

APPENDIX 2. SUMMARY OF SERUM AND CEREBROSPINAL FLUID BIOMARKERS IN CANINE SPINAL CORD INJURY

<i>Biomarker</i>	<i>Tissue</i>	<i>Type</i>	<i>Elevated in SCI</i>	<i>Correlated to SCI severity</i>	<i>Correlated to motor outcome</i>	<i>Publication</i>	<i>Biomarker</i>
Phosphorylated neurofilament	Serum	Structural	Yes	Yes	Yes	Nishida Vet Surg 2014	Phosphorylated neurofilament
Tau	CSF	Structural	Yes	Yes	Yes	Roerig Vet J 2013	Tau
S100B	CSF	Structural	Yes	N/A	N/A	Hayashi J Vet Med 2013	S100B
Myelin basic protein	CSF	Structural	Yes	No	Yes	Levine JVIM 2010	Myelin basic protein
C-reactive protein	CSF	Acute phase protein	No	Yes	No	Anderson JNT 2015	C-reactive protein
Haptoglobin	CSF	Acute phase protein	Yes	Yes	No	Anderson JNT 2015	Haptoglobin
Serum amyloid A	CSF	Acute phase protein	No	No	No	Anderson JNT 2015	Serum amyloid A
α -glycoprotein	CSF	Acute phase protein	No	No	No	Anderson JNT 2015	α -glycoprotein
Glutamate	CSF	Neurotransmitter	Yes	Yes	N/A	Olby JNT 1999	Glutamate
Interleukin (IL) - 8	CSF	Cytokine	Yes	No	No	Taylor JNT 2014	Interleukin (IL) - 8
Monocyte chemotactic protein-1	CSF	Cytokine	No	No	Yes	Taylor JNT 2014	Monocyte chemotactic protein-1
IL-2, -6, -7, -10, -15, -18 tumor necrosis factor- α interferon γ	CSF	Cytokines	No	No	No	Taylor JNT 2014	IL-2, -6, -7, -10, -15, -18 tumor necrosis factor- α interferon γ
CCL19	CSF	Cytokine	Yes	N/A	N/A	Bartels BMC Vet Res 2014	CCL19
MMP-9	CSF	Enzyme	Yes	Yes	N/A	Nagano Res Vet Sci 2011; Levine AJVR 2006	MMP-9
MMP-9	Serum	Enzyme	Yes	N/A	N/A	Levine AJVR 2006	MMP-9
MMP-2/MMP-9	Serum	Enzyme	Yes	N/A	N/A	Levine PLOS ONE 2014	MMP-2/MMP-9
CK	CSF	Enzyme	Yes	Yes	Yes	Witsberger JAVMA 2012	CK
Lactate	CSF	Acid	No	No	No	Witsberger JAVMA 2012	Lactate

(continued)

APPENDIX 2. (CONTINUED)

<i>Biomarker</i>	<i>Tissue</i>	<i>Type</i>	<i>Elevated in SCI</i>	<i>Correlated to SCI severity</i>	<i>Correlated to motor outcome</i>	<i>Publication</i>	<i>Biomarker</i>
Total nucleated cell count	CSF	Cell	N/A	Yes	Yes	Windsor JVIM 2008, Levine VCP 2014, Chamisha Res Vet Sci 2015, Srugo JVIM 2011	Total nucleated cell count
Macrophages	CSF	Cell	N/A	Varies between studies	Varies between studies	Windsor JVIM 2008, Levine VCP 2014, Chamisha Res Vet Sci 2015, Srugo JVIM 2011	Macrophages
Red blood cell count	CSF	Cell	N/A	Varies between studies	Yes	Windsor JVIM 2008, Levine VCP 2014, Chamisha Res Vet Sci 2015	Red blood cell count
Percent neutrophils	CSF	Cell	N/A	Varies between studies	Yes	Windsor JVIM 2008, Levine VCP 2014, Chamisha Res Vet Sci 2015	Percent neutrophils
Protein concentration	CSF	Protein	N/A	Varies between studies	Yes	Windsor JVIM 2008, Levine VCP 2014, Chamisha Res Vet Sci 2015	Protein concentration

SCI, spinal cord injury; CSF, cerebrospinal fluid.