Supplementary Information

Fluorescence-detection size-exclusion chromatography utilizing nanobody technology for expression screening of membrane proteins

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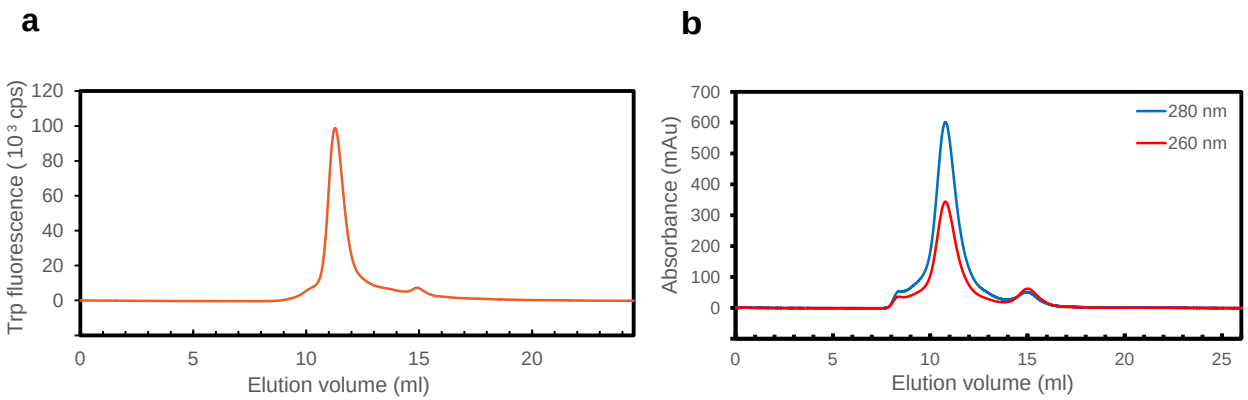
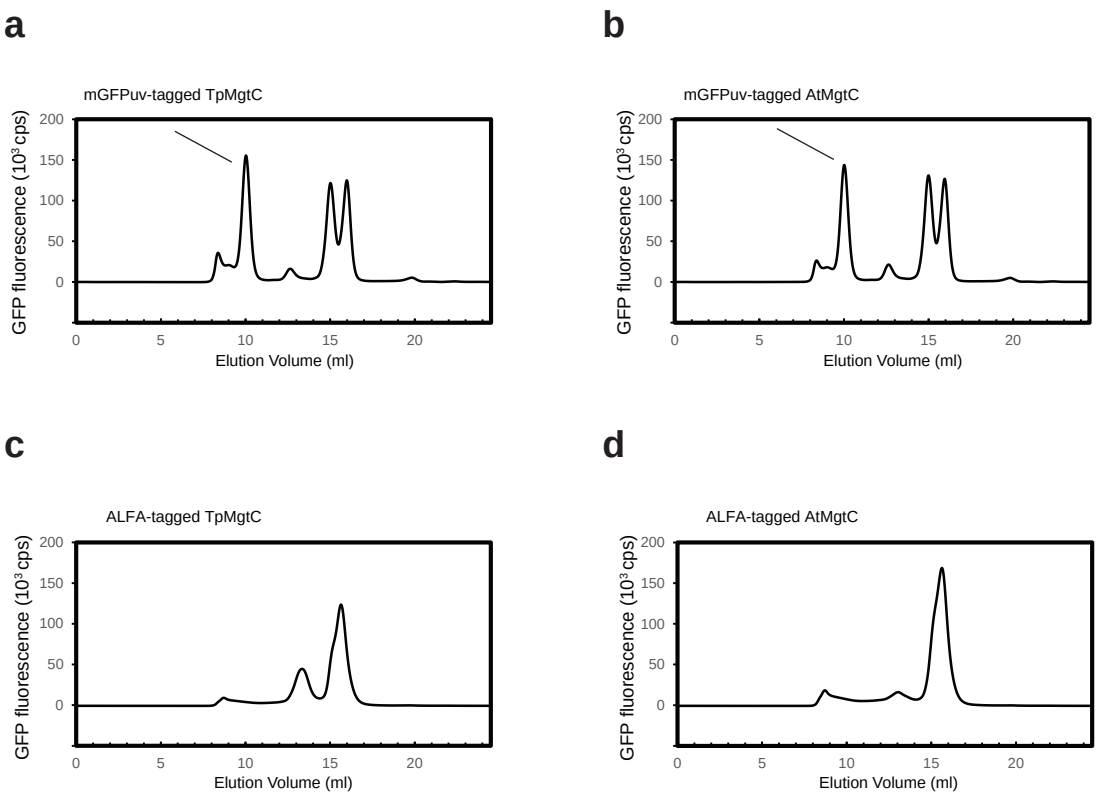


Supplementary Fig. 1 Amphipol reconstitution of OlZAC
(**a**) FSEC trace of NaPol-reconstituted OlZAC on a small scale, as detected by Trp fluorescence. (**b**) Size-exclusion chromatography of NaPol-reconstituted OlZAC, as detected by UV absorbance.



Supplementary Fig. 2 Expression screening of MgtC by GFP-fusion FSEC (**a, b**) FSEC traces of C-terminally mGFPuv-tagged TpMgtC (Accession Number: WP_038038224.1) and AtMgtC (WP_043965058.1), as detected by mGFPuv fluorescence. (**c, d**) FSEC-Nb traces of ALFA-tagged TpMgtC and AtMgtC with mEGFP-tagged NbALFA, as detected by mEGFP fluorescence.

No	Species	Accession Number	Abbreviation
1	Halobacillus halophilus	WP_014641389.1	HhMgtC
2	Lactococcus lactis	WP_021722089.1	LlMgtC
3	Mycobacterium aromaticivorans	WP_051660484.1	MaMgtC
4	Virgibacillus halodenitrificans	WP_060678220.1	VhMgtC
5	Klebsiella oxytoca	WP_049112851.1	KoMgtC
6	Yersinia ruckeri	WP_004722955.1	YrMgtC
7	Elizabethkingia meningoseptica	WP_019051280.1	EmMgtC
8	Methylophilus sp.	WP_049639727.1	MsMgtC
9	Pedobacter agri	WP_010599226.1	PaMgtC
10	Thermobacillus composti	WP_015253117.1	TcMgtC
11	Thermobispora bispora	WP_013130974.1	TbMgtC
12	Brevibacillus brevis	WP_017246836.1	BbMgtC
13	Vibrio vulnificus	WP_045614446.1	VvMgtC
14	Clostridium acetobutylicum	WP_010966920.1	CaMgtC
15	Xanthobacter autotrophicus	WP_012113199.1	XaMgtC
16	Bacillus cereus	KYQ01271.1	BcMgtC
17	Gracilibacillus boraciitolerans	GAE93792.1	GbMgtC
18	Lactobacillus paracasei	WP_016383475.1	LpMgtC
19	Rubrobacter xylanophilus	WP_011565853.1	RxMgtC
20	Lysinibacillus boronitolerans	WP_016994404.1	LbMgtC
21	Desulfurispora thermophila	WP_018084380.1	DtMgtC
22	Thermanaerothrix daxensis	WP_054522013.1	TdMgtC
23	Thermocrinis albus	WP_012992317.1	TaMgtC
24	Sphaerobacter thermophilus	ACZ39839.1	StMgtC
25	Thermorudis peleae	WP_038038224.1	TpMgtC
26	Rubellimicrobium thermophilum	WP_040645344.1	RtMgtC
27	Quasibacillus thermotolerans	WP_039233714.1	QtMgtC
28	Thermincola ferriacetica	WP_083436703.1	TfMgtC
29	Caldicellulosiruptor naganoensis	WP_045165679.1	CnMgtC
30	Anoxybacillus thermarum	WP_043965058.1	AtMgtC
31	Desulfofundulus	WP_027355452.1	DeMgtC
32	Thermodesulfobium narugense	WP_013756617.1	TnMgtC
33	Serratia	WP_006319255.1	SeMgtC
34	Bacillus mannanilyticus	WP_025026422.1	BmMgtC
35	Alkalihalobacillus akibai	WP_035663104.1	AaMgtC
36	Hungateiclostridium thermocellum	WP_003513884.1	HtMgtC
37	Stenotrophomonas pictorum	WP_054658310.1	SpMgtC
38	Prevotella maculosa	WP_019967744.1	PmMgtC
39	Prevotella salivae	EFV04256.1	PsMgtC

40	Prevotella veroralis	WP_018911053.1	PvMgtC
41	Prevotella sp.	WP_177216065.1	PspMgtC
42	Peptococcaceae bacterium	KJS46311.1	PbMgtC
43	Sphingobacteriales bacterium	OJV97509.1	SbMgtC
44	Yersinia pestis	WP_015683614.1	YpMgtC
45	Natronincola peptidivorans	WP_090446121.1	NpMgtC
46	Myxococcus hansupus	WP_021781415.1	MhMgtC
47	Obesumbacterium proteus	WP_046459523.1	OpMgtC
48	Limihaloglobus sulfuriphilus	WP_146682549.1	LsMgtC
49	Lactobacillus kefiri	WP_054769137	LkMgtC
50	Dictyoglomus sp.	PMQ01502.1	DspMgtC
51	Bacillus sp.	WP_094032362.1	BspMgtC
52	Sphingobacterium detergens	WP_120259343.1	SdMgtC
53	Chryseobacterium culicis	WP_105683769	CcMgtC
54	Lactobacillaceae	WP_021357857.1	LaMgtC
55	Bacteroides eggerthii	WP_118363478.1	BeMgtC
56	Acidaminococcus	WP_016459447.1	AcMgtC
57	Tissierella sp. P1	WP_094904138.1	TspMgtC
58	Mucilaginibacter sp.	WP_067187481.1	MspMgtC
59	Erwinia typographi	WP_034897147.1	EtMgtC
60	Clostridium tepidiprofundi	WP_066821746.1	CtMgtC
61	Arthrobacter sp.	WP_155850019.1	AsMgtC
62	Chitinophagaceae bacterium	WP_157444983.1	CbMgtC
63	Risungbinella massiliensis	WP_044641850.1	RmMgtC
64	Deltaproteobacteria bacterium	OGR23206.1	DbMgtC
65	Carnobacterium iners	WP_085559504.1	CiMgtC
66	Lactobacillus farraginis	KRM01365.1	LfMgtC
67	Thermosyntropha lipolytica	WP_073089568.1	TlMgtC
68	Acidobacteria bacterium	PYX87356.1	AbMgtC

Supplementary Table 1 MgtC orthologs for GFP fusion-based FSEC screening