

Supplementary Information

SELECTIVITY AND SPECIFICITY OF SMALL MOLECULE FLUORESCENT DYES/PROBES USED FOR THE DETECTION OF Zn²⁺ AND Ca²⁺ IN CELLS

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Table S1 -proteins found in the 20 min SEC-ICPMS fraction

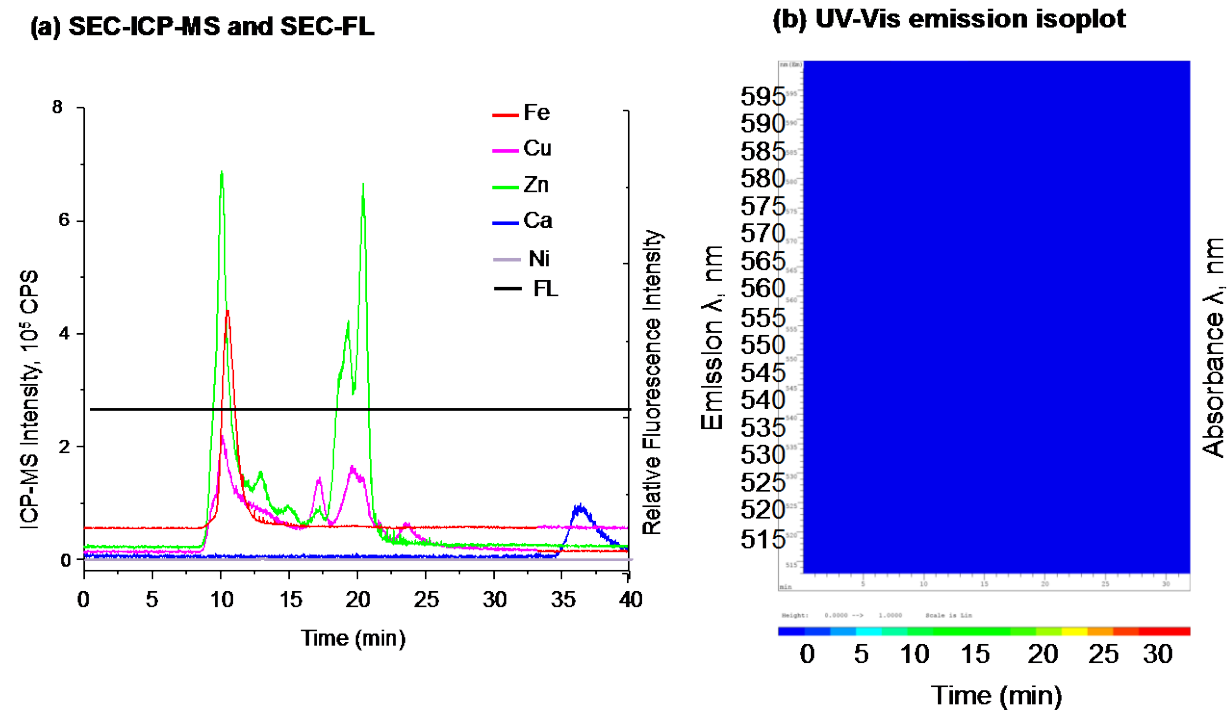
Protein description	MASCOT protein score
Actin, cytoplasmic 1	235
Pyruvate kinase isozymes M1/M2	207
Peroxiredoxin-1 OS=Mus musculus	179
78 kDa glucose-regulated protein	161
gamma actin-like protein [Mus musculus]	157
unnamed protein product [Mus musculus]	157
Plastin-2 OS=Mus musculus	149
Synaptic vesicle membrane protein VAT-1	147
histone H2B type 3-A [Mus musculus]	136
Annexin A1 OS=Mus musculus	128
Alpha-enolase OS=Mus musculus	123
Glyceraldehyde-3-phosphate dehydrogenase OS=Mus	120
Vimentin OS=Mus musculus	119
glyceraldehyde-3-phosphate dehydrogenase [Mus musculus]	116
peptidyl-prolyl cis-trans isomerase A [Mus musculus]	116
Ras-related protein Rab-7a OS=Mus musculus	113
unnamed protein product [Mus musculus]	112
heat shock protein 65 [Mus musculus]	110
alpha-fetoprotein [Mus musculus]	108
spermatid-specific [Mus musculus]	107
unnamed protein product [Mus musculus]	106
Beta-actin-like protein 2 OS=Mus musculus	105
malate dehydrogenase, mitochondrial precursor [Mus musculus]	103
Transgelin-2 OS=Mus musculus	102
Beta-enolase OS=Mus musculus	98
alpha-actin (aa 40-375) [Mus musculus]	96
ATP synthase beta-subunit [Mus musculus]	96
Atp5b protein [Mus musculus]	94
Moesin OS=Mus musculus	89
histone H2A [Mus musculus domesticus]	88
unnamed protein product [Mus musculus]	88
Heat shock cognate 71 kDa protein OS=Mus musculus	87
Metallothionein-2 [Mus musculus]	86

78 kDa glucose-regulated protein [Mus musculus]	84
Macrophage-capping protein OS=Mus	84
pyruvate kinase M [Mus musculus]	81
histone H1.2 [Mus musculus]	80
Heat shock protein HSP 90-beta OS=Mus musculus 2	79
Sulfated glycoprotein 1 OS=Mus musculus	78
Tubulin beta-3 chain OS=Mus musculus	74
profilin-1 [Mus musculus]	72
unnamed protein product [Mus musculus]	71
Myc basic motif homologue-1 [Mus musculus]	69
uncharacterized protein LOC433182 [Mus musculus]	69
unnamed protein product [Mus musculus]	69
40S ribosomal protein S5 [Mus musculus]	68
mCG15232, isoform CRA_b [Mus musculus]	68
Tubulin beta-5 chain OS=Mus musculus	67
Cathepsin B OS=Mus musculus	66
TI-225 [Mus musculus]	66
malate dehydrogenase, mitochondrial precursor [Mus musculus]	65
PREDICTED: ubiquitin-like protein ISG15-like [Mus musculus]	64
Tubulin beta-2A chain OS=Mus musculus	64
unnamed protein product [Mus musculus]	64
L-lactate dehydrogenase A chain isoform 1 [Mus musculus]	63
Annexin A4 OS=Mus musculus	60
Glyceraldehyde-3-phosphate dehydrogenase-like [Mus musculus]	60
unnamed protein product [Mus musculus]	59
ADP/ATP translocase 2 OS=Mus musculus 3	58
histone H2A.J [Mus musculus]	58
Annexin A5 OS=Mus musculus	55
Heat shock protein 75 kDa, mitochondrial OS=Mus musculus	55
unnamed protein product [Mus musculus]	55
Rho family GTPase [Mus musculus]	52
fetuin [Mus musculus]	51
Full=Galectin-3	51
unnamed protein product [Mus musculus]	51
65-kDa macrophage protein [Mus musculus]	50
RNA-binding protein FUS OS=Mus musculus	50
unnamed protein product [Mus musculus]	50
unnamed protein product [Mus musculus]	50
mCG1036674 [Mus musculus]	49
Stress-70 protein, mitochondrial OS=Mus musculus	49
tubulin beta-5 chain [Mus musculus]	49
Twinfilin-1 OS=Mus musculus	49
unnamed protein product [Mus musculus]	49
unnamed protein product [Mus musculus]	49
V-type proton ATPase subunit B, brain isoform OS=Mus	49
ATP synthase subunit alpha, mitochondrial precursor [Mus musculus]	48

endoplasmin [Mus musculus]	48
putative transmembrane glycoprotein [Mus musculus]	48
Transketolase OS=Mus musculus	48
Galectin-3 OS=Mus musculus	47
peroxiredoxin-4 precursor [Mus musculus]	47
unnamed protein product [Mus musculus]	47
ATP synthase subunit alpha, mitochondrial OS=Mus musculus	46
Macrophage scavenger receptor types I and II OS=Mus musculus	46
Fructose-bisphosphate aldolase A OS=Mus	45
Gamma-enolase OS=Mus musculus	44
Tropomyosin alpha-4 chain OS=Mus musculus	43
Aldehyde dehydrogenase, mitochondrial OS=Mus	42
Coiled-coil domain-containing protein 38 OS=Mus musculus	41
Cathepsin S OS=Mus musculus GN=Ctss PE=2 SV=1	39
40S ribosomal protein S8 OS=Mus musculus	38
Lysosome-associated membrane glycoprotein 1 OS=Mus	37

Supplementary Figure S1: Negative, unstained BMC control

(a) SEC-FL and SEC-ICP-MS chromatograms of unstained BMC lysates; Fe, Cu, Zn, Ca and Ni represented by solid lines belong to the left Y axis, while the SEC-FL signal represented by the black line corresponds to the right Y axis; no SEC-FL signal is observed in the unstained control; (b) UV-Vis emission isoplot of unstained BMCs, color scale represents emission intensity.



Supplementary Figure S2: MS/MS of CSQGICKEASDK – MT2

Figure S2 -MS/MS of CSQGICKEASDK - MT2

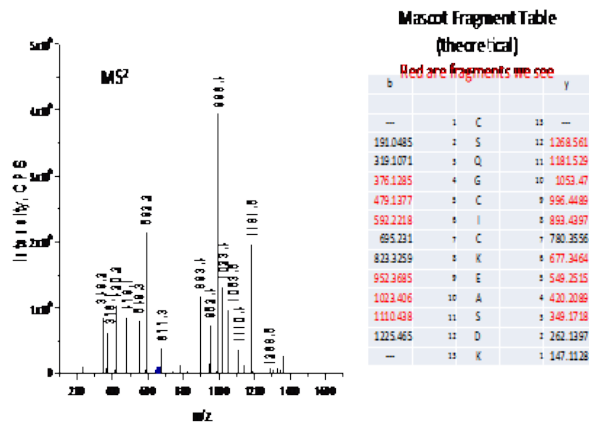
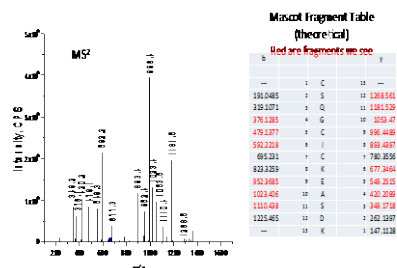


Figure S2 -MS/MS of CSQGICKEASDK - MT2



Fragments observed are in red.