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Faculty of Medicine

Files



Preview	Filename	Size
<input type="checkbox"/>	<b>Archive Merk Free Neuropathology 2024.tgz</b> <small>md5:7d8100d591f54a67bd3b5db337ba0252</small>	8.50 GiB

You must create a new version to add, modify or delete files.



New version

Basic information



Digital Object Identifier \*

Do you already have a DOI for this upload?  Yes  No

10.57754/FDAT.wdmtm-yxh04

Reserve a DOI by pressing the button (so it can be included in files prior to upload). The DOI is registered when your upload is published.

Resource type \*

Dataset

Title \*

Blocking TGF-β- and Epithelial-to-Mesenchymal Transition (EMT)-mediated activation of vessel-associated mural cells in glioblastoma impacts tumor angiogenesis

+ Add titles

Publication date \*

2024-03-01

In case your upload was already published elsewhere, please use the date of the first publication. Format: YYYY-MM-DD, YYYY-MM, or YYYY. For intervals use DATE/DATE, e.g. 1939/1945.

Creators \*

Naumann, Ulrike (Hertie Institute for Clinical Brain Research)

Edit

Remove

+ Add creator

Description

Paragraph **B** *I*

Supplementary information to the journal paper <https://doi.org/10.17879/freeneuropathology-2024-5188>.

Additional Description \*

Paragraph B I

Glioblastoma (GBM) is the most common malignant primary brain tumor in adults. GBM displays excessive and unfunctional vascularization which may, among others, be a reason for its devastating prognosis. Pericytes have been identified as the major component of the irregular vessel structure in GBM. In vitro data suggest an epithelial-to-mesenchymal transition (EMT)-like activation of glioma-associated pericytes, stimulated by GBM-secreted TGF- $\beta$ , to be involved in the formation of a chaotic and dysfunctional tumor vasculature. This study investigated whether TGF- $\beta$  impacts the function of vessel associated mural cells (VAMCs) in vivo via the induction of the EMT transcription factor SLUG and whether this is associated with the development of GBM-associated vascular abnormalities. Upon preventing the TGF- $\beta$ /SLUG-mediated EMT induction in VAMCs, the number of PDGFR $\beta$  and  $\alpha$ SMA positive cells was significantly reduced, regardless of whether TGF- $\beta$  secretion by GBM cells was blocked or whether SLUG was specifically knocked out in VAMCs. The reduced amount of PDGFR $\beta$ + or  $\alpha$ SMA+ cells observed under those conditions correlated with a lower vessel density and fewer vascular abnormalities. Our data provide evidence that the SLUG-mediated modulation of VAMC activity is induced by GBM-secreted TGF- $\beta$  and that activated VAMCs are key contributors in neo-angiogenic processes. We suggest that a pathologically altered activation of GA-Peris in the tumor microenvironment is responsible for the unstructured tumor vasculature. There is emerging evidence that vessel normalization alleviates tumor hypoxia, reduces tumor-associated edema and improves drug delivery. Therefore, avoiding the generation of an unstructured and non-functional tumor vasculature during tumor recurrence might be a promising treatment approach for GBM and identifies pericytes as a potential novel therapeutic target.



Type \*

Abstract ▼

Language

English ✕

+ Add description

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Edit

Remove

+ Add standard + Add custom

Recommended information ▼

Contributors

Hertie Institute for Clinical Brain Research (Hertie Institute for Clinical Brain Research) Hosting institution

Edit

Remove

+ Add contributor

Subjects

Suggest from All ▼ neuroscience ✕ medical sciences ✕ ✕

Languages

English ✕ ✕

Dates

Format: DATE or DATE/DATE where DATE is YYYY or YYYY-MM or YYYY-MM-DD.

+ Add date

Version

Mostly relevant for software and dataset uploads. A semantic version string is preferred see [semver.org](https://semver.org), but any version string is accepted.

Publisher

University of Tübingen

The publisher is used to formulate the citation, so consider the prominence of the role.

Funding



**Awards**

+ Add award + Add custom

Alternate identifiers



**Alternate identifiers**

+ Add identifier

Related works



Specify identifiers of related works. Supported identifiers include DOI, Handle, ARK, PURL, ISSN, ISBN, PubMed ID, PubMed Central ID, ADS Bibliographic Code, arXiv, Life Science Identifiers (LSID), EAN-13, ISTC, URNs, and URLs.

**Related works**

Published

Save draft

Preview

Publish

Name \*

Resource type

DOI Data paper

Data quality



**Visibility \***

Full record

Public

Restricted

Files only

Public

Restricted



**Public**

The record and files are publicly accessible.

intended attribute of a concept or event in a specific context of use.

**Options**

Apply an embargo   
Record or files protection must be **restricted** to apply an embargo.

Discard changes

attributes and related entity instances in a specific context or use.

**Conformity**

Paragraph **B** *I*

not specified

The degree to which the data has attributes that adhere to standards, conventions or regulations in force and similar rules relating to data quality in a specific context of use.

**Consistency**

Paragraph  **B** *I*

not specified

The degree to which the data has attributes that are free from contradiction and are coherent with other data in a specific context of use.

**Credibility**

Paragraph  **B** *I*

not specified

The degree to which the data has attributes that are regarded as true and believable by users in a specific context of use.

**Processability**

Paragraph  **B** *I*

not specified

The degree to which the data is machine interpretable and can be understood and handled by automated processes.

**Relevance**

Paragraph  **B** *I*

not specified

The degree to which the data is helpful and applicable, and contains the information necessary in a specific context of use.

**Timeliness**

Paragraph  **B** *I*

not specified

The degree to which the data has attributes that is of the right age in a specific context of use.

**Understandability**


Paragraph  **B** *I*

not specified

The degree to which the data has attributes that enable it to be read and interpreted by users, and are expressed in appropriate languages, symbols and units in a specific context of use.

Dataset description  **Aggregation method**

The process of collecting and combining data from multiple sources into a single, unified dataset.

 **Analysis unit**


Describes the entity being analyzed in the study or in the variable.

 **Character set**

The default character set on which the encoding is based.

 **Data File format**

The way in which information is encoded in a digital file.

 **Data source type**


The format or structure of the data that is being used as a source.

 **Data type**

Identifies the type of data, which has a bearing on the acceptable data values, the operations that can be performed with the data, and the ways in which the data are stored. The list is based on the W3C data types, and includes the terms relevant for documenting research data.

 **Date type**

Specifies the type of date, based on ISO 8601.

 **General data format**

Describes the physical format(s) of the data documented in the logical product(s) of a study unit.

 **Lifecycle event type**


Specifies the event happening over the data life cycle that is considered significant enough to document.

 **Mode of collection**

The procedure, technique, or mode of inquiry used to attain the data.

 **Numeric type**

Specifies the type of numeric data.

 **Sampling procedure**

[Empty text input field]

Includes a typology of sampling methods.

**Software package**

[Empty dropdown menu]

Indicates the statistical software package used in the production/processing/dissemination of the data. Data collection software is not covered in this list.

**Summary statistic type**

[Empty dropdown menu]

Specifies a single number representation of the characteristics of a set of values.

**Time method**

[Empty dropdown menu]

Describes the time dimension of the data collection.

**Time zone**

[Empty dropdown menu]

The time zone specification as an offset from UTC (Coordinated Universal Time) in terms of hours and minutes.

**Type of frequency**

[Empty dropdown menu]

Indicates the frequency of data collection events.

**Type of instrument**

[Empty dropdown menu]

Includes a typology of data collection instruments.

Software documentation



**Application category**

[Empty dropdown menu]

The type of software application.

**Build instructions**

Paragraph [B I link list ul list ol list left align right align image quote table video undo redo]

Installation instructions/documentation.

**Code repository**

https://your.repository.url

A link to the repository where the un-compiled, human readable code and related code is located.

**Copyright holder**

[Empty text input field]

The party holding the legal copyright to the creative work.

© Copyright year

The year during which the claimed copyright for the creative work was first asserted.

⚙️ Development status

A designation of the development status.

📄 Download URL

A URL to the binaries, if the software can be downloaded.

🔒 Is accessible for free  Yes  No

A flag to signal that the reference publication is accessible for free.

🐛 Issue tracker

A link to a software bug reporting or issue tracking system.

🔑 Maintainer

The individual responsible for maintaining the software. Provide an ORCID ID.

📊 Memory requirements

The minimum memory requirements (in gigabytes) for the application.

🖥️ Operating system

Operating systems supported.

🛡️ Permissions

The permission(s) required to run the application (e.g. a mobile app may require full internet access or may run only on wifi).

🔗 Programming language

The computer programming languages used.

📄 Reference publication

Academic publication(s) related to the software.

☰ Software requirements

A list of required software dependencies (e.g. PHP 7.2 and MySQL 5.0).

📄 Software suggestions

Paragraph  **B** *I*

Optional dependencies (e.g. for optional features, code development, etc.).

**Storage requirements**

The amount of free space (in gigabytes) required for the application.

**Supporting data**

Paragraph B *I*

Supporting data for the software application.

**README**

Paragraph B *I*

Information about all the files that make up the application.

**Release notes**

Paragraph B *I*

A description of the changes in this version of the application.

Subject specific terms



**Academic terms**


Vocabulary source: doi.org/10.2307/3587951

**Art & Archaeological sciences**


Vocabulary source: doi.org/10.25504/FAIRsharing.Nlvbz9

**Computer sciences**


Vocabulary source: doi.org/10.1016/j.jeap.2021.101044

 Cultural time periods

Vocabulary source: [vocabs.acdh.oeaw.ac.at/oeai-cultural-periods](https://vocabs.acdh.oeaw.ac.at/oeai-cultural-periods)

 Digital Humanities


Vocabulary source: [doi.org/10.5283/epub.44951](https://doi.org/10.5283/epub.44951)

 Earth sciences


Vocabulary source: [dx.doi.org/10.13143/lotr.7743](https://dx.doi.org/10.13143/lotr.7743)

 Economic and Developmental statistical terms


Vocabulary source: [doi.org/10.1787/9789264055087-en](https://doi.org/10.1787/9789264055087-en)

 Economic sciences

Vocabulary source: [doi.org/10.25504/FAIRsharing.f21eae](https://doi.org/10.25504/FAIRsharing.f21eae)

 Educational sciences


Vocabulary source: [dx.doi.org/10.13143/lotr.8102](https://dx.doi.org/10.13143/lotr.8102)

 Ethnological sciences


Vocabulary source: [doi.org/10.25504/FAIRsharing.2ZShyL](https://doi.org/10.25504/FAIRsharing.2ZShyL)

 Geographic place types

Vocabulary source: [doi.org/10.5281/zenodo.2671619](https://doi.org/10.5281/zenodo.2671619)

 History & Sciences of Religions


Vocabulary source: [doi.org/10.25504/FAIRsharing.XfpPv7](https://doi.org/10.25504/FAIRsharing.XfpPv7)

 History of Science & Technology


Vocabulary source: [dx.doi.org/10.13143/lotr.6994](https://dx.doi.org/10.13143/lotr.6994)

 Linguistic sciences


Vocabulary source: [dx.doi.org/10.13143/lotr.6135](https://dx.doi.org/10.13143/lotr.6135)

 Literary sciences

Vocabulary source: [dx.doi.org/10.13143/lotr.7763](https://dx.doi.org/10.13143/lotr.7763)

 Multidisciplinary sciences

Vocabulary source: doi.org/10.25504/FAIRsharing.81dc5f

 **Multidisciplinary Social sciences**


Vocabulary source: doi.org/10.25504/FAIRsharing.d9ea1b

 **Philosophical sciences**

Vocabulary source: doi.org/10.25504/FAIRsharing.YovxU6

 **Prehistoric & Protohistoric sciences**

Vocabulary source: doi.org/10.25504/FAIRsharing.2QpmkQ

 **Social sciences**

Vocabulary source: doi.org/10.25504/FAIRsharing.8DrzMv

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