



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

## PILOT STUDY TO ASSESS EXPRESSION OF 14 MICRORNAS IN CEREBROSPINAL FLUID OF DOGS WITH NEUROLOGICAL DISORDERS

**Citation for published version:**

Marioni-Henry, K 2020, 'PILOT STUDY TO ASSESS EXPRESSION OF 14 MICRORNAS IN CEREBROSPINAL FLUID OF DOGS WITH NEUROLOGICAL DISORDERS', 30th Symposium of the ESVNECVN , Helsinki, Finland, 22/09/17 - 23/09/17 pp. 446. <https://doi.org/10.1111/jvim.15681>

**Digital Object Identifier (DOI):**

[10.1111/jvim.15681](https://doi.org/10.1111/jvim.15681)

**Link:**

[Link to publication record in Edinburgh Research Explorer](#)

**Document Version:**

Publisher's PDF, also known as Version of record

**General rights**

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

**Take down policy**

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact [openaccess@ed.ac.uk](mailto:openaccess@ed.ac.uk) providing details, and we will remove access to the work immediately and investigate your claim.



## PILOT STUDY TO ASSESS EXPRESSION OF 14 MICRORNAS IN CEREBROSPINAL FLUID OF DOGS WITH NEUROLOGICAL DISORDERS

K. Marioni-Henry<sup>1</sup>, D. Zaho<sup>1</sup>, P. Amengual Batle<sup>2</sup>, N.M. Rzechorzek<sup>1</sup>, E. Jeffery<sup>1</sup>, M. Clinton<sup>1</sup>.

<sup>1</sup>Royal (Dick) School of Veterinary Studies and Roslin Institute, University of Edinburgh, <sup>2</sup>Small Animal Hospital, University of Glasgow, UK.

MicroRNA (miRNA) is a class of non-coding RNA that regulates gene expression at a post-transcriptional level. miRNAs are emerging as early prognostic and confirmatory biomarkers of disease. In human medicine, expression of miRNAs in cerebrospinal fluid (CSF) has been investigated in various neoplastic, inflammatory and degenerative conditions affecting the central nervous system (CNS). The objective of this study was to investigate the expression of a panel of miRNAs in a cohort of dogs with a variety of neurological disorders.

We investigated the expression of 14 microRNAs (miR-10b-5p, miR-19b, miR-21-5p, miR-30b-5p, miR-103a-3p, miR-124, miR-128-3p, miR-146, miR-155-5p, miR-181c, miR-210, miR-194-5p, miR-633, and miR-922) in cisternal CSF samples of 20 dogs examined at the Hospital for Small Animals of the University of Edinburgh. Clinical history, neurological examination and a combination of diagnostic procedures including MRI, CSF analysis and histopathology were used to reach a diagnosis. The samples were assigned to 5 groups based on the diagnosis; inflammatory conditions (2 dogs with steroid responsive meningitis-arteritis, 1 suspected necrotizing meningoencephalitis, 1 polyradiculoneuritis), neoplastic conditions (2 with suspected histiocytic sarcoma and 2 gliomas), canine degenerative myelopathy (2), idiopathic epilepsy (6) and 4 dogs with neurological signs not associated with CNS disease (2 idiopathic vestibular disease, 1 otitis, 1 soft tissue sarcoma).

Eight of the 14 microRNAs (miR-10b-5p, miR-19b, miR-21-5p, miR-30b-5p, miR-103a-3p, miR-124, miR-128-3p, miR-146) showed a consistent expression among the five groups. In particular, miR-21-5p and miR146 appeared to be upregulated in dogs with neoplastic conditions compared with dogs in other groups.