

Supplementary Materials: Uremic toxins and vascular calcification – missing the forest for all the trees

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Table S1. Full table of the MM and their influence on calcification, as well as their effects on VC related processes in VSMC = increase, = decrease, – = tested, but no effect, ~ = unclear effect.

Uremic retention molecule	Calcification - in vitro	Calcification - in vivo	Calcification - Clinical studies	Osteogenesis	Oxidative stress	Inflammation	Apoptosis	Senescence	Proliferation	Migration	Atherosclerosis
Adiponectin	↓[1–3] –[4]	↓[5,6]	↑[7–9] ↓[10,11] –[12–14]	↓[1,6]		↓[15]	↓[3,5]		↓[16–23] ~[24]	↓[20,21,25,26]	↓[26,27]
Adrenomedullin	↓[28,29]	↓[28,30]		[30]	↓[31,32]				↑[33,34] ↓[35–41]	↓[42–44]	
alpha 1 microglobulin					↓[45]						
Atrial Natriuretic Peptide					↓[46,47]		↑[48] ↓[49]		↑[47,50–64]	↓[50,65,66]	↓[62]
Basic fibroblast growth factor					↑[67]		↓[68–72]		↑[72–88] ↓[89]	↑[67,78,79,82,85,90–99]	↑[88] ↓[100]
beta trace protein											
Calcitonin											
Calcitonin gene-related peptide					↓[101,102]	↓[103]	↑[104] ↓[101,105]		↑[106] ↓[39,102,106–112]	↓[102,113]	
Cholecystokinin						↓[114]					
Clara cell protein (CC16)											
Complement Factor D											
Cystatin C						↑[115]	↑[115]			↓[116]	↑[117] ↓[118]

Creatinine							
Cystein			↑[619]				—[619]
Cytidine							
Decanal							
Dimethylamine							
Dimethylglycine							
Erythritol							
Ethylamine							
Guanidine	—[607]						—[607]
Guanidino acetic acid	—[607]						—[607]
Guanidino succinic acid	↓[607]						—[607]
Heptanal							
Hexanal							
Hypoxanthine			↑[620,621]	↑[622]			↓[623] —[624]
Inosine							
Malondialdehyde (MDA)					↑[596]		
Mannitol				↑[625,626] —[627]	↑[628–630] —[631]		—[631,632] —[631]
Methylguanidine	—[607]						—[607]
Monomethylamine	↓[633]	↓[633]			↑[634]		
Myoinositol							
N-methyl-2-pyridone-5-carboxamide							
N-methyl-4-pyridone-3-carboxamide							
N2,N2-Dimethylguanosine							
N4-Acetylcytidine							
N6-Methyladenosine							

α -keto- δ -
Guanidinovaleric Acid

α -N-Acetylarginine

β -Guanidinopropionic
Acid —[607]

β -Lipotropin

γ -guanidinobutyric
Acid —[607]

—[607]

—[607]

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