

LNP	Composition									
	Lipomer	Cholesterol	PEG	Helper Lipid	Other	Lipomer	Cholesterol	PEG	Helper Lipid	Other
ckK-E12 Standard	ckK-E12	Cholesterol	C14-PE-PEG2K	DOPE	1	35	46.5	2.5	16	0
Moderna Vaccine	SM-102 (Moderna - Cayman)	Cholesterol	DMG-PEG-2K	DSPC	1	50	38.5	1.5	10	0

mRNA Cargo	ORF Sequence
OVA	ATGGGCTCTATCGGCGCCGCCAGCATGGAATTTGCTTCGACGTGTTCAAGGAGCTGAAAGTGCATCACGCCAATGAGAATCTTCTACTGCTCTATCGCCATCATGTC TGCCCTGGCCATGGTCTACCTGGGCGCCAAGGACTCTACAAGAACCCTAATCAACAAGGTCGTGGCGTTGATAAGCTGCCCGGCTTCGGAGATTCTATCGAAGCCC AGTGTGGCACCAGCGTGAACGTTACAGCTCCCTGCGGGGATCTCTGAACCAGATCACAAAGCCCAACGACGTGTACAGCTTCAGTCTGGCTAGCAGACTGTACGCT GAGGAAGATACCTATCTGCGCAGAGTACCTGCAGTGCCTGAAGGAATCTATAGAGGAGGCCCTGGAACCCATCAACTCCAGACCAGCCAGCCAGGCCAGAG AGCTGATCAACAGCTGGGTGGAATCTCAGACAACGGCATCATCGGAACGTCTGCAGCCTAGCAGCGTGACTCCAGACCAGCCATGTGTCTTGTAAGGCCAT CGTGTTCAAGGGCCTGTGGGAGAAGACATTCAAGACGAGGACACCCAGGCCATGCGCTTCAGGGTTACAGAGCAGGAGAGCAAGCCCTGTGCAGATGATGTACCAGA TAGGACTGTTTCGGGTGGCCAGCATGGCCAGCGAGAAGATGAAAATTTGGAATCGCCTTTTGCCAGCGGCCACAATGAGCATGCTGGTGCTGCTGCGCTGATGAGGTGA GCGGCCTCGAACAGCTGGAATCCATCATCAATTTGAGAAGCTGACCGAGTGGACCTCTAGCAACGTGATGGAAGAGAGAAAGATCAAAAGTGTACCTGCCTAGAAATGAA GATGGAAGAGAAATACAACCTGACAAGCGTCTGATGGCTATGGGCATCACCGAGCTGTTAGCAGCTCTGCTAATCTGTCTGGCATCAGCTCCGCCGAGAGGCTGAA GATTAGCCAAGCTGTGCACGCGCCACGCCGAGATCAACGAGGCTGGAAGAGAAGTGGTGGGCAGCGCCGAGGCCGGCGTGGACGCCGCTAGCGTGTCTGAG GAATCCGGGCGGATCACCCCTTCTGTCTGTCATCAAGCACATCGCCACCAATGCCGTGCTGTTCTTCGGCAGATGCGTGTCCCA
GFP	ATGGTGTCCAAGGGCGAGGAAGTGTTCACCGGCGTGGTGGCCATCCTGGTGGAACTGGATGGCGACGTGAACGGCCACAAGTTCAGCGTGTCCGGCGAGGGCGA AGGCGACGCCACATACGGAAGCTGACCCCTGAAGTTCATCTGCACCAACCGGCAAGCTGCCCGTGCCTTTGGCCATCCCTCGTGACCACTGACCTACGGCGTGCA GTGCTTCAGCAGATACCCGACCATATGAAGCAGCAGACTTCTTAAGAGCGCCATGCCCAGGGGCTACGTGCAGGAAGAACCATCTTCTTTAAGGACGACGGCA ACTACAGACCAAGGCCGAAGTGAAGTTCGAGGGCGACACCTCGTGAACAGAAATCGAGCTGAAGGGCATCGACTTCAAGAGGACGGCAACATCTCGGGCCACAA GCTGGAGTACAACACAGCCACAACGTGTACATCATGGCCGACAAAGCATCAAGATCAAGTGAACCTCAAGATCCGGCACAACTCAGGACGGCTCCGCT GCAGCTGGCCGACCACTACCAGCAGAACACCCCTATCGGCGACGGCCCTGTGCTGTGCTGCTGACAACCACTACCTGAGCACCAGAGCGCCCTGAGCAAGGAC CCCAACGAGAAGAGGGACCATGTGTGTGTGAATTCGTACCGCCGCTGGCATCACCTGGGCGATGGACGAGCTGTACAAG
Nluc	ATGAAATGGGTACCTTTATCTCCCTGCTGTTCTGTTAGCTCCGCATACCTCAGTGTTCACCTGGAAGACTTTGTGGGCGATTGGCGGCAGACAGCCGGCTACAACCT GGACCAAGTGTGTGAGCAGGGAGGCGTGAGCTCCCTGTTCCAGAAATCTGGGCGTGTCCGTGACCCCAATCCAGAGAATCTGTCTGTCTGGCGAGAAGCGCCGTGA GATCGACATCCACGTGATCATCCCTATGAGGGCGTGTCTGGCGATCAGATGGGCCAGATCGAGAAGATCTTCAAGGTGGTGATCCCTGTGGACGATCACCACTTCAA AGTGATCCTGCACTATGGACCCCTGGTATCGACGAGTGAACCCAAATATGATCGATTCTCGGCAGGCGCTTATGAGGGCATCGCCGTGTTTGTATGGCAAGAGATC ACCGTGACAGGCACCTGTGGAACGGCAATAAGATCATCGCAGGAGGCTGATCAACCCAGATGGCTCCCTGTGTTTCGGGTGACAATCAAGTGGAGTACCGGATG GAGGCTGTGCGAGAGAATCTGGCAGGAGGAGGAGCGACGACGAGACAACCCCAAGGGCTCTGGCACCAAGCGGCACCAAGACTGCTGTCTCCGGC CACACCTGCTTTACTCTGACCGGGCTGCTGGGCACACTGGTGACTATGGGGCTGTGACG
anchored anti-PD1 (Human IgG)	ATGAAATGGGTACCTTCATCAGCCTGCTGTTCTGTTAGCTCCGCCTACAGCGATATTGTATGACGACGAGGGGACACTGCTTAACCTGTCCATCCGGAGAATCC GTTTCAATTACGTCCGCTCTAGCAAGAGCTTGCTGTACTCTGATGGCAAGACATATCTGAAGTGTATCTGCAGCGTCCGGGTCAAGTCCCAATTGCTGATCTACTG GATGTCCACTAGAGCGAGTGGTGTGTCGACCGTTTTTCCGGATCCGGATCTGGCACCGACTTTACCTCAAGATCTCCGGGTGGAAGCAGAAGATGTGGGCATTTA TTACTGTCAACAGGGGCTGAGTTCCCCACATTTGGCGGCGGCACAAGCTGAGCTGAAGACCGTGGCGCTCCTAGCGTGTTTCATTTTTCCACCTTCTGATGAGCA ACTGAAGAGCGGCACCGCCAGCGTTGTGTCTGCTGAACAACTTCTACCCAGGGAGGCCAAGGTGCAGTGAAGGTGGACAACGCCCTGCAAGCGGCCAACAG CCAGGAGAGCGTGACAGAACAGGACAGCAAGGACAGCAGATACAGCGTGAAGCAGCACCTTACACTGTCCAAAGGCCGACTACGAGAAGCACAGGCTTACGCCCTG CGAGGTCAACCCAGCGGCTGAGCAGCCCCGTGACAAAGAGCTTCAACCGGGGAGAGTGCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCT CTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCT TGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCTCAGTGGCGGTGGCT GTGACCGGCTACTCCATCACGAGCTCCTATCGCTGGAATGTGATCCGCAAGTTCCTCCGGCAACCGCTGAGTGGATGGGTACATTAACAGCGCTGGAATTAGCAA CTACAACCCAGCCTTAAGCGTCGCATCTCCATTACTCGCGATAGTAAGAACCAGTCTTTCTGCAAGTAACTCCGTGACACAGAGGACGCGCGCTACTACTAT TGTGCAAGAAGCGATAACATGGGAACAACCCCAATTACTTACTGGGGCAAGGACCCTGGTGACGGGTGTCAGCGCCAGCACAAAAGGTCTAGCGTGTTCCTCGCT GGCCCCCTTCTTAAGAGCACACGCGCGGCACCGCTGCTCTTGGATGCTGGTCAAGACTACTTCCCTGAGCCTGTGACCGGTGCTTGGAACTCCGGCGCCCT GACCTCCGGGGTGACACATTCCTCCGCTGTGCTCCAGAGCTCTGGCCCTGTACAGCCTGAGCTCTGTCTGTGACCGTTCCTTCTAGCAGCCTGGGAACACAGACCTAC ATCTGCAACGTGAACCAACAGCCTAGCAATACCAAGGTGGATAAGAAGTGAACCCAAAGTCTTGTGACAAGACCCACACCTGCCCCCGTGGCCCTGCTCTGAGCT GCTGGGAGGCCCTTCCTGTTCTGTTCCCGCCCAAGCCCAAGGACACCTGATGATCAGCCGACCCCTGAGGTGACATGCTGTGGTGGATGTGCTCCACGA GGACCCCGAAGTGAAGTTCACTGTGATGTGGACGGCGTTGAAGTGCAACGCCAAGACGAGCCAGCGAGGAACAGTACAACAGCACTTATAGAGTGGTGTCTG TGCTGACCGTGTGACCAAGGACTGGCTGAACGGGAAAAGAGTACAAGTGAAGGTGTCAACAAGCCCTGCGGCCCTATCGAGAAGACATTAGCAAGGCCAA GGGCCAGCCTCGGAACCTCAGGTGTACACCTGCTCCTCAAGCAGAGCAGAGTACCAAGAACCAGGTGAGCCTGACATGTCTGGTGAAGGGCTTACCCCTC CGACATCGCCGTGAATGGGAGAGCAATGGCCAACCTGAGAACAACCTATAAAACAACCCACAGTGTGATAGCGATGGAAGCTTCTCTGTATTCTAAGCTGACC GTGATAAGAGCAGATGGCAGCAGGCAACGTCTTACGTGTAGCTGTGCTGATGAGGCCCTGACAGCCACTACACCAGAAAAGCCTGAGTCTGAGCCCTGGCA AGCACGAGACAACACCTAAACAAGGGCAGCGGAACCTACCAGCGGCACACCCGGCTGTGAGCGGCCACACCTGCTTCACTCTGACAGGCTGTGTGGCACCT GGTCACATGGGCGTGTCTACCC

SYDE1	ATGCTGCGCTCATCCGGTCCCGGCGTGACTAGCGCCGTGGATTCAAGCTCCACATCGAGGTCCTGCATTACCTGCTCCAGAGC
WBP7	ATGGTGGGCTGTTGCCCTGTCCTCTTGCTGTCCAATTCCATTTCATGTGCGCCCTGGCCCTCTTACTGCATCTCCAGGACGAT
ZBTB40	ATGAAGTCCTTCGTGTGTAAGCTTGTGACAAGAGCTTCCACTTCTACTGTCCTCTGAAGGTGCACATGAAGCGCTGCAGAGTG
MART-1	ATGCCACGCGAAGACGCCCATTTTATTACGGTTACCCGAAAAAGGACACGGGCACTCCTACACTACCGCGAAGAGGCCGCGGGCATCGGCATCCTGACCGTCA TTCTCGGCGTTCTTCTGTTGATCGGATGCTGGTATTGTAGACGGCGCAACGGGTATCGCGCTCTGATGGATAAGAGCCTGCATGTAGGTACCCAGTGCCTCTGACAAG ACGCTGCCCTCAGGAGGGCTTCGATCACCGCGATAGTAAGGTCAGCCTGCAAGAAAAGAACTGTAGCCAGTGGTCCCGAACGCTCCCCAGCATACGAGAAGCT GAGCGCTGAGCAAAGCCCACCCCTTACAGCCCC