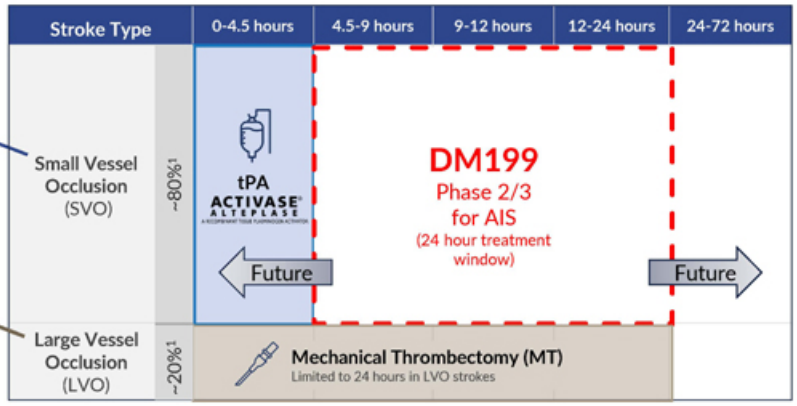
Sources: 1. Ej etc. al, American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart Disease and Stroke Statistics-2017 Update: A Report From the American Heart Association. Circulation. 2017 Mar 7;135(10):e146-e603. PMID: 28122885; 2. American Stroke Association; 3. Lastname, A. B., Lastname, C. D., & Lastname, E. F. (2013). Streamlining of prehospital stroke management: the golden hour. The Lancet Neurology, 12(6), 585-586. doi: 10.1016/S1474-4422(13)70078-5; 4. Kansagra AP, Goyal MS, Hamilton S, Albers GW. Trends in Mechanical Thrombectomy for Acute Ischemic Stroke in the United States: A Nationwide Analysis from 2012 to 2016. Stroke. 2019;50(3):570-577. doi:10.1161/STROKEAHA.118.023600; 5. World Stroke Organization Global Fact Sheet 2022

DM199 Initial Target in AIS – Significant Whitespace Opportunity

>500K Patients in the US with No Treatment Option

- The 4.5-hour time window for tPA treatment significantly limits patient eligibility
- 92%[1] of patients can reach the hospital emergency department within 24 hours



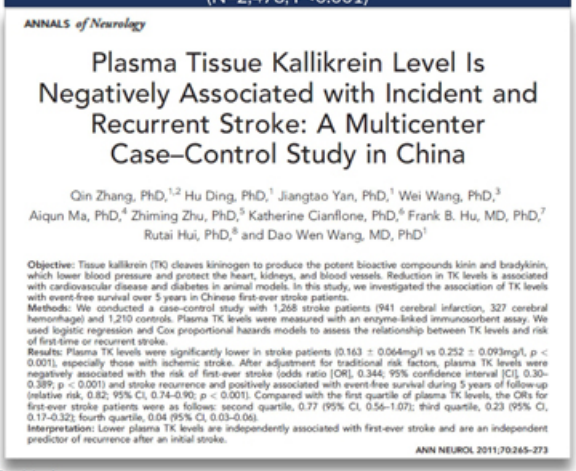


1. Market research conducted by SyneosOne in 2020 and *Journal of Stroke and Cerebrovascular Diseases*, Volume 29, Issue 2, February 2020.

Low KLK1 Levels Independently Associated With AIS Incidence & Poor Outcomes

DM199 Pharmacological Approach is to Increase KLK1 Levels to Treat & Prevent Recurrent Stroke

Low KLK1 Levels Independently Associated with First Stroke and Predictor of Recurrent Stroke
(N=2,478, P<0.001)



ANNALS *of Neurology*

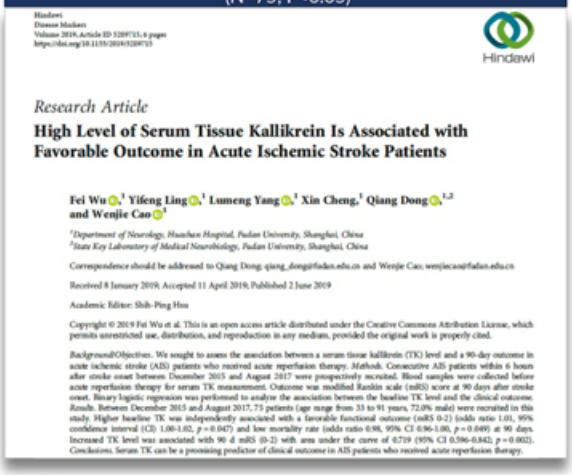
Plasma Tissue Kallikrein Level Is Negatively Associated with Incident and Recurrent Stroke: A Multicenter Case–Control Study in China

Qin Zhang, PhD,[1,2] Hu Ding, PhD,[1] Jiangtao Yan, PhD,[1] Wei Wang, PhD,[3] Aiqun Ma, PhD,[4] Zhiming Zhu, PhD,[5] Katherine Cianflone, PhD,[6] Frank B. Hu, MD, PhD,[7] Rutai Hui, PhD,[8] and Dao Wen Wang, MD, PhD[1]

Objective: Tissue kallikrein (TK) cleaves kininogen to produce the potent bioactive compounds kinin and bradykinin, which lower blood pressure and protect the heart, kidneys, and blood vessels. Reduction in TK levels is associated with cardiovascular disease and diabetes in animal models. In this study, we investigated the association of TK levels with event-free survival over 5 years in Chinese first-ever stroke patients.
Methods: We conducted a case-control study with 1,268 stroke patients (941 cerebral infarction, 327 cerebral hemorrhage) and 1,210 controls. Plasma TK levels were measured with an enzyme-linked immunosorbent assay. We used logistic regression and Cox proportional hazards models to assess the relationship between TK levels and risk of first-time or recurrent stroke.
Results: Plasma TK levels were significantly lower in stroke patients (0.163 ± 0.064mg/l vs 0.252 ± 0.093mg/l, $p < 0.001$), especially those with ischemic stroke. After adjustment for traditional risk factors, plasma TK levels were negatively associated with the risk of first-ever stroke (odds ratio [OR], 0.344; 95% confidence interval [CI], 0.30–0.389; $p < 0.001$) and stroke recurrence and positively associated with event-free survival during 5 years of follow-up (relative risk, 0.82; 95% CI, 0.74–0.90; $p < 0.001$). Compared with the first quartile of plasma TK levels, the ORs for first-ever stroke patients were as follows: second quartile, 0.77 (95% CI, 0.56–1.07); third quartile, 0.23 (95% CI, 0.17–0.32); fourth quartile, 0.04 (95% CI, 0.03–0.06).
Interpretation: Lower plasma TK levels are independently associated with first-ever stroke and are an independent predictor of recurrence after an initial stroke.

ANN NEUROL 2011;70:265–273

AIS Patients with Unfavorable Outcomes & Death Had 80% Lower KLK1 on Average
(N=75; P<0.05)



Hindawi
Disease Markers
Volume 2019, Article ID 5289715, 6 pages
https://doi.org/10.1155/2019/5289715

Hindawi

Research Article

High Level of Serum Tissue Kallikrein Is Associated with Favorable Outcome in Acute Ischemic Stroke Patients

Fei Wu, Yifeng Ling, Lumeng Yang, Xin Cheng, Qiang Dong, and Wenjie Cao

[1]*Department of Neurology, Huashan Hospital, Fudan University, Shanghai, China*
[2]*State Key Laboratory of Medical Neurobiology, Fudan University, Shanghai, China*

Correspondence should be addressed to Qiang Dong; qiang_dong@fudan.edu.cn and Wenjie Cao; wenjiecao@fudan.edu.cn

Received 8 January 2019; Accepted 11 April 2019; Published 2 June 2019

Academic Editor: Shih-Ping Hsu

Background/Objectives. We sought to assess the association between a serum tissue kallikrein (TK) level and a 90-day outcome in acute ischemic stroke (AIS) patients who received acute reperfusion therapy. *Methods.* Consecutive AIS patients within 6 hours after stroke onset between December 2015 and August 2017 were prospectively recruited. Blood samples were collected before acute reperfusion therapy for serum TK measurement. Outcome was modified Rankin scale (mRS) score at 90 days after stroke onset. Binary logistic regression was performed to analyze the association between the baseline TK level and the clinical outcome. *Results.* Between December 2015 and August 2017, 75 patients (age range from 33 to 91 years, 72.0% male) were recruited in this study. Higher baseline TK was independently associated with a favorable functional outcome (mRS 0-2) (odds ratio 1.01, 95% confidence interval (CI) 1.00-1.02, $p = 0.047$) and low mortality rate (odds ratio 0.98, 95% CI 0.96-1.00, $p = 0.049$) at 90 days. Increased TK level was associated with 90 d mRS (0-2) with area under the curve of 0.719 (95% CI 0.596-0.842; $p = 0.002$). *Conclusions.* Serum TK can be a promising predictor of clinical outcome in AIS patients who received acute reperfusion therapy.

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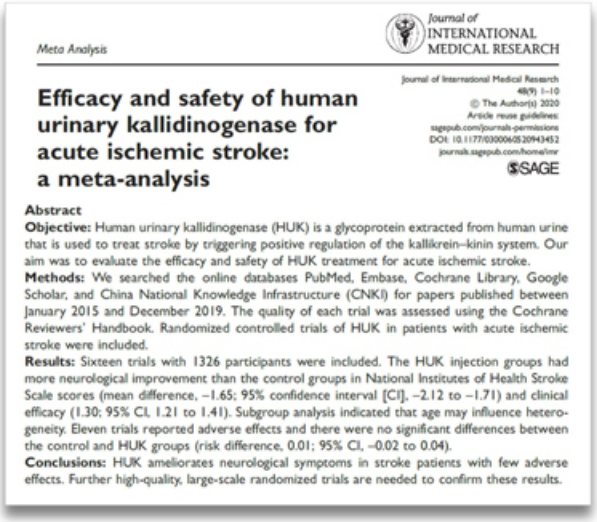
1. *Annals of Neurology* (2011) 70:265-73; https://onlinelibrary.wiley.com/doi/abs/10.1002/ana.22404
2. *Disease Markers* (2019) Volume 2019, Article 5289715; https://doi.org/10.1155/2019/5289715

Human Urinary KLK1 (HUK): Safe and Efficacious Treatment For AIS

Standard of Care in China: >600k AIS patients Treated in 2022

- **HUK for AIS:**
  - Marketed by Shanghai Pharmaceuticals under Kailikang®.
  - Ameliorates neurological symptoms with few adverse events.[1]
- **>600,000 AIS patients treated in China (2022)**
  - Up from <100,000 patients/year five years ago
  - Included in National Basic Medical Insurance in 2020.[2]
- **>200 clinical studies demonstrating efficacy including:**
  - Improved stroke patient outcomes - NIHSS, mRS and BI.
  - MRI Imaging: ↑ blood flow, ↑ blood vessels, ↓ischemia in the penumbra and ↓ infarct size.
  - Reduced stroke recurrence.



Meta Analysis

Journal of INTERNATIONAL MEDICAL RESEARCH

Efficacy and safety of human urinary kallidinogenase for acute ischemic stroke: a meta-analysis

Journal of International Medical Research
48(9) 1–10
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DOI: 10.1177/0300060520943452
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Abstract

Objective: Human urinary kallidinogenase (HUK) is a glycoprotein extracted from human urine that is used to treat stroke by triggering positive regulation of the kallikrein–kinin system. Our aim was to evaluate the efficacy and safety of HUK treatment for acute ischemic stroke.

Methods: We searched the online databases PubMed, Embase, Cochrane Library, Google Scholar, and China National Knowledge Infrastructure (CNKI) for papers published between January 2015 and December 2019. The quality of each trial was assessed using the Cochrane Reviewers' Handbook. Randomized controlled trials of HUK in patients with acute ischemic stroke were included.

Results: Sixteen trials with 1326 participants were included. The HUK injection groups had more neurological improvement than the control groups in National Institutes of Health Stroke Scale scores (mean difference, −1.65; 95% confidence interval [CI], −2.12 to −1.71) and clinical efficacy (1.30; 95% CI, 1.21 to 1.41). Subgroup analysis indicated that age may influence heterogeneity. Eleven trials reported adverse effects and there were no significant differences between the control and HUK groups (risk difference, 0.01; 95% CI, −0.02 to 0.04).

Conclusions: HUK ameliorates neurological symptoms in stroke patients with few adverse effects. Further high-quality, large-scale randomized trials are needed to confirm these results.

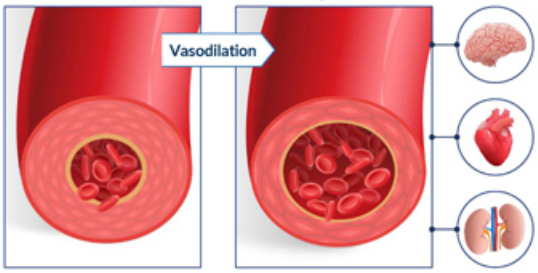
DiaMedica THERAPEUTICS

1. *Journal of International Medical Research*, 48(9) 1–10, 2020; https://journals.sagepub.com/doi/full/10.1177/0300060520943452
2. Shanghai Pharma/Techpool website: http://www.techpool.com.cn/press/r/5ddf3ed2535416541805af75

DM199 Novel Mechanism of Action (MOA)

Local Vasodilation in Stroke and Other Vascular Diseases

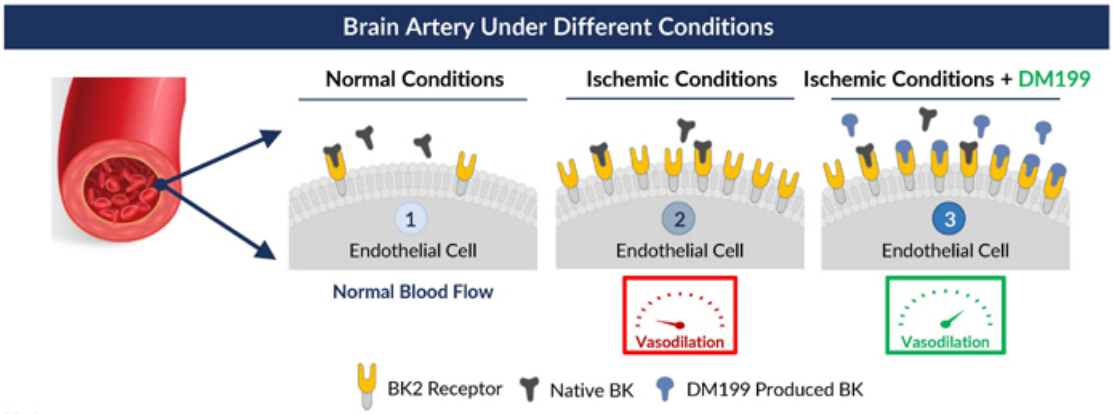
- KLK1 is made predominately in kidneys (present also in the vasculature and brain) and circulates in the blood.
- DM199 (recombinant KLK1) acts on low molecular weight kininogen to produce lys-bradykinin.
- KLK1 is the main lys-bradykinin forming enzyme within organs and blood vessels during resting conditions.[1]
  - ACE is the main kinin-inactivating enzyme in the circulation.
- Lys-bradykinin binds to bradykinin receptors (BK2) on arterial endothelium to release nitric oxide (NO) & prostaglandins (PG).
- Increased NO and PG via cGMP and cAMP, respectively, relax arterial smooth muscle cells driving vasodilation.



1. *Journal of Personalized Medicine*, 9(1), 16. Marin et al. (2019). Kallikrein/K1, Kinins, and ACE/Kininase II in Homeostasis and in Disease Insight From Human and Experimental Genetic Studies, Therapeutic Implication.

Ischemia Naturally Induces Upregulation of Bradykinin2 (BK2) Receptors

1. The BK2 receptor plays a critical role in regulating vascular tone and blood pressure under normal conditions.
2. In response to ischemic conditions, the BK2 receptors are upregulated in affected tissues, including the brain.[1]
3. DM199 (recombinant KLK1) produces Bradykinin (BK) which activates the upregulated BK2 receptors in the affected arteries (ischemic penumbra), improving collateral circulation to increase blood flow and oxygenation to the ischemic penumbra.



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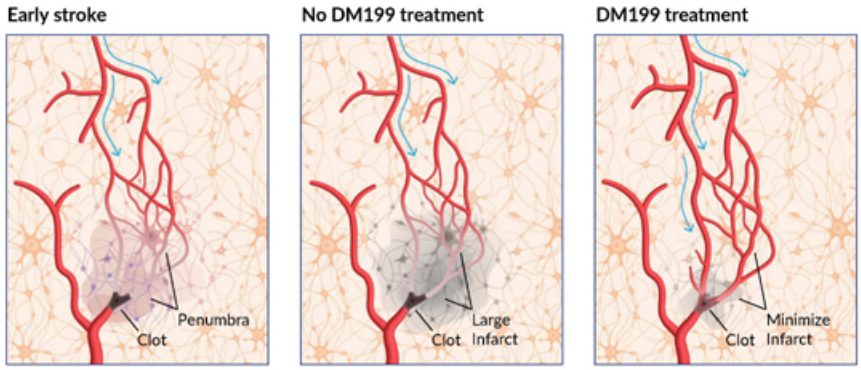
1. PLOS ONE, June 18, 2018; https://doi.org/10.1371/journal.pone.0198553

DM199 MOA: Improve Collateral Circulation in Acute Ischemic Stroke

Novel Mechanism With Potential to Improve Stroke Outcomes & Reduce Risk of Stroke Recurrence

DM199 does **not** need to pass the blood-brain-barrier to deliver therapeutic benefit.

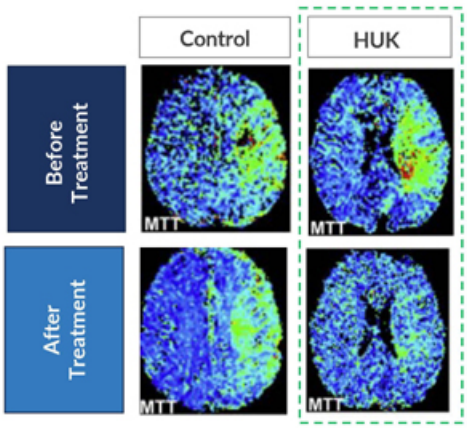
DM199 facilitates release of endothelial nitric oxide and prostaglandins to selectively vasodilate arteries in the ischemic penumbra and increase collateral blood flow.



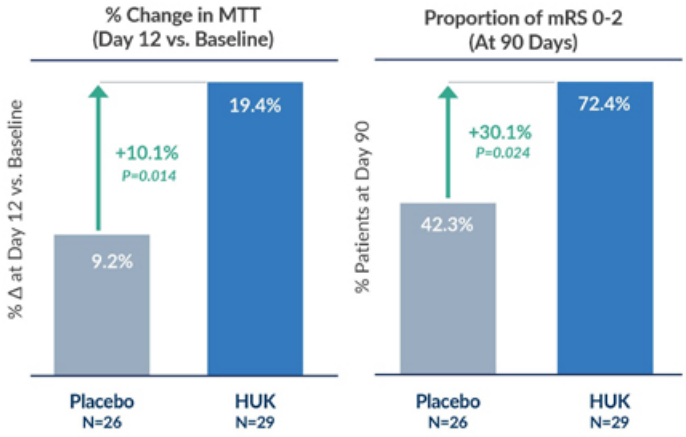
- **Improve stroke outcomes** – save cerebral tissue in the ischemic penumbra reducing the size and impact of the stroke
- **Reduce risk of stroke recurrence** – improved collateral blood flow reduces the risk of arterial re-occlusion (stroke)

Human Urinary KLK1 (HUK) Improved Cerebral Blood Flow and Patient Outcomes

MTT (Mean Transit Time) Assesses Blood Flow Velocity in the Brain of AIS Patients



Representative reperfusion MR images of 1 control patient and 1 HUK-treated patient



Improved relative MTT associated with favorable functional outcome OR=0.483 95% CI (0.243-0.960) p=0.038[1]

DiaMedica THERAPEUTICS

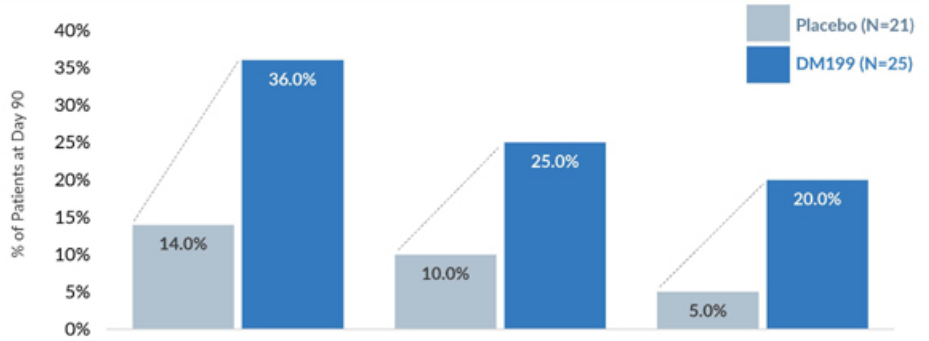
Journal of Stroke and Cerebrovascular Diseases, Vol. 24, No. 8 (August), 2015: pp 1730-1737

1 based on univariate regression analysis per 20% improvement

DM199 P2 AIS Study: Outcomes Improved In Sub-Group Excluding MT

Population More Closely Aligns with Ongoing Pivotal P2/3 Study and HUK Use in China

Excellent Outcomes at 90 Days[1]



	NIHSS ≤1	mRS ≤1	mRS ≤1; NIHSS ≤1; BI>95
Relative Increase	157%	150%	300%
Absolute Increase	22%	15%	15%

MT – Mechanical Thrombectomy
NIHSS – National Institute of Health Stroke Scale
mRS – Modified Rankin Scale
BI – Barthel Index

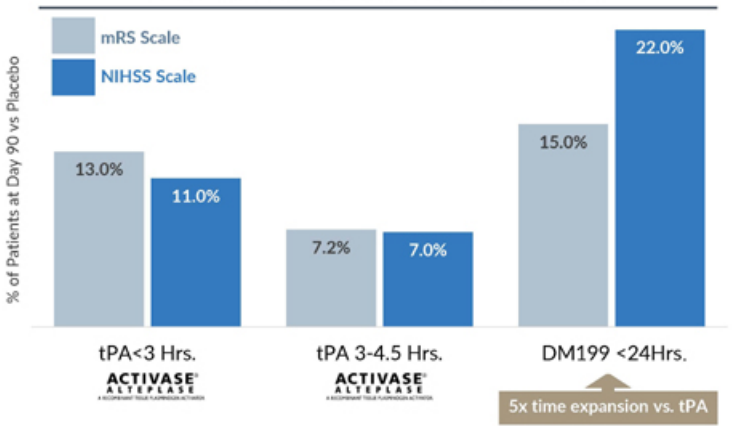
1. See appendix slide 25 for more information on mRS scale and disability levels

DM199 P2 Study Shows Potential for Best-in-Class Improvement in AIS Outcomes

DM199 Exceeded Clinical Efficacy Bar Established By tPA With 24-Hour Treatment Window

- **tPA** (Activase®) approved in 1996 for AIS
  - Short 4.5-hour treatment window with greatest efficacy at <3 hours.
  - ↑ 5.8% intracranial hemorrhage (P=0.008; Phase 3).
  - Despite its limitations, tPA is the standard of care and generated $1.2+ billion in global sales for AIS in 2017[3] (US patent expired in 2015).
- No FDA approved therapeutics since tPA
- HUK (**Kailikang®**) improvement in excellent outcomes studies comparable to **DM199** P2 study

Comparison of Improvements in % of Patients with Excellent Outcomes (NIHSS ≤1 and mRS ≤1) vs Placebo
(DM199 Analysis Excludes MT Treated Patients)



1. New England Journal Med 1995; 333:1581-1588; and N Engl J Med 2008 Sep 25;359(13):1317-2; associated with 5.8% absolute increase in intracranial hemorrhage, Phase 3 N=333
2. New England Journal Med 2008 Sep 25;359(13):1317-2; associated with 9.4% absolute increase in intracranial hemorrhage, N=821
3. Globaldata report July 2018: Acute Ischemic Stroke: Global Drug Forecast and Market Analysis to 2027

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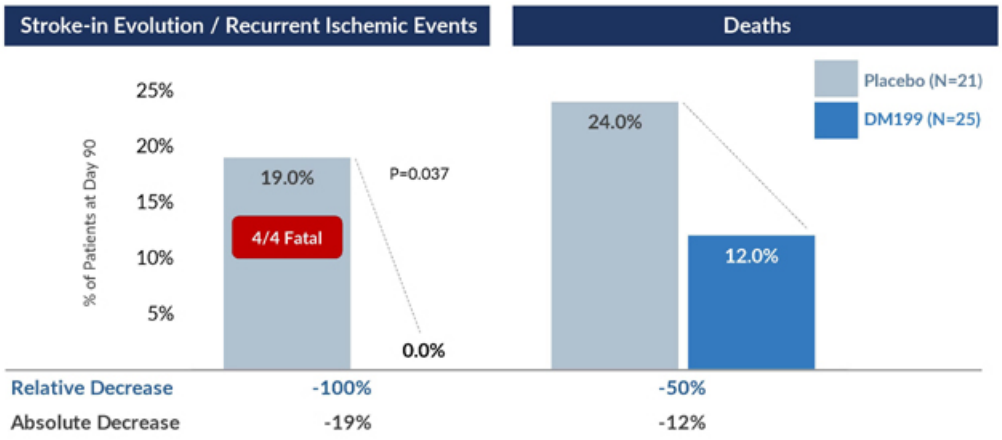
DM199 P2 AIS Study: Recurrence & Death Reduced In Sub-Group Excluding MT

Population More Closely Aligns with Ongoing Pivotal P2/3 Study and Use of HUK in China



ReMEDy2 DM199 P2/3 AIS Study Adaptations Based on Phase 2 Findings

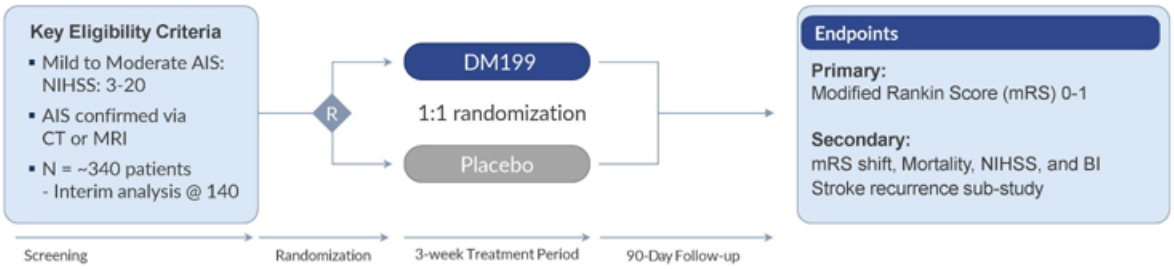
Aligning Study Population To Best Efficacy Signal Observed In Phase 2 & HUK-Treated Population

- Believe the greatest clinical benefit will be observed in patients who do not receive mechanical thrombectomy (MT) and/or tPA.
- Excluding MT/tPA does not significantly erode the commercial opportunity since less than 20% of patients receive these treatments.

	Observations and Rationale
Exclude: MT	◦ No observed efficacy improvement in DM199 phase 2 AIS mechanical thrombectomy sub-group • Genentech's P3 TIMELESS study of Tenecteplase (tPA) also showed no improvement in MT patients (May 2023) ◦ Once clot is physically removed via catheter, blood flow is re-established, and outcomes are favorable
Exclude: tPA	◦ Greater DM199 treatment effect observed in supportive care vs. tPA in DM199 phase 2 • 42% of patients in DM199 supportive care sub-group had NIHSS ≤1 despite higher baseline scores v. placebo ◦ Future potential DM199 label expansion as an adjunct therapy to tPA
Reduce Baseline Stroke Severity:	◦ Greater DM199 treatment effect vs placebo in less severe strokes. ◦ Lowered NIHSS baseline inclusion range from 6–25 to 3–20 ◦ Randomization mechanism to harmonize baseline characteristics between placebo and DM199

ReMEDy2 DM199 Pivotal P2/3 Study Design

With Interim Analysis to Manage Statistical Powering



Exclusion Criteria

- Hemorrhagic stroke
- Large vessel occlusion stroke (ASPECT score <5 or infarct >3cm)
- Mechanical thrombectomy
- tPA (Activase®)

Treatment: 24-hour Window

- 1st IV dose within 24-hours of stroke
  - DM199 IV (0.5 µg/kg) or placebo
- 3-weeks SC treatment, 2x week
  - DM199 SC (3 µg/kg) or placebo

DSMB* Interim Analysis (IA)

- IA after 140 participants complete study:
  1. Stop study for futility
  2. Stop study for overwhelming efficacy
  3. Continue with sample size re-estimation (240 – 728 patients)
- DiaMedica remains blinded to data

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*Data Safety Monitoring Board (DSMB)

Corporate Summary

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DM199 Multi-layered IP Position and Potential for Regulatory Exclusivity

Key manufacturing challenges solved: protein activity, stability and economical scale

Protein Development

DiaMedica overcame challenges in recombinant KLK1 protein manufacturing

- Glycosylation is critical for optimal activity
  - Identified correct configuration of high & low molecular weight glycoforms
- Manufacturing process
- 5+ companies unsuccessful in moving recombinant KLK1 proteins to clinic

Patents and Trade Secrets

Patents

- **Composition of matter**
  Issued US/EU (2033)[1]
- **Dosing, route of delivery and formulation**
  - Pending global (2038)
- **Subcutaneous and improved PK**
  - Issued US/EU (2033)

Trade Secrets

- Manufacturing process

Regulatory Exclusivity - Biologics

- FDA: up to 12 years
- EMA: up to 10 years
- Japan: up to 8 years

Manufacturing

- Commercial scale
- High-efficiency / high-expressing production based on proprietary high expressing cell line technology
- Exclusivity for production of KLK1
- Highly stable drug substance with long shelf life
  - 1 year at 25°C and
    3 years at 2-8°C completed

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1. Eligible for regulatory patent term extension up to five years

Leadership

Rick Pauls
President & CEO
CEO of DiaMedica since 2010. Former venture capitalist with two funds, including co-founder and managing director of life sciences fund and early investor in DMAC.

Scott Kellen, CPA
Chief Financial Officer
25+ years in life sciences industry. CPA (inactive), held senior leadership roles including CFO and COO for several private & pubic (Nasdaq) companies.

Kirsten Gruis, M.D.
Chief Medical Officer
20+ years experience. Neurologist, former head of Roche neuro division, former CMO of several neurological biotech's, senior clinical development roles at Wave Life Sciences, Idera Pharma, Alnylam Pharma and Pfizer.

Dominic Cundari
Chief Commercial Officer
30+ years pharma experience. Led product launches with tPA (Activase®) for acute ischemic stroke and Lucentis® for retinal diseases at Genentech.

David Wambeke
Chief Business Officer
15+ years life sciences / biotech investment banking experience. Completed more than 100 financings and M&A transactions. US Army Purple Heart Recipient.

Julie Daves, MSHS, CCRP
SVP Clinical Development Operations
20 years clinical operations experience. Led clinical teams in both early & late phases including Sanifit (Vifor) and Array BioPharma (Pfizer).

Board of Directors

Richard Pilnik
Chairman of the Board
30+ years in executive commercial roles at Lilly, Quintiles. President Vigor Medical Services.

Michael Giuffre, M.D.
Clinical Professor of Cardiac Sciences and Pediatrics at University of Calgary. CSO, COB of FoodCheck Systems, Inc.

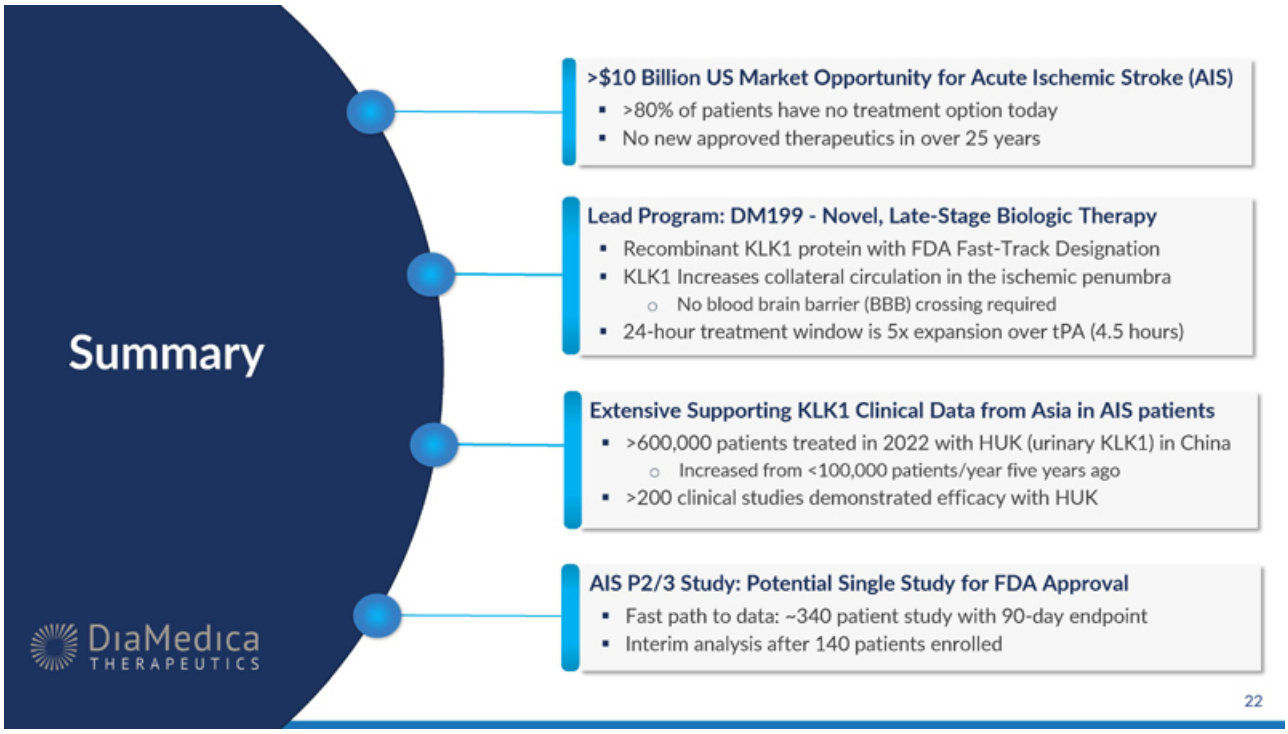
Richard Kuntz, M.D., M.Sc.
25+ years in life sciences most recently serving as Chief Medical Officer and Chief Scientific Officer for Medtronic where he held the position for over a decade.

Tanya Lewis
25+ years in regulatory drug development experience including approvals of five drugs. Most recently Chief Development Operations Officer at Replimune.

James Parsons
20+ years as a life sciences CFO for several companies. Former CFO Trillium Therapeutics (Acquired by Pfizer for ~$2.2B).

Rick Pauls
See Leadership for details.

Charles Semba, M.D.
20+ years drug development experience at Genentech where he led development of Activase® and Lucentis®, Shire, ForSight VISION5, and Graybug. Currently CMO of Eluminex.


Summary
>$10 Billion US Market Opportunity for Acute Ischemic Stroke (AIS)
>80% of patients have no treatment option today
No new approved therapeutics in over 25 years
Lead Program: DM199 - Novel, Late-Stage Biologic Therapy
Recombinant KLK1 protein with FDA Fast-Track Designation
KLK1 Increases collateral circulation in the ischemic penumbra
No blood brain barrier (BBB) crossing required
24-hour treatment window is 5x expansion over tPA (4.5 hours)
Extensive Supporting KLK1 Clinical Data from Asia in AIS patients
>600,000 patients treated in 2022 with HUK (urinary KLK1) in China
Increased from <100,000 patients/year five years ago
>200 clinical studies demonstrated efficacy with HUK
AIS P2/3 Study: Potential Single Study for FDA Approval
Fast path to data: ~340 patient study with 90-day endpoint
Interim analysis after 140 patients enrolled
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Thank you!

NASDAQ: DMAC

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Appendix

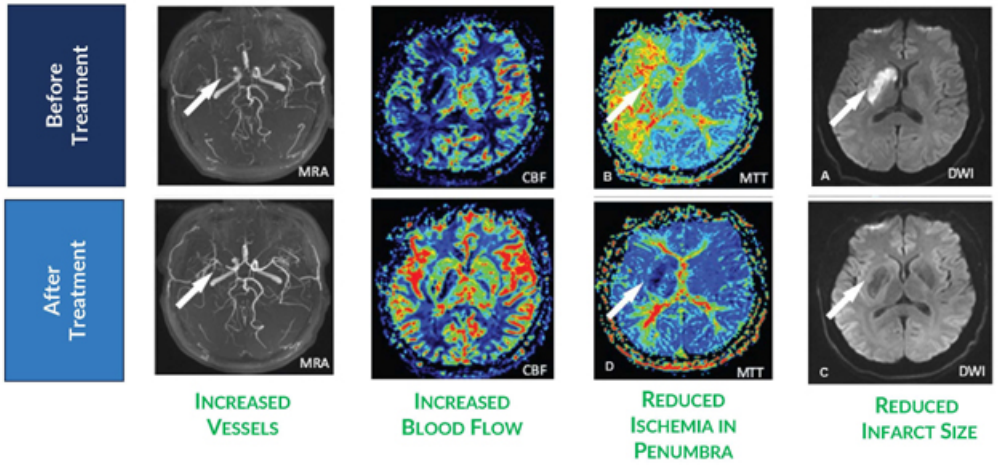
Modified Rankin Scale (mRS) Assesses the Level of Disability

ReMEDy2

Primary endpoint

Human Urinary KLK1 (HUK) Increased Collateral Blood Flow After Stroke

Magnetic Resonance Imaging (MRI) Confirmed Improved Blood Flow after Day 14 Days Treatment



INCREASED VESSELS | INCREASED BLOOD FLOW | REDUCED ISCHEMIA IN PENUMBRA | REDUCED INFARCT SIZE

Taken together the MR imaging findings demonstrate HUK/KLK1, via focal arterial vasodilation, can increase collateral blood flow specifically to the area of brain affected by an acute ischemic stroke

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Mia et all, Neurosciences 2016; Vol. 21 (2)