Appendices with Intracerebral microdialysis of adenosine and AMP - a systematic review and meta-regression analysis of baseline concentrations

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Appendix 1: Study characteristics of papers reporting baseline adenosine concentrations

Study Reference	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD
(Aden *et al.* 2004)	6	Rats, Sprague-Dawley	300 - 350 g	Male	2.5	0.5	1	CMA/12	Hippocampus	RP- HPLC-UVD	~60-120 min	Sodium Pentobarbital
(Andine *et al.* 1990)	16	Rats, Wistar	300 - 350 g	Male	2.5	0.3	5-6		Hippocampus	LC-UVD	120 min	Halothane
(Ballarin *et al.* 1987)	5	Rats, Sprague-Dawley	430 - 550 g, 6 - 8 months	Male	2	0.5	4		Striatum	HPLC-UVD	75 min	Halothane
(Ballarin *et al.* 1989)	6	Rats, Sprague-Dawley	180 - 200 g	Male	2		4		Striatum	HPLC-UVD	None	Freely behaving
(Ballarin *et al.* 1991)A	18	Rats, Sprague-Dawley	200 - 250 g	Male	2	0.5	4		Striatum	HPLC-UVD	None	Freely behaving
(Ballarin et al. 1991)B	8	Rats, Sprague-Dawley	200 - 250 g	Male	2	0.5	4		Striatum	HPLC-UVD	None	Freely behaving
(Basheer *et al.* 1999)	7	Rats, Long-Evans	350 - 450 g	Male	1.5				Basal forebrain	HPLC-UVD	180 min	Freely behaving
(Bennett *et al.* 2000)	37	Rats, Wistar	250 - 300 g	Male	2		2	10 kDa cut off	Cortex	HPLC	None	Freely behaving
(Bennett *et al.* 2003)A	51	Rats, Wistar	250 - 300 g	Male	2		2	10 kDa cut off	Cortex	HPLC	None	Freely behaving
(Bennett et al. 2003)B	87	Rats, Wistar	250 - 300 g	Male	2		2	10 kDa cut off	Cortex	HPLC	None	Freely behaving
(Berman *et al.* 2000)A	4	Rats, Sprague-Dawley	300 - 350 g	Male	2.5	0.5	1.0		Hippocampus	RP-HPLC-UVD	None	Urethane
(Berman et al. 2000)B	6	Rats, Sprague-Dawley	300 - 350 g	Male	2.5	0.5	1.0		Hippocampus	RP-HPLC-UVD	None	Urethane
(Berman et al. 2000)C	6	Rats, Sprague-Dawley	300 - 350 g	Male	2.5	0.5	1.0		Hippocampus	RP-HPLC-UVD	None	Urethane
(Berman et al. 2000)D	5	Rats, Sprague-Dawley	300 - 350 g	Male	2.5	0.5	1.0		Hippocampus	RP-HPLC-UVD	None	Urethane
(Blanco-Centurion *et al.* 2006)	6	Rats, Sprague-Dawley	> 250 g		0.25	0.34	1	Polyacrylonitrile30 kDa cut off	Basal forebrain	HPLC-UVD	24 hours	Freely behaving
(Britton *et al.* 1999)A	6	Rats, Sprague-Dawley	300 g	Male	2.0				Caudate nucleus	HPLC-FD	60 min	Chloral hydrate
(Britton et al. 1999)B	5	Rats, Sprague-Dawley	300 g	Male	2.0				Caudate nucleus	HPLC-FD	60 min	Chloral hydrate
(Butcher *et al.* 1987)	6	Rats, Sprague-Dawley	280 - 350 g	Both	2.5	0.3	5-6		Striatum	RP-HPLC-UVD	60 - 90 min	Methohexital - Halothane

Study Reference	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD
(Carrozzo *et al.* 2012)	3	Mice			1.1	0.24	2	Cuprophane, 6 kDa cut off	Striatum	Column Switching HPLC	120 min	Flurothane
(Carswell *et al.* 1997)	10	Rats, Wistar	270 - 310 g	Male	2	0.3	4	Polyacrylonitrile24 kDa cut off	Hippocampus	HPLC-UVD	100 min	Urethane
(Chen & Stone 1991)	4	Rats, Wistar	270 - 310 g	Male	2	0.3	4	polyacrylonitrile	Hippocampus	HPLC-UVD	none	Urethane
(Chen *et al.* 1992)A	63	Rats, Wistar	270 - 310 g	Male	2	0.3	4	polyacrylonitrile	Hippocampus	HPLC-UVD	120 min	Urethane
(Chen et al. 1992)B		Rats		Male	2		4	polyacrylonitrile	Hippocampus	HPLC-UVD		Urethane
(Chen *et al.* 1993)		Rats							Brain	HPLC-UVD		
(Cui *et al.* 2013)	6-8	Mice, C57BL/6	18 - 25 g	Male	2		2		Striatum	RP-HPLC-UVD	120 min	Freely behaving
(Cui *et al.* 2016)	9-11	Mice, C57BL/6	18 - 25 g	Male	2		2		Striatum	HPLC	60 min	Freely behaving
(Deng *et al.* 2003)	5	Rats, Sprague-Dawley	250 - 350 g	Male	0.6	0.200	2	18 kDa cut off	Cortex	HPLC-UVD		Chloral hydrate
(Dobolyi *et al.* 1997)		Rat										
(Dobolyi *et al.* 1998)	13	Rats	350 - 400 g		1	0.2	3	5 kDa cut off	Thalamus	HPLC-UVD	none	Halothane
(Dobolyi *et al.* 1999)A	3	Rats	350- 400 g		2	0.2	1.5	5 kDa cut off	Thalamus	HPLC-UVD	60 min	Halothane
(Dobolyi et al. 1999)B	6	Rats	350- 400 g		2	0.2	1.5	5 kDa cut off	Hippocampus	HPLC-UVD	60 min	Halothane
(Dobolyi *et al.* 2000)	35	Rats, Wistar	350 - 400 g	Male	1	0.2	3	5 kDa cut off	Thalamus	HPLC-UVD	60 min	Halothane
(Dohmen *et al.* 2001)A	8	Cats	3.1 - 4.8 kg	Male	2	0.5	1		Thalamus	HPLC-UVD	< 2 hours	α-chloralose
(Dohmen et al. 2001)B	10	Cats	3.1 - 4.8 kg	Male	2	0.5	1		Cortex	HPLC-UVD	< 2 hours	α-chloralose
(Dux *et al.* 1990)A	5	Gerbrils	50 - 60 g	Male		0	1		Hippocampus	HPLC-UVD		Halothane
(Dux et al. 1990)B	5	Gerbrils	50 - 60 g	Male			2		Striatum	HPLC-UVD		Halothane
(Fu *et al.* 2015)	5	Rabbits, new zealand rabbits	3.2 - 3.6 kg	Male	2				Cerebellum	HPLC-UVD	360 min	
(Gianfriddo *et al.* 2003)	9	Rats, Wistar	250 - 280 g	Male					Striatum	HPLC-Spect	30 min	Freely behaving
(Gianfriddo *et al.* 2004)A	5	Mice, R6/2 WT (B6CBA-TgN)	10 - 11 weeks		3	0.24	2	Cuprophane, 6 kDa cut off	Striatum	HPLC-Spect	160 min	Freely behaving
(Gianfriddo et al. 2004)B	5	Mice, R6/2 HD-Transgenic	10 - 11 weeks		3	0.24	2	Cuprophane, 6 kDa cut off	Striatum	HPLC-Spect	160 min	Freely behaving
(Gidday *et al.* 1996)	9	Pigs	1.8 - 2.8 kg		2	0.15	5		Cortex	HPLC	60 min	Ketamine
(Grabb *et al.* 1998)A	12	Rats, Wistar	300 - 500 g	Male	0.5	0.3	5	Cellulose acetate, 5 kDa cut off	Caudate nucleus	RP-HPLC-UVD	24 hours	Halothane
(Grabb et al. 1998)B	7	Rats, Wistar	300 - 500 g	Male	0.5	0.3	5	Cellulose acetate, 5 kDa cut off	Caudate nucleus	RP-HPLC-UVD	120 min	Halothane

Study Reference	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD
(Grabb et al. 1998)C	8	Rats, Wistar	300 - 500 g	Male	0.5	0.3	5	Cellulose acetate, 5 kDa cut off	Caudate nucleus	RP-HPLC-UVD	120 min	Halothane
(Grabb et al. 1998)D	7	Rats, Wistar	300 - 500 g	Male	0.5	0.3	5	Cellulose acetate, 5 kDa cut off	Caudate nucleus	RP-HPLC-UVD	24 hours	Halothane
(Hagberg *et al.* 1987)	24	Rats, Sprague-Dawley		Male	2.5	0.3			Striatum	HPLC-UVD	90 min	Halothane
(Headrick *et al.* 1994)	6	Rats, Sprague-Dawley	250 - 350 g	Male	2	0.3	2.4	5 kDa cut off	Hippocampus	HPLC	90 min	Sodium pentobarbital
(Herrera-Marschitz *et al.* 1994)A	10	Rats, Sprague-Dawley	500 - 600 g	Male	2	0.5	4		Striatum	RP-HPLC-UVD	< 120 min	Halothane
(Herrera-Marschitz et al. 1994)B	10	Rats, Sprague-Dawley	500 - 600 g	Male	2	0.5	4		Striatum	RP-HPLC-UVD	< 120 min	Halothane
(Hillered *et al.* 1989)	7	Rats, Sprague-Dawley	350 - 450 g	Male	2		3	CMA 10	Caudate putamen	RP-HPLC-UVD	30 min	Chloral hydrate
(Kaku *et al.* 1994)A	5	Rats, Wistar	270 - 330 g	Male	2	0.5	2	20 kDa cut off	Hippocampus	HPLC-UVD	120 min	Urethane
(Kaku et al. 1994)B	5	Rats, Wistar	270 - 330 g	Male	2	0.5	2	20 kDa cut off	Hippocampus	HPLC-UVD	120 min	Urethane
(Kaku *et al.* 2001)	27	Rats, Wistar	270 - 330 g	Male	2	0.5	2	20 kDa cut off	Hippocampus	HPLC-UVD	120 min	Urethane
(Kalinchuk *et al.* 2011)A	6	Rats, Wistar	250 - 300 g	Male	1	0.24	2	Cuprophane, 6 kDa cut off	Basal forebrain	HPLC-UVD	16 hours	Freely behaving
(Kalinchuk et al. 2011)B	6	Rats, Wistar	250 - 300 g	Male	1	0.24	2	Cuprophane, 6 kDa cut off	Cortex	HPLC-UVD	16 hours	Freely behaving
(Kim *et al.* 2010)	8	Pigs	1.8 - 2.8 kg		2		5		Cortex	RP-HPLC	60 min	Ketamine - isoflurane
(Kjellmer *et al.* 1989)A	5	Sheep, fetal	2829 ± 744 g		2.5	0.3	2	3000 Da cut-off	Cortex	HPLC	30 min	Ketamine - Chloralose
(Kjellmer et al. 1989)B	5	Sheep, fetal	2829 ± 744 g		2.5	0.3	2	3000 Da cut-off	Nucleus Caudatus	HPLC	30 min	Ketamine - Chloralose
(Kondoh *et al.* 1999)	24	Rats, Sprague-Dawley	250 - 350 g		2		4		Caudate-putamen	HPLC-UVD	60 min	Pentobarbital
(Koos *et al.* 1997)	7	Sheep, fetal	Fetal, >0.8 term		1.75		4		Thalamus	RP-HPLC-UVD		Halothane
(Lehmann *et al.* 1987)	7	Rats, Sprague-Dawley	250 - 300 g	Male	2.5	0.3	5-6	Cuprophane	Hippocampus	RP-HPLC-UVD	120 min	Urethane
(Li *et al.* 2011)A	8	Rats, Sprague-Dawley	250 - 300 g	Male	1		1		Hypothalamus	HPLC-UVD	90 min	Sodium Pentobarbital
(Li et al. 2011)B	6	Rats, Sprague-Dawley	250 - 300 g	Male	1		1		Hypothalamus	HPLC-UVD	90 min	Sodium Pentobarbital
(Li et al. 2011)C	8	Rats, Sprague-Dawley	250 - 300 g	Male	1		1		Hypothalamus	HPLC-UVD	90 min	Sodium Pentobarbital
(Lutz & Kabler 1997)	18	Turtles, Trachemys scripta	500 - 1000 g		5	0.5			Striatum	HPLC-UVD		Isoflurane

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(Lydic *et al.* 2010)	5	Rats, Sprague-Dawley	Adult	Male					Pontine Reticular Formation	HPLC-UVD		
(Masana *et al.* 1989)		Gerbril										
(Materi & Semba 2001)		Rats, Wistar	300 - 500 g	Male	2	0.5	2	30 kDa cut-off	Cortex	HPLC-FD	90 min	Urethane
(Matsumoto *et al.* 1992)A	9	Cats	2.8 - 4.8 kg	Both	2	0.5	1		Cortex	HPLC-UVD	2 - 4 hours	Ketamine - Halothane
(Matsumoto et al. 1992)B	13	Cats	2.8 - 4.8 kg	Both	2	0.5	1		Cortex	HPLC-UVD	2 - 4 hours	Ketamine - Halothane
(Maysinger *et al.* 1992)A	11	Rats, Wistar	300 - 350 g	Male	2	0.5	4		Striatum	HPLC	120 - 140 min	Halothane
(Maysinger et al. 1992)B	11	Rats, Wistar	300 - 350 g	Male	2	0.5	4		Cortex	HPLC	120 - 140 min	Halothane
(Melani *et al.* 1999a)	20	Rats, Wistar	270 - 290 g	Male	3	0.31	3	15 kDa cut off, AN 69 membrane	Striatum	HPLC-FD	30 min	Halothane
(Melani *et al.* 1999b)	11	Rats, Sprague-Dawley	200 - 300 g	Male	2	0.31	3.5	15 kDa cut off	Striatum	HPLC-FD	60 min	Chloral hydrate
(Melani *et al.* 2003)	8	Rats, Wistar	270 - 290 g	Male	3	0.31	3		Striatum	HPLC-FD	30 min	Halothane
(Melani *et al.* 2012)A	3	Rats, Wistar	270 - 290 g	Male	3	0.5	3	Polyarylethersulphone, 20 kDa cut off	Striatum	HPLC-Spect	90 min	Freely behaving
(Melani et al. 2012)B	4	Rats, Wistar	270 - 290 g	Male	3	0.5	3	Polyarylethersulphone, 20 kDa cut off	Striatum	HPLC-Spect	90 min	Freely behaving
(Mijangos-Moreno *et al.* 2014)A	5	Rats, Wistar	250 - 300 g	Male	0.25	0.34	1	Polyacrylonitrile, 30 kDa cut off	Nucleus Accumbens	HPLC-UVD	24 hours	Freely behaving
(Mijangos-Moreno et al. 2014)B	5	Rats, Wistar	250 - 300 g	Male	0.25	0.34*	1	Polyacrylonitrile, 30 kDa cut off	Hypothalamus	HPLC-UVD	24 hours	Freely behaving
(Mijangos-Moreno *et al.* 2015)	10	Rats, Wistar	230 - 300 g	Male	0.25		1	Polyacrylonitrile, 30 kDa cut off	Nucleus Accumbens	HPLC-UVD	24 hours	Freely behaving
(Miranda *et al.* 2014)	4	Rats, Wistar	250 - 300 g	Male	1	0.5	2	CMA/12	Hippocampus	CEF-FD		Freely behaving
(Morimoto *et al.* 1991)	9	Gerbrils, Meriones unguiculatus	50 - 60 g	Female	2	0.5	2	CMMA/10		HPLC-UVD		Ketamine
(Moss *et al.* 1995)		Pigs	20 - 25 days							HPLC-UVD		
(Murillo-Rodriguez *et al.* 2004)A	8	Rats, F344	21.5 months	Male	0.25	0.34	1	30 kDa cut-off, BAS	Basal forebrain	HPLC-UVD	24 hours	Freely behaving
(Murillo-Rodriguez et al. 2004)B	4	Rats, F344	3.5 months	Male	0.25	0.34	1	30 kDa cut-off, BAS	Basal forebrain	HPLC-UVD	24 hours	Freely behaving

Study Reference	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD
(Murillo-Rodriguez *et al.* 2008)	9	Rats, Sprague-Dawley	285 - 370 g	Male	0.25	0.34	1	Polyacrylonitrile, 30 kDa cut off, BAS	Basal forebrain	HPLC-UVD	12 hours	Freely behaving
(Nagel & Hauber 2002)	13	Rats, Sprague-Dawley	220 - 280 g	Male	2	0.5	2	CMA/12	Nucleus Accumbens	RP-HPLC-FD	14 hours	Freely behaving
(Nagel & Hauber 2004)	5	Rats, Sprague-Dawley	220 - 280 g	Male	2	0.5	2	CMA/12	Nucleus Accumbens	RP-HPLC-FD	14 hours	Freely behaving
(Nelson *et al.* 2009)A	3	Rats, Sprague-Dawley	300 g mean	Male	2	0.24	1	Cuprophane, 6 kDa cut off, CMA	Substantia Innominata	HPLC-UVD		Isoflurane
(Nelson et al. 2009)B	21	Rats, Sprague-Dawley	300 g mean	Male	2	0.24	1	Cuprophane, 6 kDa cut off, CMA	Pontine Reticular Fontine	HPLC-UVD		Isoflurane
(Nilsson *et al.* 1990)A	4	Rats, Sprague-Dawley	244 - 484 g	Male	2		3	CMA/10	Cortex	HPLC-UVD	60 min	Halothane - N2O
(Nilsson et al. 1990)B	5	Rats, Sprague-Dawley	244 - 484 g	Male	2		3	CMA/10	Cortex	HPLC-UVD	60 min	Halothane - N2O
(Nilsson et al. 1990)C	8	Rats, Sprague-Dawley	244 - 484 g	Male	2		3	CMA/10	Cortex	HPLC-UVD	60 min	Halothane - N2O
(Nomoto *et al.* 1999)	4	Marmoset			2				Striatum	HPLC	2 hours	Fixated - concious
(Nomoto *et al.* 2000)	4	Marmoset			2				Striatum	HPLC-UVD	2 hours	Fixated - concious
(Northington *et al.* 1992)	15	Rats, Wistar	300 - 450 g	Male	0.5	0.3	3	5 kDa cut off	Cortex	RP-HPLC	90 min	Sodium Thimylal - Trifluoroethane
(Okada *et al.* 2003)	7(?)	Rats, Sprague-Dawley	250 - 350 g	Male	2		1	CMA	subarachnoid space	HPLC-UVD	3 hours	Urethane
(Park *et al.* 1988)	22	Pigs	0.8 - 2.4 kg, <5 days		2	0.3	5	5 kDa cut off, Clirans TH 10	Cortex	HPLC	90 min	Ketamine - Xylazine
(Pazzagli *et al.* 1993)A	4	Rats, Wistar	250 - 300 g	Male	2	0.21	2 x 3.5	8 kDa cut off, Discap 120 E membrane	Striatum	HPLC-UVD ; 254 nm	None	Chloral hydrate
(Pazzagli et al. 1993)B	4	Rats, Wistar	250 - 300 g	Male	2	0.21	2 x 3.5	8 kDa cut off, Discap 120 E membrane	Striatum	HPLC-UVD ; 254 nm	None	Chloral hydrate
(Pazzagli *et al.* 1994)	16	Rats, Wistar	250 - 300 g	Male	2	0.31	8	15 kDa cut off, AN 69 membrane	Cortex	HPLC-FD	2 hours	Freely behaving
(Pazzagli *et al.* 1995)A	18	Rats, Wistar	3 months	Male					Striatum	HPLC-UVD	120 min	Freely behaving
(Pazzagli et al. 1995)B	18	Rats, Wistar	20 - 22 months	Male					Striatum	HPLC-UVD	120 min	Freely behaving
(Peigen & Jing 1997)A	6	Rats, Wistar	200 - 250 g	Male	2.5	0.5	4		Striatum	HPLC-UVD	60 min	Chloral hydrate
(Peigen & Jing 1997)B	6	Rats, Wistar	200 - 250 g	Male	2.5	0.5	4		Striatum	HPLC-UVD	60 min	Chloral hydrate

Study Reference	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD
(Peigen & Jing 1997)C	6	Rats, Wistar	200 - 250 g	Male	2.5	0.5	4		Striatum	HPLC-UVD	60 min	Chloral hydrate
(Perez-Pinzon *et al.* 1993)	4	Rats, Sprague-Dawley	5 days		2	0.24	3	Cuprophane, 6 kDa cut off, CMA 11	Striatum	HPLC	20 min	Pentobarbital
(Pinna *et al.* 2002)	14	Rats, Sprague-Dawley	275 - 300 g	Male	3	0.31	3	12 kDa cut off, AN 69	Striatum	HPLC-FD	90 min	Freely behaving
(Porkka-Heiskanen *et al.* 1997)	6	Cats						CMA 10	Basal Forebrain	HPLC-UVD	None	Freely behaving
(Porkka-Heiskanen *et al.* 2000)	10	Cats	Adult	Male	1.5	0.5	2	Polycarbonate, 20 kDa cut off, CMA 10	Substantia Innominata	HPLC-UVD	None	Freely behaving
(Richter *et al.* 1999)	12	Cats	2.5 - 4.5 kg	Both	2 or 4	0.5	2		Ventral Medullary Respiratory Group	HPLC-UVD	90 min	Sodium Pentobarbitone
(Ruth *et al.* 1993)	12	Pigs	< 5 days		2	0.15	5	8 kDa cut off, Clirans TH 10	Cortex	RP-HPLC		Ketamine - Isoflurane
(Savelyev *et al.* 2012)	16	Rats, Wistar-Han	3 months	Male	1	0.24	2	Cuprophane, 6 kDa cut off, CMA 11	Basal Forebrain	HPLC-FD	60 min	Freely behaving
(Scheller *et al.* 1996)		Rats, Wistar	230 - 260 g	Male	2				Cortex	HPLC	80 min	Urethane
(Schulte *et al.* 2004)	28 - 32	Mice, 129/OlaHsd/C57BL6 hybrid	3 - 5 months	Male	0.5	0.5	2	Plyarylethersulphone, 20 kDa cut off, CMA 12	Brain	HPLC-UVD	None	Fentanyl - Fluanisone - Midazolam
(Sciotti *et al.* 1992)	6	Rats, Wistar	300 - 500 g	Male	0.5	0.3	5	5 kDa cut off, Clirans TH 10	Caudate Nucleus	HPLC-UVD	90 min	Sodiam Thiamylal
(Sciotti *et al.* 1993a)A	5	Rats, Wistar	300 - 500 g		0.1	0.3	5	5 kDa cut off, Clirans TH 10	Caudate Nucleus		90 min	Ketamine - Xylazine
(Sciotti et al. 1993a)B	8	Rats, Wistar	300 - 500 g		0.1	0.3	5	5 kDa cut off, Clirans TH 10	Caudate Nucleus		90 min	Ketamine - Xylazine
(Sciotti & Van Wylen 1993b)	4	Rats, Wistar	300 - 500 g	Male	0.5	0.3	5	5 kDa cut off, Clirans TH 10	Caudate Nucleus	HPLC-UVD	90 min	Thiamylal
(Sciotti & Van Wylen 1993c)A	4	Rats, Wistar	300 - 500 g	Male	0.5	0.3	5	5 kDa cut off, Clirans TH 10	Caudate Nucleus	RP-HPLC-UVD	90 min	Thiamylal
(Sciotti & Van Wylen 1993c)B	11	Rats, Wistar	300 - 500 g	Male	0.5	0.3	5	5 kDa cut off, Clirans TH 10	Caudate Nucleus	RP-HPLC-UVD	90 min	Thiamylal

Study Reference	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD
(Sharma *et al.* 2010a)	8(?)	Rats, Sprague-Dawley	250 - 300 g	Male	0.7	0.22	2	CX-1-8-02	Basal Forebrain	HPLC-UVD	12 - 16 hours	Freely behaving
(Skarphedinsson *et al.* 1989)	15	Rats, Spontaneously Hypertensive Rats (SHR)	250 - 350 g	Male	2.5			CMA 10	Cortex	HPLC-UVD	1 hours	Methohexital
(Slezia *et al.* 2004)	21	Rats, Sprague-Dawley	250 - 300 g	Male	1	0.2	3	5 kDa cut off	Hippocampus	HPLC-UVD	60 min	Halothane
(Song *et al.* 2012)A	8	Rats, Sprague-Dawley	295 - 355 g	Male	0.6	0.25	1		Ventral Tegmental Area	RP-HPLC	80 min	Freely behaving
(Song et al. 2012)B	8	Rats, Sprague-Dawley	295 - 355 g	Male	1	0.25	1.5		Nucleus Accumbens	RP-HPLC	80 min	Freely behaving
(Tominaga *et al.* 1992) (In Japanese)		Cats							Cortex	HPLC		
(Valtysson *et al.* 1998)	58	Rats, Sprague-Dawley	309 - 512 g	Male	2	0.5	2	Polycarbonate-polyether, CMA 12	Cortex	HPLC-UVD	60 min	Halothane
(Van Wylen *et al.* 1986)	23	Rats, Wistar	300 - 500 g	Male	2	0.3	5	5 kDa cut off, Clirans TH 10	Caudate Nucleus	RP-HPLC	100 min	Pentobarbital
(Watson *et al.* 1999)	10	Sheep, fetal	120 days gestational age		2	0.5	2	CMA/12	Cortex	HPLC-UVD	1 hour	Thiopental - Halothane
(Wigren *et al.* 2007)	8	Rats, Wistar-Han	300 - 400 g	Male	1	0.24	2	CMA/11	Basal Forebrain	HPLC-UVD	30 - 90 min	Freely behaving
(Yan *et al.* 1995)	6	Pigs, Yucatan miniature piglets	2.79 ± 0.14 kg	Both	2	0.5	3	CMA/10	Nucleus Tractus Solitarii	HPLC-UVD	2 hours	Ketamine - Xylazine
(Zetterstrom *et al.* 1982)		Rats, Sprague-Dawley	250 - 300 g	Male	2	0.25		Cellulose, 5kDa cut off	Caudate nucleus	RP-HPLC	90 min	Freely behaving
(Zhang & Niu 1994)	4	Rats, Wistar	270 - 330 g	Male	2		2		Striatum	HPLC-UVD	1 hour	Chloral Hydrate
(Zhu *et al.* 2001)A	3	Rats, Sprague-Dawley	350 - 450 g	Male	0.5		4	MD-1001	Striatum	LC-MS/MS		Freely behaving
(Zhu et al. 2001)B	3	Rats, Sprague-Dawley	350 - 450 g	Male	0.3		4	MD-1001	Cortex	LC-MS/MS		Freely behaving

Capital letters after the year of publication within the literature reference indicate separate subgroups within the same paper. Lower-case letters indicate separate papers.
FD = Fluorescent detection
HPLC = High Pressure Liquid Chromatography
LC = Liquid Chromatography
MS = Mass Spectrometry
RIA = RadioImmunoAssay
RP = Reverse Phase
Spect = Spectrometry
UVD = UltraViolet Detection

Appendix 2: Study characteristics of **p**apers and abstracts not reporting absolute baseline adenosine concentrations or only reporting them in low-resolution figures

Study ID	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD
(Battersby *et al.* 2009)	8	Rats, Sprague-Dawley	Adult	Male	2				Substantia innominata	HPLC-UVD		Isoflurane
(Bell *et al.* 1998)	15	Rats, Sprague-Dawley	300 - 400 g	Male	2	0.5	2	CMA/12	Cortex	HPLC	150 min	Isoflurane
(Dohmen *et al.* 2005)	22	Cats	3.3 - 4.8 kg	Male	2	0.5	1		Cortex	HPLC-UVD	< 2 hours	α-chloralose
(Dworak *et al.* 2013)		Rats, Sprague-Dawley		Male					Basal Forebrain	HPLC		
(Garrity *et al.* 2015)	3	Rats, Sprague-Dawley	250 - 350 g	Male	2	0.24	1	Cuprophane, 6 kDa cut off	Substantia innominata	HPLC-UVD	13 hours	Freely behaving
(Gauthier *et al.* 2011)	10	Rats, Sprague-Dawley	250 - 350 g	Male	2	0.24	1	Cuprophane, 6 kDa cut off	Pontine Reticular Formation & Substantia Innominata	HPLC-UVD	120 min	Isoflurane
(Golembiowska *et al.* 2011)		Rats								HPLC-Spect		
(Gvilia *et al.* 2014)		Rats							Basal Forebrain			
(Huang *et al.* 2011)		Rats			0.5		4		Striatum	HPLC-UVD	90 min	Chloral hydrate
(Huston *et al.* 1996)	13	Rats, Wistar	250 - 300 g	Male	2	0.25	4	Cellulose	Striatum	RIA	24 hours	Freely behaving
(Ikeda *et al.* 2005)	12	Rats, Sprague-Dawley	300 - 450 g	Male	2		2		Hypothalamus	HPLC-UVD	60 min	Sodium pentobarbital
(Kaiser & During 1995)	4	Rats, Sprague-Dawley	250 - 350 g	Male	2.5		2	Cellulose, 5kDa cut off	Hippocampus	HPLC-UVD	30 min	α-chloralose
(Kalinchuk *et al.* 2003)		Rats	300 - 400 g	Male	1	0.24		Cuprophane, 6 kDa cut off	Basal forebrain	HPLC-UVD	3 hours	Freely behaving
(Kalinchuk *et al.* 2008)	6	Rats, Wistar	300 - 400 g	Male	1	0.24	2	Cuprophane, 6 kDa cut off	Basal forebrain	HPLC-UVD	20 hours	Freely behaving
(Kalinchuk *et al.* 2010)		Rats		Male					Basal forebrain			
(Kalinchuk *et al.* 2012)		Rats		Male					Basal Forebrain & Cortex	HPLC		
(Kalinchuk *et al.* 2013)		Rats		Male					Basal Forebrain			
(Kitagawa *et al.* 2002)	7	Rats, Wistar	250 - 300 g	Male	2		2	A-1-4-02	Striatum	RP-HPLC-UVD	None	Halothane
(Lazar *et al.* 2012)		Rats, Sprague-Dawley								HPLC-UVD		

Study ID	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD
(Matsumoto *et al.* 1993)	18	Cats	2.5 - 3.6 kg	Both	2	0.5	1		Cortex	HPLC-UVD	2 - 4 hours	Ketamine - Halothane
(McKenna *et al.* 2007)	60	Rats, Sprague-Dawley	280 - 350 g	Male	1.5 Hl/min	0.24	2	Cuprophane, 6 kDa cut off	Nucleus Accumbens, Ventral Pallidum, Caudate Putamen & Basal Forebrain	HPLC-UVD	16 hours	Freely behaving
(Mongan *et al.* 2001)	24	Pigs	± 32 kg		2	0.5	4	Polycarbonate, 20 kDa cut off, CMA 10	Cortex	RP-HPLC		Halothane
(Murillo-Rodriguez *et al.* 2003)	6	Rats, F344	3 months	Male	0.25	0.34	1	Polyacrylonitrile, 30 kDa cut off	Basal forebrain	HPLC-UVD	6 - 7 hours	Freely behaving
(Noworyta-Sokolowska *et al.* 2013)		Rats, Wistar-Han	280 - 350 g	Male	2				Striatum	RP-HPLC-FD	30 min	Ketamine - Xylazine
(Ramesh *et al.* 2009)		Mice, ENT1-null							Basal Forebrain	HPLC		
(Rodriguez *et al.* 2005)	12	Rats, Albino Sprague-Daweley	250 - 300 g	Male	2	0.5		CMA 12	Hippocampus	HPLC-UVD	12.5 hours	Equithesin
(Sharma *et al.* 2010b)	7	Rats, Sprague-Dawley	200 - 400 g	Male	0.7		2	CX-1-8-02	Basal Forebrain	HPLC-UVD	16 hours	Freely behaving
(Vazquez-DeRose *et al.* 2014)	60	Rats, Sprague-Dawley	200 - 250 g	Male	1	0.5	2	Polyarylethersulphone, 20 kDa cut off, CMA 12	Cortex & other	HPLC-UVD	18 hours	Freely behaving
(Verrier *et al.* 2012)A	12	Mice, C57BL/6			2	0.5	2	CMA/12	Gray & white matter	RP-HPLC-MS	60 min	Isoflurane - N20
(Watson *et al.* 2002)	10	Sheep, fetal, mixed breed	133±1 days gestational age	Both	2	0.5	2	CMA 12	Cortex	HPLC-UVD		Freely behaving
(Wigren *et al.* 2012)	24	Mice, C57BL/6							Basal Forebrain			
(Wigren *et al.* 2014)	24	Mice, C57BL/6							Basal Forebrain			

FD = Fluorescent detection
HPLC = High Pressure Liquid Chromatography
MS = Mass Spectrometry
RIA = RadioImmunoAssay
RP = Reverse Phase
Spect = Spectrometry
UVD = UltraViolet Detection

Appendix 3: AMP concentrations and corresponding study characteristics

Study ID	N	Species	Age /weight	Sex	Flow rate (µL/min)	Probe diameter (mm)	Probe length (mm)	Membrane	Location	Detection	Washout	Anaesthesia during µD	AMP (nM)	SEM
(Ballarin et al. 1989)	6	Rats, Sprague-Dawley	180 - 200 g	Male	2		4		Striatum	HPLC-UVD	None	Freely behaving	930	90
(Verrier et al. 2012)A	6	Mice, C57BL/6			2	0.5	2	CMA/12	Gray matter	RP-HPLC-MS	60 min	Isoflurane - N20	14	
(Verrier et al. 2012)B	6	Mice, C57BL/6			2	0.5	2	CMA/12	White matter	RP-HPLC-MS	60 min	Isoflurane - N20	69	41

Capitals after the study-ID year indicate separate subgroups within the same paper.

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