

Table S1 Literature search strategy

## PubMed/Medline

#1. (((((((((((((((Renal Insufficiency, Chronic[Title/Abstract]) OR (Chronic Renal Insufficiencies[Title/Abstract])) OR (Renal Insufficiencies, Chronic[Title/Abstract])) OR (Chronic Renal Insufficiency[Title/Abstract])) OR (Kidney Insufficiency, Chronic[Title/Abstract])) OR (Chronic Kidney Insufficiency[Title/Abstract])) OR (Chronic Kidney Insufficiencies[Title/Abstract])) OR (Kidney Insufficiencies, Chronic[Title/Abstract])) OR (Chronic Kidney Diseases[Title/Abstract])) OR (Chronic Kidney Disease[Title/Abstract])) OR (Disease, Chronic Kidney[Title/Abstract])) OR (Diseases, Chronic Kidney[Title/Abstract])) OR (Kidney Disease, Chronic[Title/Abstract])) OR (Kidney Diseases, Chronic[Title/Abstract])) OR (Chronic Renal Diseases[Title/Abstract])) OR (Chronic Renal Disease[Title/Abstract])) OR (Disease, Chronic Renal[Title/Abstract])) OR (Diseases, Chronic Renal[Title/Abstract])) OR (Renal Disease, Chronic[Title/Abstract])) OR (Renal Diseases, Chronic[Title/Abstract]))

#2. (((((((((((((((ferric citrate[Title/Abstract]) OR (iron(III) citrate[Title/Abstract])) OR (ferric-citric acid[Title/Abstract])) OR (ferric citrate anhydrous[Title/Abstract])) OR (ferric citrate hydrate[Title/Abstract])) OR (JTT-751[Title/Abstract])) OR (zerenex[Title/Abstract])) OR (ferric citrate trihydrate[Title/Abstract])) OR (ferric citrate, 59Fe-labeled cpd[Title/Abstract])) OR (ferric citrate, iron salt, 59Fe-labeled cpd[Title/Abstract])) OR (ferric citrate dihydrate[Title/Abstract])) OR (ferric citrate iron(+3) salt[Title/Abstract]))

#3. (((((((((((((((Sevelamer[Title/Abstract]) OR (GT335-012[Title/Abstract])) OR (GT335 012[Title/Abstract])) OR (GT335012[Title/Abstract])) OR (Sevelamer Hydrochloride[Title/Abstract])) OR (Hydrochloride, Sevelamer[Title/Abstract])) OR (RenaGel[Title/Abstract])) OR (Sevelamer Carbonate[Title/Abstract])) OR (Carbonate, Sevelamer[Title/Abstract]))

#4. ((Lanthanum Carbonate[Title/Abstract]) OR (lanthareno[Title/Abstract])) OR (Fosrenol[Title/Abstract])

#5. #2 OR #3 OR #4

#6. (((((((((((Fibroblast Growth Factor 23[Title/Abstract]) OR (FGF23 protein, human[Title/Abstract])) OR (fibroblast growth factor 23, human[Title/Abstract])) OR (tumor-derived hypophosphatemia inducing factor, human[Title/Abstract])) OR (FGF-23 protein, human[Title/Abstract]))

#7. #1 AND #5 AND #6

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Selective reporting (reporting bias)	Other bias
Block, G. A 2012	+	+	+	+	+	+	+
Chue, C. D 2013	?	?	+	+	+	+	+
Isakova, T 2013	?	?	+	+	-	+	+
Seifert, M. E 2013	+	?	+	+	+	+	+
Phelps K R 2014	+	+	+	+	+	+	+
Lin, H. H 2014	?	-	-	+	+	+	+
Ureña-Torres,P 2014	+	+	+	+	-	+	+
Yokoyama, K 2014	?	?	+	+	+	+	+
Geoffrey A 2015	?	+	+	+	-	+	+
Chang, Y. M 2017	?	?	-	+	+	+	?
Fishbane, S 2017	+	?	+	+	+	+	+
Iguchi, A 2017	-	-	-	+	+	+	+
Liabeuf S 2017	+	+	+	+	+	+	+
Otsuki, T 2018	?	?	-	+	+	+	?
Block, G. A 2019	?	?	-	+	+	+	-

**Figure S1** Risk of bias summary: each risk of bias item for each included study.