Suppl. Table 1. The articles selected for the analysis of reporting completeness (*listed chronologically*).

A. Articles published before the ARRIVE guidelines.

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5. Imai H, Nakamoto H, Fucshima R, et al. Glucocorticoid protects against the development of encapsulating peritoneal sclerosis on peritoneal dialysis. *Adv Perit Dial* 2002;18:124-130.
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B. Articles published after the ARRIVE guidelines.

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Suppl. Table 2. The list of operationalized items based on the ARRIVE guidelines and modified to include sub-items relevant to PD.

ARRIVE section	ARRIVE item	Sub-items assessed whether reported or not
TITLE	1	Not included
ABSTRACT	2	Not included
INTRODUCTION		
Background	3	Not included
Objectives	4	Not included
METHODS		
Ethical statement	5	5.1. Explicit statement of approval 5.2. Approval body name 5.3. Name of institutional guidelines followed 5.4. A permit number
Study design	6	6.1. The total number of experimental and control groups 6.2. The number of groups consistent between the methods and results 6.3. The experimental unit clearly defined (e.g. whether n refers to the number of animals or the number of biopsies analyzed) 6.4. Blinding of personnel conducting the experiment 6.5. Blinding of personnel assessing outcome (histopathology) 6.6. Diagram of experimental design
Experimental procedures	7	*Models of PD-associated peritoneal fibrosis* 7.1. Peritoneal access defined 7.2. Composition of peritoneal dialysis fluid (type and concentration of osmotic agent and buffer) or a solution to induce peritoneal fibrosis 7.3. Volume of fluid administered 7.4. Volume of fluid normalized per body weight 7.5. Frequency of fluid administration 7.6. Duration of treatment *Drugs* 7.7. Drug defined 7.8. Dose response experiment or rationale for using a single dose 7.9. Route of administration 7.10. Frequency of drug administration 7.11. Placebo use reported *Euthanasia* 7.12. Euthanasia reported 7.13. Euthanasia method reported 7.14. Anesthesia use reported

Experimental animals	8	8.1. Species 8.2. Strain 8.3. Sex 8.4. Age 8.5. Weight
Housing and husbandry	9	9.1. Cage companions reported 9.2. Light/dark cycle 9.3. Temperature 9.4. Type of food 9.5. Access to food
Sample size	10	10.1. Sample-size calculation performed 10.2. Total number of animals listed 10.3. Number of animals assigned to particular groups listed 10.4. Technical replicates performed (several samples for histopathological evaluation)
Allocating animals	11	11.1. Randomization performed 11.2. Randomization procedure described
Experimental outcomes	12	12.1. The total number of outcomes listed 12.2. Histopathological analysis as an outcome described
Statistical methods	13	13.1. Results of histopathological analysis (as an outcome) associated with at least one statistical test 13.2. Normality of data distribution assessed 13.3. Parametric vs. non-parametric statistics used appropriately 13.4. Exact p-values given
RESULTS		
Baseline data	14	14.1. Sex for each group 14.2. Weight for each group 14.3. Age for each group
Numbers of animals analyzed	15	15.1. The number of animals in each group included in each analysis 15.2. The presence/absence of animals dropped-out from analysis
Outcomes and estimation	16	16.1. A measure of precision for the outcome (e.g. standard deviation, confidence interval, etc.)
Adverse events	17	17.1. The presence/absence of important adverse events in each experimental group
DISCUSSION		
Scientific implications	18	Not included
Generalizability/ Translation	19	Not included
Disclosures	20	Statement declaring/declining conflict of interest

Suppl. Table 3. Number of studies reporting the sex of animals.

Species	Sex reported			
	No	Yes		
		Male	Female	Male and female
Rat (n=394)	38	317	38	1
Mouse (n=121)	29	49	39	4
Other (n=52)	22	7	19	4
All (n=567)	89	373	96	9
% of Yes (n=478)	-	78	20	2
% of All (n=567)	16	84		

Suppl. Table 4. Number of studies reporting the age and weight of animals.

Species	Age reported		Weight reported	
			Yes	No
Rat (n=394)	Yes	80	60	20
	No	314	294	20
Mouse (n=121)	Yes	84	30	54
	No	37	21	16
Other (n=52)	Yes	3	2	1
	No	49	41	8
All (n=567)	Yes	167	92	75
	No	400	356	44
All (% of All)	Yes	29	16	13
	No	71	63	8

Suppl. Table 5. The number of animals per experimental group used throughout the studies.

Species	Number of animals per group				
	1-10	11-20	21-30	>30	Unclear
Rat (n=394)	282	87	12	9	4
Mouse (n=121)	81	24	1	9	6
Dog (n=11)	9	2	-	-	
Guinea pig (n=1)	1	-	-	-	-
Rabbit (n=33)	21	9	2	-	1
Sheep (n=7)	6	1	-	-	-
% of all (n=567)	71	22	2	3	2

Suppl. Table 6. Volumes of PD fluids (normalized per body weight) infused to animals.

Species	ml/kg	
	Median	Range
Rat (n=241)	62	9-300
Mouse (n=49)	100	32-333
Dog (n=7)	89	40-100
Guinea pig (n=1)	69	69
Rabbit (n=23)	40	9-100
Sheep (n=7)	50	23-62

Suppl. Table 7. Interventions tested on animals to prevent peritoneal fibrosis.

Drug	Main mechanism of action	Experimental setting	Was effect significant?	Mean % reduction in peritoneal thickness	Reference
abatacept	CD80/CD86 blocker	CG	yes	-60%	(Bircan et al. 2017)
adenosine	nucleoside	CG	yes	no data	(Nakav et al. 2009)
aliskiren	renin inhibitor	PDF	yes	-34%	(Perez-Martinez et al. 2012)
		CG	no	-1%	(Kocak et al. 2012)
		CG	yes	-63%	(Ke et al. 2010)
amlodipine	calcium channel blocker	PDF	yes	-67%	(Imai et al. 2003)
		PDF	yes	-69%	(Nakamoto et al. 2008)
anti-CD69 antibody	neutralization of CD69	PDF	yes	-50%	(Liappas et al. 2016b)
anti-IL17 antibody (eBioMM17F3)	cytokine inhibitor	PDF	yes	no data	(Rodrigues-Diez et al. 2014)
antisense oligonucleotide against *HSP-47*	heat shock protein inhibitor	CG	yes	no data	(Nishino et al. 2003)
anti-VEGF antibody (bevacizumab)	angiogenesis inhibitor	CG	yes	-37%	(Io et al. 2004)
		CG	yes	-85%	(Ada et al. 2015)
astaxanthin	antioxidant	CG	yes	-43%	(Wakabayashi et al. 2015)
astragalus	herb	PDF	yes	-29%	(Li et al. 2014)
		PDF	yes	-44%	(Yu et al. 2018)
atorvastatin	HMG-CoA reductase inhibitor	PDF	yes	-56%	(Yenicerioglu et al. 2010)
		PDF	yes	-69%	(Duman et al. 2005b)
azacitidine	cytidine analogue	CG	yes	-39%	(Kim et al. 2014)
azathioprine	immune-suppressant	CG	no	54%	(Bozkurt et al. 2009b)
benfotiamine	vitamin B1 derivative	PDF	yes	-22%	(Kihm et al. 2011)
calcitriol	vitamin D analogue	CG	yes	-55%	(Hirose et al. 2013)
		CG	yes	-60%	(Lee et al. 2014)
captopril	angiotensin-converting-enzyme inhibitor	PDF	no	-21%	(Schuinski et al. 2013)
celecoxib	cyclooxygenase-2 inhibitor	PDF	yes	-25%	(Aroeira et al. 2009)
		PDF	yes	-17%	(Fabbrini et al. 2009)

cholecalciferol	vitamin D3	PDF	yes	-50%	(Yang et al. 2017)
		CG	yes	-22%	(Lee et al. 2015)
chondroitine sulfate	glycosaminoglycan	CG	yes	-42%	(Abe et al. 2016)
CI-1040	mitogen-activated protein kinase inhibitor	PDF	yes	-63%	(Strippoli et al. 2015)
cilazapril	angiotensin-converting-enzyme inhibitor	PDF	yes	-56%	(Zhang et al. 2014)
clodronate	bisphosphonate	CG	yes	-60%	(Kushiyama et al. 2011)
colchicine	anti-mitotic	CG	yes	-24%	(Bozkurt et al. 2008a)
		PDF	yes	-35%	(Sagiroglu et al. 2015)
		PDF	no	-9%	(Sayarlioglu et al. 2006)
collagen	extracellular matrix protein	CG	yes	-93%	(Aoki et al. 2018)
CRM197	heparin-binding EGF-like growth factor inhibitor	PDF	no	48%	(Li et al. 2018)
cyclosporine	immune-suppressant	CG	no	31%	(Bozkurt et al. 2009b)
		PDF	no	no data	(van Westrhenen et al. 2007)
daikenchuto	herb	CG	yes	-71%	(Kitamura et al. 2015)
dexamethasone	corticosteroid	PDF	yes	no data	(Imai et al. 2002)
enalapril	angiotensin-converting-enzyme inhibitor	PDF	yes	-51%	(Duman et al. 2001)
		PDF	yes	-42%	(Duman et al. 2004)
		CG	yes	-58%	(Lee et al. 2011)
		CG	no	-13%	(Bozkurt et al. 2008b),
endostatin	angiogenesis inhibitor	CG	yes	-50%	(Tanabe et al. 2007)
		PDF	yes	no data	(Zhao et al. 2011)
erythropoetin	erythrocyte growth factor	CG	yes	no data	(Mondello et al. 2009a)
ethyl pyruvate	inhibitor of systemic cytokine release	PDF	yes	-17%	(Flessner et al. 2010)
everolimus	mTOR inhibitor	CG	yes	-4%	(Duman et al. 2008)
fasudil	Rho-kinase inhibitor and vasodilator	PDF	yes	-57%	(Peng et al. 2013)
		CG	yes	-64%	(Washida et al. 2011)
fondaparinux	factor Xa inhibitor	CG	yes	-94%	(Saito et al. 2009)
FR167653	p38 kinase inhibitor	CG	yes	-55%	(Kokubo et al. 2012)
gefitinib	EGF receptor inhibitor	CG	yes	-24%	(Wang et al. 2016b)

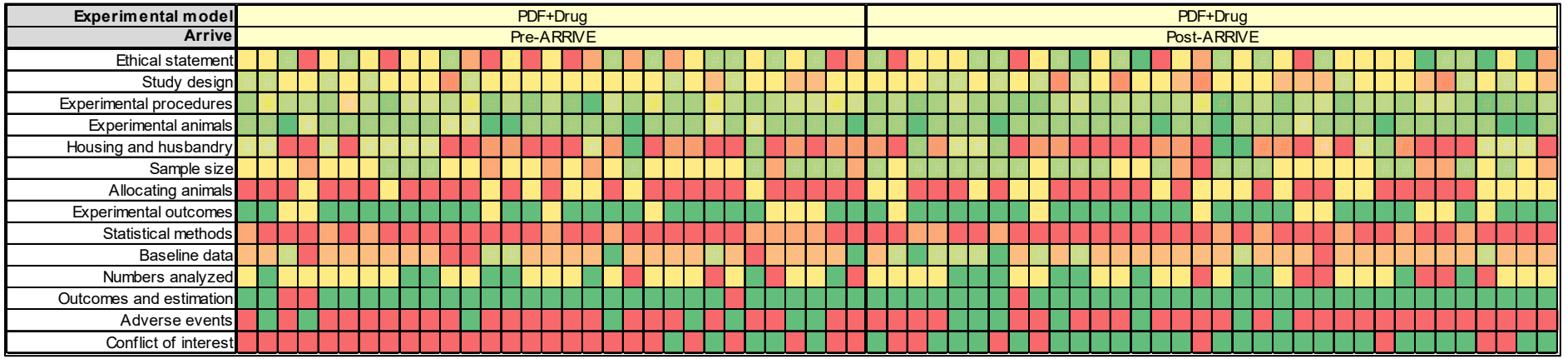
gluthatione	antioxidant	PDF	yes	-21%	(Styszynski et al. 2006)
Go6976	protein kinase A inhibitor	PDF	yes	-79%	(Wang et al. 2016a)
H398 (anti-TNFα receptor I antibody)	TNFα signaling inhibitor	PDF	yes	no data	(Kalble et al. 2016)
hepatocyte growth factor	growth factor	PDF	yes	-52%	(Nakamura and Niwa 2005)
HL156A	AMP-activated protein kinase activator	CG	yes	-71%	(Ju et al. 2016)
ICG-001	beta-catenin inhibitor	PDF	yes	no data	(Ji et al. 2017)
IFN-γ	immune mediator	CG	yes	-41%	(Yoh et al. 2015)
itraconazole	antifungal	CG	yes	-65%	(Kim et al. 2018)
lisinopril	angiotensin-converting-enzyme inhibitor	PDF	yes	-63%	(Duman et al. 2005a)
losartan	angiotensin II receptor blocker	PDF	yes	-48%	(Noh et al. 2006)
LY294002	phosphoinositide 3-kinase inhibitor	PDF	yes	no data	(Xiao et al. 2015)
mizoribine	inosine monophosphate synthase inhibitor	CG	yes	-61%	(Takahashi et al. 2009)
mycophenolate mofetil	immune-suppressant; inosine monophosphate dehydrogenase inhibitor	CG	yes	-14%	(Hur et al. 2012)
		CG	yes	-68%	(Huddam et al. 2015)
N-acetylcysteine	cysteine prodrug, antioxidant	PDF	yes	-48%	(Noh et al. 2006)
		PDF	yes	-22%	(Bui et al. 2012)
		CG	no	8%	(Bozkurt et al. 2009a)
nadroparin	low molecular weight heparin	PDF	no	-16%	(Schilte et al. 2009)
nebivolol	beta-1 receptor blocker	PDF	yes	-78%	(Liappas et al. 2016a)
octreotide	somatostatin analogue	CG	yes	-53%	(Ertilav et al. 2011)
		PDF	yes	-50%	(Gunal et al. 2001)
		PDF	yes	-60%	(Gunal et al. 2002)
olmesartan	angiotensin II receptor blocker	PDF	yes	-67%	(Imai et al. 2003),
		PDF	yes	-69%	(Nakamoto et al. 2008)
ONO-4817	matrix metalloproteinase inhibitor	CG	yes	-63%	(Ro et al. 2007)
Panax notoginseng	herb	PDF	yes	-39%	(Hu et al. 2015)
paricalcitol	vitamin D analogue	PDF	yes	-39%	(Gonzalez-Mateo et al. 2014)
		PDF	yes	-60%	(Kang et al. 2014)
		PDF	yes	-27%	(Stavenuiter et al. 2015)
pentoxifylline	phosphodiesterase inhibitor	PDF	yes	-52%	(Hung et al. 2008)

pioglitazone	PPAR-γ agonist	CG	yes	-64%	(Saglam et al. 2012)
pyrrole-imidazole polyamide	gene silencer, targeted to the TGF-β1 promoter	CG	yes	-64%	(Serie et al. 2012)
prednisolone	corticosteroid	CG	no	26%	(Bozkurt et al. 2009b)
		CG	no	no data	(Imai et al. 2000)
probucol	antioxidant	PDF	yes	-61%	(Duan et al. 2011)
pyridoxamine	vitamin B6 analogue	PDF	yes	no data	(Kakuta et al. 2005)
		PDF	no	15%	(Mori et al. 2016)
		PDF	yes	-17%	(Flessner et al. 2010)
		PDF	yes	-52%	(Nakamura and Niwa 2005)
quinapril	angiotensin-converting-enzyme inhibitor	CG	yes	-52%	(Sawada et al. 2002)
		CG	yes	no data	(Sawada et al. 2009)
recombinant human bone morphogenic protein-7 (rhBMP-7)	TGFβ-signalling inhibitor	PDF	yes	-32%	(Loureiro et al. 2010)
rosiglitazone	PPAR-γ agonist	PDF	yes	-49%	(Yao et al. 2006)
		PDF	yes	-55%	(Sandoval et al. 2010)
		CG	yes	-24%	(Bozkurt et al. 2008c)
ruxolitinib	Janus kinase inhibitor	PDF	yes	-69%	(Dai et al. 2014)
simvastatin	HMG-CoA reductase inhibitor	PDF	yes	no data	(Chang et al. 2014)
		PDF	no	-11%	(Baroni et al. 2012)
sirolimus	mTOR inhibitor	PDF	yes	-61%	(Sagiroglu et al. 2015)
		PDF	yes	-49%	(Gonzalez-Mateo et al. 2015)
		PDF	yes	-80%	(Xiang et al. 2016)
		CG	yes	-53%	(Ceri et al. 2012)
sodium cromoglycate	mast cel stabilizer	PDF	yes	-10%	(Zareie et al. 2006)
soluble Tie2 fusion protein	angiogenesis inhibitor	PDF	yes	no data	(Xiao et al. 2013)
spironolactone	aldosterone antagonist	PDF	yes	-56%	(Zhang et al. 2014)
suberoylanilide hydroxamic acid	histone deacetylase inhibitor	CG	yes	-43%	(Io et al. 2015)
sulodexide	glycosaminoglycan	PDF	yes	-22%	(Pletinck et al. 2012)

sunitinib	receptor tyrosine kinases inhibitor	CG	yes	-28%	(Bozkurt et al. 2011)
suramin	cell energy metabolism inhibitor	CG	yes	-91%	(Xiong et al. 2014)
T-686	plasminogen activator inhibitor-1 inhibitor	PDF	yes	-45%	(Higuchi et al. 2005)
tamoxifen	selective estrogen receptor modulator	PDF	yes	-42%	(Loureiro et al. 2013)
		PDF	yes	-67%	(Yan et al. 2018)
		CG	yes	-53%	(Lua et al. 2015)
Tanshinone IIA	herb	PDF	yes	-75%	(Chunming et al. 2011)
tetramethylpyrazine	anti-inflammatory	PDF	yes	no data	(Zhu et al. 2002)
TGFβR-I inhibitor	TGF-β-signaling inhibitor	CG	yes	-40%	(Kinashi et al. 2013)
		CG	yes	-44%	(Kariya et al. 2018)
thalidomide	immunomodulator	CG	yes	-25%	(Arai et al. 2011)
		CG	yes	no data	(Hirata et al. 2016)
		CG	yes	no data	(Mondello et al. 2009b)
TNP-470	angiogenesis inhibitor	CG	yes	-50%	(Yoshio et al. 2004)
trimetazidine	fatty acid β-oxidation inhibitor	PDF	yes	-39%	(Gunal et al. 2003)
unfractionated heparin	anticoagulant	PDF	no	-16%	(Schilte et al. 2009)
valproic acid	probably multiple	CG	yes	-69%	(Costalonga et al. 2017)
valsartan	angiotensin II receptor blockers	CG	yes	-60%	(Kocak et al. 2012)
		PDF	yes	-63%	(Duman et al. 2005a)
		CG	no	-12%	(Bozkurt et al. 2008b)
		CG	yes	-58%	(Subeq et al. 2011)
zopolrestat	aldose reductase inhibitor	PDF	yes	no data	(van Westrhenen et al. 2005)

Suppl. Fig. 1.

A.



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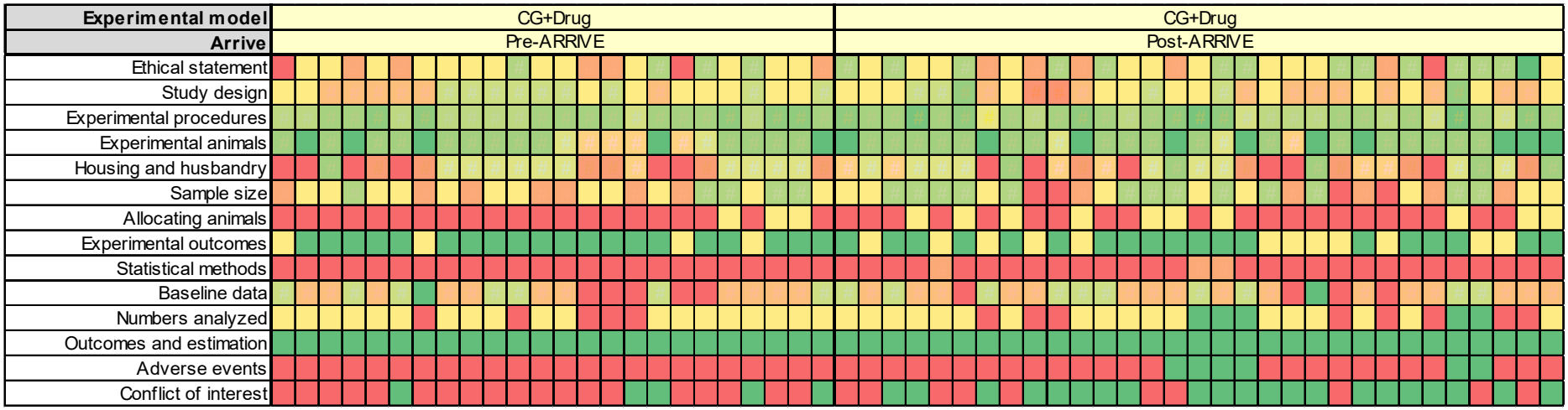
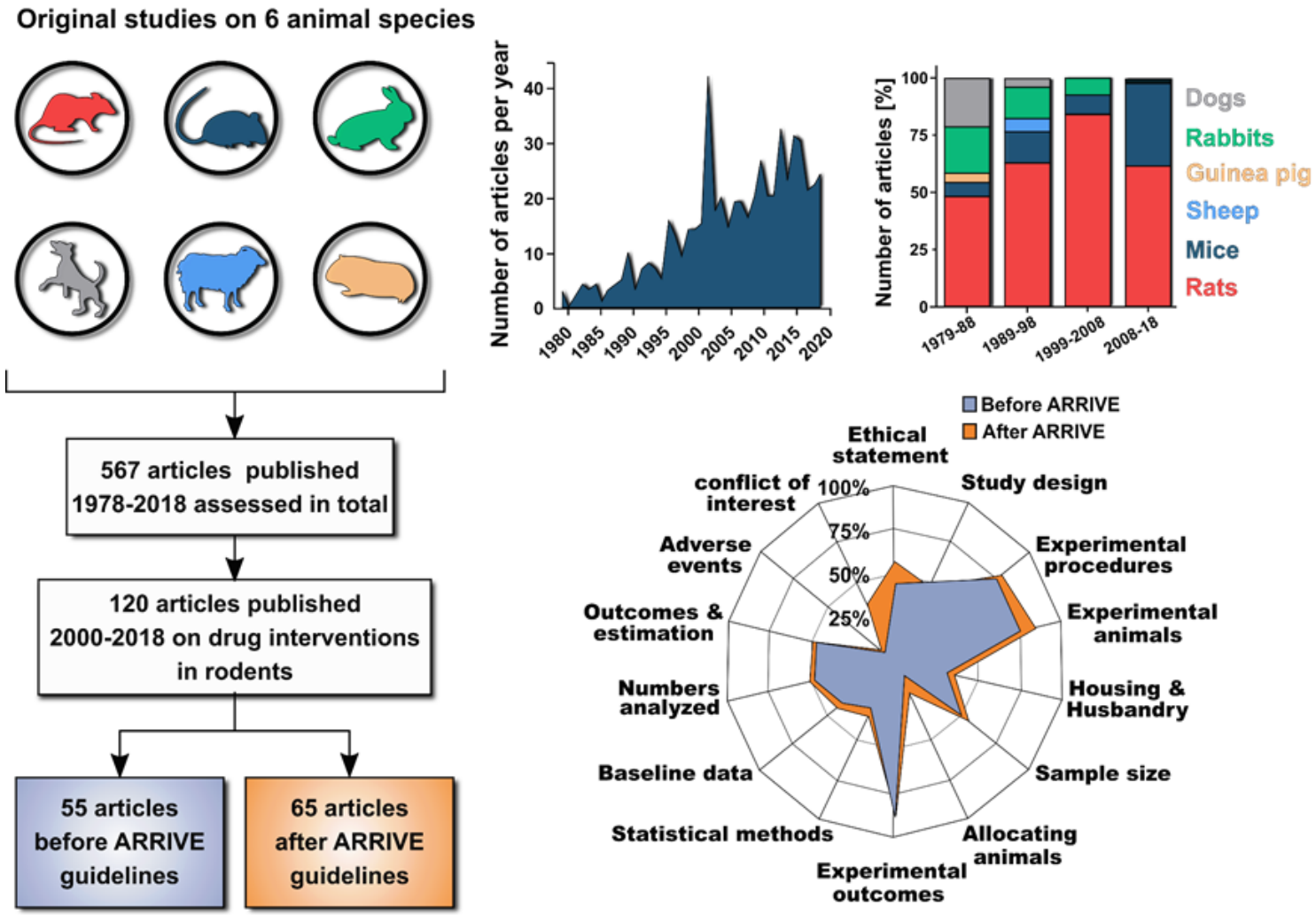


Suppl. Fig. 2


Original studies on 6 animal species
567 articles published 1978-2018 assessed in total
120 articles published 2000-2018 on drug interventions in rodents
55 articles before ARRIVE guidelines
65 articles after ARRIVE guidelines
Number of articles per year
0
10
20
30
40
1980
1985
1990
1995
2000
2005
2010
2015
2020
Number of articles [%]
0
25
50
75
100
1979-88
1989-98
1999-2008
2008-18
Dogs
Rabbits
Guinea pig
Sheep
Mice
Rats
Before ARRIVE
After ARRIVE
Ethical statement
Study design
Experimental procedures
Experimental animals
Housing & Husbandry
Sample size
Allocating animals
Experimental outcomes
Statistical methods
Baseline data
Numbers analyzed
Outcomes & estimation
Adverse events
conflict of interest
100%
75%
50%
25%