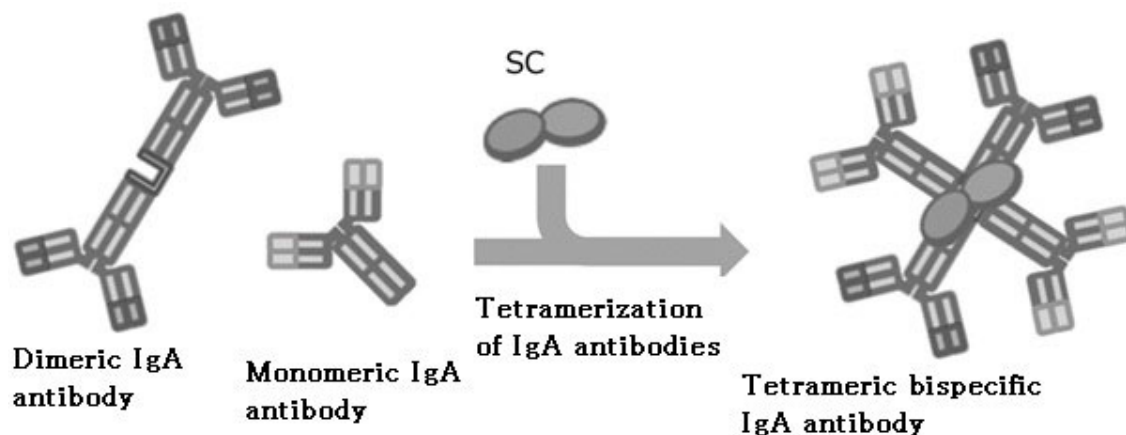


[FIG.1]



[FIG.2-1]

① Amino acid sequence information of wild-type SC (Sc-wt)

*MLLFVLTCLLAVFPAIST***KSPIFGPEEVNSVEGNSVSITCYPPPTSVNRHTRKYWCRQGARGGCITLISSEGYVSSKYA**
GRANLTNFPENGTFVVNIAQLSQDDSGRYKCGLGINSRGLSFDVSLEVSQGPGLLNDTKVYTVDLGRTVTINCPFKTEN
AQKRKSLYKQIGLYPVLVIDSSGYVNPNTGRIRLDIQGTGQLLFSVVINQLRLSDAGQYLCQAGDSDNSNKKNADLQV
LKPEPELVYEDLRGSVTFHCALGPEVANVAKFLCRQSSGENCDVVVNTLGKRAPAFEGRILLNPQDKDGSFSVVTGLR
KEDAGRYLCGAHSDGQLQEGSPIQAWQLFVNEESTIPRSPTVVKGAVAGGSVAVLCPYNRKESKSIKYWCLWEGAQNGRC
PLLVDSEGWVKAQYEGRLSLLEPGNGTFTVILNQLTSRDAGFYWCLTNGDTLWRTTVEIKIIEGEPNLKVPGNVTAVL
GETLKVPCHFPCFSSYEKYWCKWNNTGCQALPSQDEGPSKAFVNCDENSRLVSLTLNLVTRADEGWYWCQGVKQGHFYG
ETAAYVVAVEERKAAGSRDVS LAKADAAPDEKVLDSGFREIENKAIQDPRKLLVPRGSPHHHHHHH

② Amino acid sequence information of SC12 deletion mutant (SC12)

*MLLFVLTCLLAVFPAIST***KSPIFGPEEVNSVEGNSVSITCYPPPTSVNRHTRKYWCRQGARGGCITLISSEGYVSSKYA**
GRANLTNFPENGTFVVNIAQLSQDDSGRYKCGLGINSRGLSFDVSLEVSQGPGLLNDTKVYTVDLGRTVTINCPFKTEN
AQKRKSLYKQIGLYPVLVIDSSGYVNPNTGRIRLDIQGTGQLLFSVVINQLRLSDAGQYLCQAGDSDNSNKKNADLQV
LKPEPKLLVPRGSPHHHHHHH

Italic: signal sequence (from human pIgR)

Bold, underlined: Sc-wt or SC12

Bold: thrombin site

Underline: His tag

[FIG.2-2]

Gene information of SC-wt

atgtctctcttcgtgtcaccctgectgtggcggtcttcccagccatctccacgaagagtcccatatttgggtcccaggg
aggtgaatagtggtgaaggtaactcagtggtccatcacgtgtactaccacccacctctgtcaaccggcacaccggaa
gtactgggtgccggcaggagctagaggtggctgcataaccctcatctctcggagggtacgtctccagcaaatatgca
ggcagggttaacctacccaacttcccggagaacggcacatttgtggtgaacattgccagctgagccaggatgactccg
ggcgtacaagtgtggcctgggcatcaatagccgaggcctgtcctttgatgtcagcctggaggtcagccagggtcctgg
gtcctaaatgacactaaagtctacacagtggaacctgggcagaaacggtgaccatcaactgccctttcaagactgagaat
gtcaaaaagaggaagtccttgtacaagcagataggcctgtaccctgtgctggtcacgactccagtggttatgtaaatc
ccaactatacaggaagaatacgccttgatattcagggtactggccagttactgttcagcgttgtcatcaaccaactcag
gtcagcgatgtgggcagtatctctgccaggctggggatgattccaatagtaataagaagaatgctgacctccaagtg
ctaaagcccagagcccgagctggtttatgaagacctgaggggtcagtgaccttccactgtgccctgggcctgaggtgg
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ggagagactctcaagggtccctgtcactttccatgcaaattctcctcgtacgagaaatactggtgcaagtggaaataaca
cggtgtgccaggccctgccagccaagacgaaggccccagcaaggccttcgtgaactgtgacgagaacagccggcttgt
ctccctgacctgaacctggtgaccagggtgatgagggtggtactggtgtggagtgaagcaggggccacttctatgga
gagactgcagcgtctatgtggcagttgaagagaggaaggcagcgggtcccgcgatgtcagcctagcgaaggcagacg
ctgtcctgatgagaaggtgctagactctggttttcgggagattgagaacaaagccattcaggatcccaggaagcttct
ggtgcctcgcggttccccctaccaccaccaccactaa

Italic: signal sequence (from human pIgR)

Bold, underlined: SC-wt

Bold: thrombin site

Underline: His tag

[FIG.2-3]

Gene information of SC12 deletion mutant (SC12)

*atgctgctcttcgtgctcacctgctgctggcggtcttcccagccatctccacgaagagtc***ccatatttgg****tccc****gagg**
aggtgaatagtg**tggaggtaactcag****tgtccatcacgtg****ctactacccacccac****ctctgtcaaccggcacacccggaa**
gtactgg**tccggcagggagctagaggtggctgcataaccctcatctcctcggagggtacgtctccag****caaatatgca**
ggcagggctaacctcaccaacttcccggagaaacggcacattt**gtgg****tgaacattgcc****cagctgagccag****gatgactccg**
ggcgctacaagtgtggcctgggc**atcaatagccgagggcctgtcctttgatgtcagcctggaggtcagccaggg****tctgg**
gctcctaaatgacactaaagtctacacag**tggacctgggcagaaacgg****tgaccatcaactgccctttcaagactgagaat**
gctcaaaagaggaagtcctt**gtacaagcagataggcctgtaccctgtgctgg****tcactccag****tgggttatgtaaatc**
ccaactatacaggaagaatacgccttgatattcaggg**tactggccagttactgttcagcgttg****tcataccaactcag**
gtcagcgatgctgggcagtatctctgccaggtggggatgattccaatagtaataagaagaatgctgac**ctccaagt**
ctaaagccc**gagcccaagcttctgg****tgcctcgcggttcccctcaccaccaccaccaccactaa**

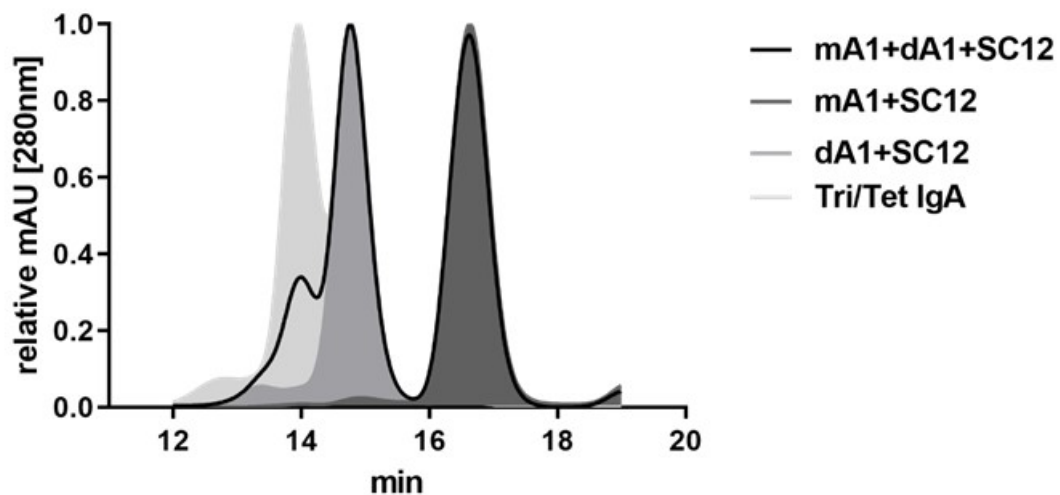
Italic: signal sequence (from human pIgR)

Bold, undelined: C12

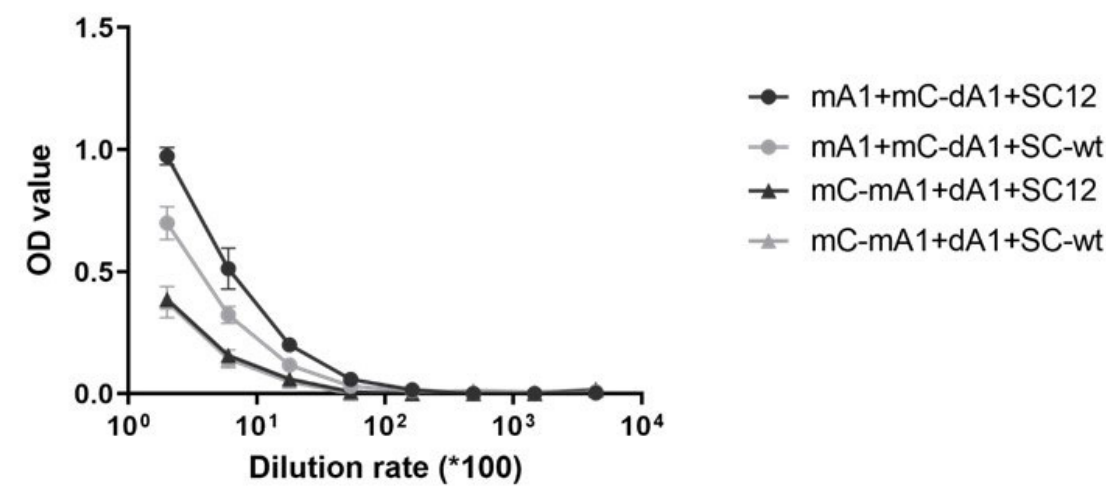
Bold: thrombine site

Undeline: His tag

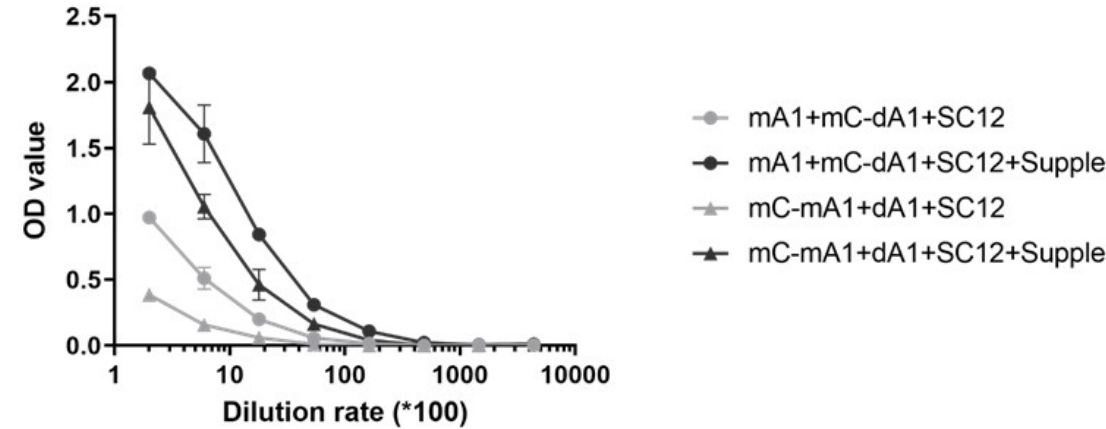
[FIG.3]



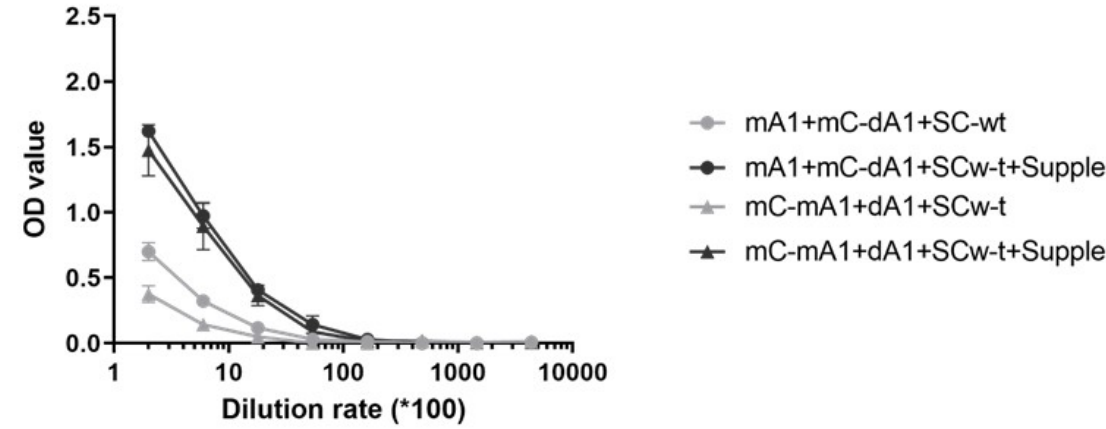
[FIG. 4]



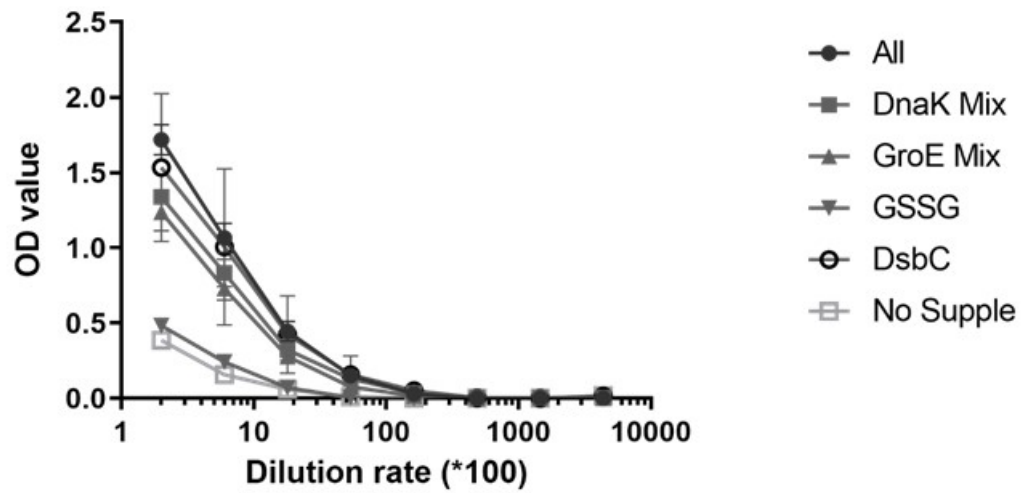
[FIG. 5A]



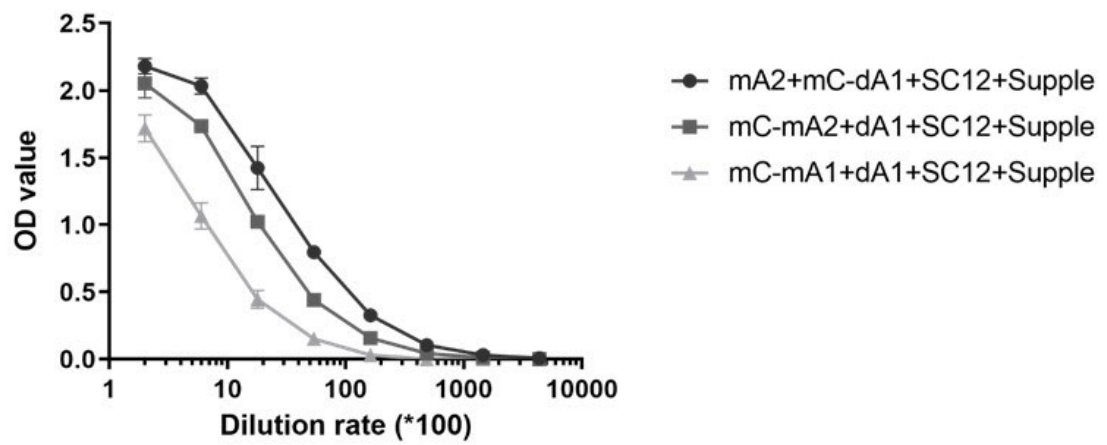
[FIG. 5B]



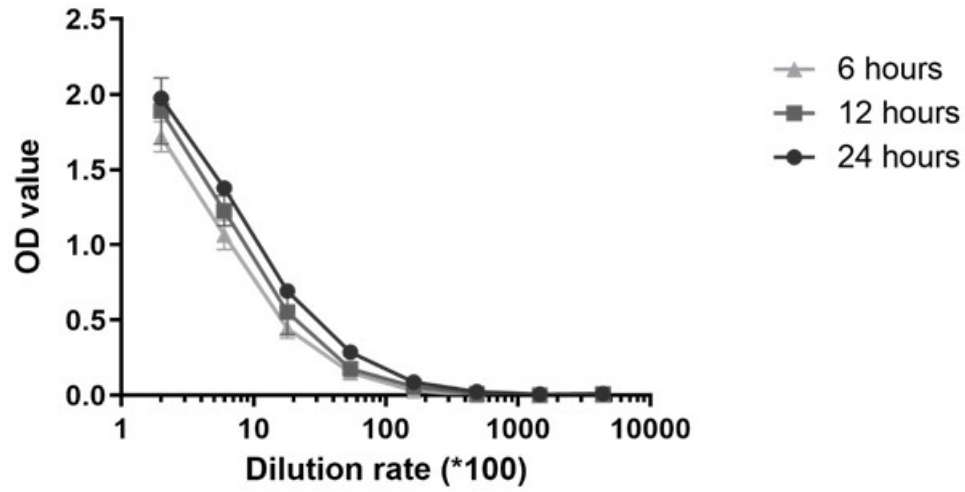
[FIG. 6]



[FIG. 7]



[FIG.8]



[FIG.9]

