



Figure S1. Example gating strategy for antibody binding to bacteria. Bacteria were labeled with CFSE, and antibodies were labeled with APC.

### **mAb PhtD3**

#### Heavy chain variable region nucleotide sequence:

cagggtcagctagtcagctctggcctgacgtgaagaagcctgggtcctcggtgaaggctcctgcaaggcctctggagccgccttcg  
agagtttgccttcgctgggtgcgacaggcccctggacaaggggttgatggatgggaaggatcattccaatctggaacaagggga  
ctacgcagagaagttccagggcagaatgacgatgaccacagacgagtcgacggcgacagcctacatggaactgaacagcctaa  
gattgaagacacggccgttatttctgtgcgagatgggcacattatgaggacaactctcctggatgctgacttgatgtctggggcca  
agggacaacggtcattgtctcctcag

#### Heavy chain variable region amino acid sequence:

QVQLVQSGPDVKKPGSSVKVSKASGAAFESFAFAWVRQAPGQGFQWGRIPLETRDYAE  
KFQGRMTMTTDESTATAYMELNSLRFEDTAVYFCARDGHIMRTTLSAALDVWGGQTTVIVSS

#### Light chain variable region nucleotide sequence:

gacatcgtgatgaccagtcctcagtcaccctgtcttctccaggggagagagccaccctcctcctgacagggccagtcagagcttact  
gacaactacttagcctggtaccagcagaaacctggcaggctcccaggctcctcatctacgccgatccaccagggccactggcat  
cccagacaggatcagtggtcagtggtctgggacagactcactctcaccatcagcagagtgaggcctgaagatttgaatgtttact  
gtcaacagtatcagaactcaccgttcacctcggcggggggaccacgggtggagatcaaac

#### Light chain variable region amino acid sequence:

DIVMTQSPVTLSPGERATLSCRASQSLTDNYLAWYQQKPGQAPRLLIYAASTRATGIPDRIS  
GSGSGTDFTLISRVEPEDFAMFYCQQYQNSPFTFGGGTTVEIK

### **mAb PhtD6**

#### Heavy chain variable region nucleotide sequence:

cagggtcagttggtcagctctgggactgaggtgaagaagcctggggcctcagtgaggctgcctgcaaggcttctggatacaccttca  
ctagttatgatatcaactgggtgcgacaggcccctggacaagggcttgatggatgggatggatgaacgcgaacagtggaacaca  
ggctatgcacaaaagttccagggcagagtcaccatgaccaggaacacctccattaccacagcctacatggacctgattgatctgaca  
tctgaggacacggccatatattactgtgagagggccgtactgggtggagaattggttcgacacctggggccagggaaacctggtc  
agcgtctcctcag

#### Heavy chain variable region amino acid sequence:

QVQLVQSGTEVKKPGASVKVACKASGYTFTSYDINWVRQAPGQGLEWWMGNANSNTGY  
AQKFQGRVTMTRNTSITTAYMDLIDLTSEDTAIYYCARGPYWVENWFDTWGQGLTVSVSS

#### Light chain variable region nucleotide sequence:

gacatccagatgaccagtcctcctcctcctgctcgtctgctgagacagagtcaccatcacttgccgggcaagtcggagcattcg  
cagcttttaaatggtatcaacaaaaaccagggaaaccccctaacctcctgatctataaagcatccacttgcacagtggggtcccgtc  
taggtcagtggtcagtggtctgggacagattcactctacaatcaacaatctacaaccgaagatttgaacttactactgtcaaca  
gagttacagtaatcagaagacctcggccaagggaccaaggtggacatcaaac

#### Light chain variable region amino acid sequence:

DIQMTQSPSSLSASVGDRTITCRASRSIRSFLNHWYQQKPKPPNLLIYKASTLHSGVPSRFSG  
SGSGTDFTLTINLQPEDFATYYCQQSYSNQKTFGGGTKVDIK

### **mAb PhtD7**

#### Heavy chain variable region nucleotide sequence:

gagggtcagctggtcagctctggggctgaagtgaagaagcctggggcctcagtgaggctcctgcaaggcttctggagacatcttc  
agcgactcctatattcactgggtgcgacaggcccctggacaagggcctgagtgatgggatgggtcagccctaacactggtgccac  
acattatgcacagaagttgcagggcagagtcaccatgaccagcgacacgtccatcagtacagcctatttggagctgaccaggctgg  
catctgacgacacggccgttattactgtgagagatctaaggggaagttatgattccggggtaattatccacatgatttactactg  
ggccagggaaacctggtcaccgtctcctcag

Heavy chain variable region amino acid sequence:

EVQLVQSGAEVKKPGASVKVSKASGDIFSDSYIHWVRQAPGQGPEWMGWVSPNTGATHYA  
QKLQGRVTMTSDTSISTAYLELTRLASDDTAVYYCARVLRGSYDFRGNYPHDFDYWGQGLTVT  
VSS

Light chain variable region nucleotide sequence:

cagcttgctgactcaaccgacctgcctctgcctccctgggagcctcggtcaccctcacctgactctgagcagaggacacaaca  
actaccccatcgcttgctccaaaagcagacagataagggccctcggtatgtgatgagacttaatagtgatggcagccaccacaagg  
gggacggaatccctgatcgcttctcaggctccagttctgggctgagcgctacctcagcattccagctccagcctgaagatgaggct  
gaatactactgtcagacgtgggacactggccttcaggggtgttcggcggaggggaccaaactgttcgctctag

Light chain variable region amino acid sequence:

QLVLTQPPSASASLGASVTLTCTLSRGHNNYPIAWLQKQTDKGPRYVMRLNSDGS SHHKGDGIP  
DRFSGSSSGAERYLSISSLQPEDEAEYYCQTWDTGLQGVFGGGTKLFVL

**mAb PhtD8**

Heavy chain variable region nucleotide sequence:

caggtgcagctggtgcagtctgggctgaggtgaagaagcctggggcctcagtgaggctcctgtaaggcttctggatacaccttca  
ccgactacttatacactgggtgagacagggccctggacacggtcttgaatggatggggtggatcaaccctaaccgctgtcaca  
actatacacagaagttcagggcaggtcaccatgaccaaggacacgtccgtcacctcagctacatggagctgagcaggtgaca  
tctgacgacacggccctatattattgtgagaggtggtacgcttgaccactggggccagggcaccctggtcaccgtctcctctg

Heavy chain variable region amino acid sequence:

QVQLVQSGAEVKKPGASVKVSKASGYTFTDYFIHWVRQAPGHGLEWMGWINPNRQVVTNYT  
QKFQGRVTMTKDTSVTSVYMELSRLTSDDTALYYCARGGTL DHWGQGLTVTVSS

Light chain variable region nucleotide sequence:

cagcttgctgactcaatcgccctctgcctctgcctccctgggagcctcggtcaccctcacctgactctgagcagtgggcacagcac  
ctacgacatcgatggcatcagcagcagccaggaaagggccctcgacactgatgagacttaacggatggcagtcacaccaac  
ggggacgggatccctgatcgcttctcaggctccagctctgggctgagcgctacctcaccatctccagcctccagctgaagatgagg  
ctgactattactgtcacacctgggtcactaacattcattgtgttcggcggaggggaccaaactgaccgtcctag

Light chain variable region amino acid sequence:

QLVLTQSPSASASLGASVTLTCTLSSGHSTYDIAWHQQP GKGPRHMLRLNGDGSHTNGDGI  
PDRFSGSSSGAERYLTISSLQSEDEADYYCHTWVTNIHLVFGGGTKLTVL

**mAb PspA16**

Heavy chain variable region nucleotide sequence:

caggtgcagctggtgcagtctggcctgacgtgaagaagcctggggcctcagtgaggctcctgtaagacttctggatacaccttca  
ctggctactatatgactgggtgagacagggccctggacaaggcctgagtgatggatgggtcaaccctaaccgggtggcaca  
agttatgcacagaagttcagggcaggtcaccgtgaccaggacacgtccatcagcacagtctacatggaactgagcgtctagg  
atctgacgacacggccatatttctgtgagggcggtgggtccggcgctgagtacctccaccactggggccagggcaccctggt  
caccgtctcctcag

Heavy chain variable region amino acid sequence:

QVQLVQSGPDVKKPGASVKVSKKTSGYTFTGYMHVVRQAPGQGLEWMGWVNPNTGGTSY  
AQKFQGRVTVTRDTSISTVYMELSALGSDDTAIFCARAWAPGAEYLHHWGQGLTVTVSS

Light chain variable region nucleotide sequence:

gagattgtgatgaccagctctccaggcaccctgtctttgtctccaggggaaacagccaccctctcctgcagggccagtcagagtggttg  
cagcagctacttagcctggatcagcagaaacctggccaggctcccaggctcctcatcttggcgccaacagggccactggcatc  
ccagtcaggttcagtgccagtgggctctgggacagactcactctccatcagcagactggagcctgaagatttcgagtgattactgt  
cagcagcatgatcactcaccattcactttcggccctgggaccaaagtggatctcaaac

EIVMTQSPGTLTSLSPGETATLSCRASQSVGSSYLAWYQQKPGQAPRLLIFGASNRATGIPVRF  
ASGSGTDFTLTISRLEPEDFAVYYCQQHDHSPFTFGPGTKVDL

**PhtD3-IgG<sub>2a</sub> human/mouse chimera**

Heavy chain amino acid sequence

QVQLVQSGPDVKKPGSSVKVSCASGAAFESFAFAWVRQAPGQGFQEWGRIIPILETRDYAE  
KFQGRMTMTTDESTATAYMELNSLRFEDTAVYFCARDGHIMRTTLSDAALDVWGQGTIVIVSS  
GCTAGCTTAPSVYPLAPVCGDITGSSVTLGCLVKGYFPEPVTLTWNLSGLSSGVHTFPAVLQS  
DLYTLSSSVTVTSSTWPSQSITCNVAHPASSTKVDKIEPRGPTIKPCPPCKCPAPNLLGGPSV  
FIFPPKIKDVLMLISLPIVTCVVVDVSEDDPDVQISWVFNNEVHTAQTQTHREDYNSTLRVVS  
LPIQHGDWMSGKEFKCKVNNKDLPAPIERTISKPKGSVRAPQVYVLPPEEEMTKKQVTLTCM  
VTDMPEDIYVEWTNNGKTELNYKNTEPVLDSGYSYFMYSKLRVEKKNWVERNSYSCSVVHE  
GLHNHHTTKSFSRTPGK

Light chain amino acid sequence

DIVMTQSPVTLTSLSPGERATLSCRASQSLTDNYLAWYQQKPGQAPRLLIYAASTRATGIPDRIS  
GSGSGTDFTLTISRVEPEDFAMFYCQQYQNSPFTFGGTTVEIKGGATCCRADAAPTIVSIFPPS  
SEQLTSGGASVVCFLNMFYPKDINVKWKIDGSERQNGVLNSWTDQDSKDYSTYSMSSTLTLTKD  
EYERHNSYTCETHKTSTSPIVKSFNRE

**PhtD8-IgG<sub>2a</sub> human/mouse chimera**

Heavy chain amino acid sequence

QVQLVQSGAEVKKPGASVKVSCASGYTFTDYFIHWVRQAPGHGLEWGWINPNRGVTNYT  
QKFQGRVTMTKDTSVTSVYMEISRLTSDDTALYYCARGGTLDHWGQGLTVTVSSASTTAPSV  
YPLAPVCGDITGSSVTLGCLVKGYFPEPVTLTWNLSGLSSGVHTFPAVLQSDLYTLSSSVTVT  
SSTWPSQSITCNVAHPASSTKVDKIEPRGPTIKPCPPCKCPAPNLLGGPSVFIFPPKIKDVLMLIS  
LSPVITCVVVDVSEDDPDVQISWVFNNEVHTAQTQTHREDYNSTLRVVSALPIQHGDWMSGK  
EFKCKVNNKDLPAPIERTISKPKGSVRAPQVYVLPPEEEMTKKQVTLTCMVTDMPEDIYVEW  
TNNKTELNYKNTEPVLDSGYSYFMYSKLRVEKKNWVERNSYSCSVVHEGLHNHHTTKSFSR  
TPGK

Light chain amino acid sequence

QLVLTQSPSASASLGASVTLTCTLSGHSTYDIAWHQQQPGKGRHMLRNLNGDGSHTNGDGI  
PDRFSGSSSGAERYLTISLQSEDEADYYCHTWVTNIHLVFGGGTKLTVLGSPKSTPTLTVFPP  
SSEELKENKATLVCLISNFSPSGVTVAWKANGTPITQGVDTSNPTKEGNKFMASFLHLTSDQ  
WRSHNSFTCQVTHEGDTVEKSLSPAEC