M13KO7 Helper Phage, suitable for all phage based technologies.

Allele's M13KO7 Helper Phage is an M13 bacteriophage with the origin of replication from P15A and the kanamycin resistance gene from Tn903 both inserted within the M13 origin of replication. The Helper Page is able to replicate in the absence of phagemid DNA. With the phagemid bearing a wild-type M13 or f1 origin present, single-stranded phagemid is packaged and secreted into the culture medium allowing for ease of production of single-stranded phagemid DNA for mutagenesis and/or sequencing.

Box 2 | QC

Each batch undergoes quality control tests for functionality and viability.

Estimated Titer: ≥1 x 10^{11}

Box 1 | Product List

Helper Phage	
ABP-CE-M13HP50	5ml
ABP-CE-M13HP20	2ml

Store at -20°C

Protocol

1. Transform phagemid vector into appropriate F' strain (ER2537, XL1-Blue, Top10F' etc.)

(Note: Allele Biotech provides custom competent cell preparation service, please contact info@allelebiotech.com for more info.)

2. Inoculate 50 ml LB (no antibiotic) with a fresh colony, grow at 37°C with vigorous shaking until slightly turbid

3. Add 500 µl M13KO7 helper phage, continue vigorous shaking for 1.5-2 hours.

4. Add kanamycin to final concentration of 70 µg/ml, grow overnight (14-18 hours) with vigorous shaking.

5. Spin culture at 3,000 rpm for 15 minutes. Transfer supernatant to a new tube and spin again.

6. To this supernatant, add a 0.2 volume of 2.5 M NaCl/20% PEG. Incubate at 4°C for 30 minutes.

7. Recover the phage by centrifugation at 15,000 rpm for 15 minutes. Decant supernatant.

8. Resuspend the pellet in 0.5 ml TE, transfer to microfuge tube.

9. Spin in a microfuge for 5 minutes to pellet any remaining cells, transfer supernatant to new tubes.

10. Filter the supernatant through a 0.2µm filter into a sterile microcentrifuge tube.

11. The phage produced through this protocol can be used in Phage Display or in ssDNA preparation. For storage, sodium azide can be added to 0.02%(w/v).