

| QUERY                  | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_C3ZPL4        | I | G  | G  | R  | E  | C | E | K | N | S | H | P | W | Q | V | A | L | Y | H | Y | S | S | F | Q | C | G | V | L | V | N | P | K | W | V | L | T | A | A |   |   |   |   |   |
| UniRef90_C3ZRZ2        | I | I  | G  | G  | F  | E | A | T | P | G | S | V | P | W | Q | V | A | L | Y | Q | R | D | N | G | S | F | F | C | G | G | T | L | L | N | S | R | Q | W | V | L | A | H | C |
| UniRef90_UPI0003C18D79 | I | I  | G  | G  | E  | E | A | I | P | H | S | W | P | W | Q | V | A | L | Y | Q | I | A | M | E | H | Y | C | C | G | G | T | I | I | R | P | D | W | V | L | T | A | A |   |
| UniRef90_UPI00027FB2AB | I | V  | G  | G  | W  | E | C | E | K | H | S | Q | P | W | Q | V | A | L | Y | Q | I | A | M | E | H | Y | C | C | G | G | T | L | I | I | R | P | D | W | V | L | T | A | A |
| UniRef90_UPI0003946283 | I | V  | G  | G  | Q  | E | A | S | P | G | S | W | P | W | Q | V | A | L | Y | H | I | S | G | S | F | C | C | G | G | S | L | I | V | N | S | Q | W | V | L | H | C | F | K |
| UniRef90_UPI0003EBB55B | I | V  | G  | G  | S  | P | A | P | P | G | S | W | P | W | L | V | N | L | Q | L | D | G | A | L | M | C | C | G | G | A | V | L | I | D | S | S | W | H | C | F | A | G |   |
| UniRef90_U3KBS7        | I | V  | G  | G  | S  | E | A | S | R | G | E | F | P | W | Q | V | A | L | Y | R | E | N | N | E | H | M | C | C | G | A | V | L | I | T | E | K | W | H | C | F | T | E |   |
| UniRef90_UPI0003C2941A | I | V  | G  | G  | S  | V | A | P | R | G | A | W | P | W | L | V | S | L | Y | R | L | D | G | E | H | M | C | C | G | G | V | L | I | A | A | T | W | H | C | F | T | G |   |
| UniRef90_UPI0003509F5A | I | V  | G  | G  | S  | T | A | A | R | G | S | W | P | W | Q | V | A | L | Y | W | R | R | K | E | H | K | C | C | G | A | V | L | I | A | D | R | W | V | L | T | A | A |   |
| UniRef90_Q9N1Q1        | I | V  | G  | G  | W  | D | C | K | Q | H | S | Q | P | W | Q | A | A | L | Y | H | Y | S | T | F | Q | C | C | C | G | G | V | L | I | H | P | Q | W | V | L | T | A | A |   |
| UniRef90_G3NYA9        | I | V  | G  | G  | E  | D | A | P | A | G | S | W | P | W | Q | V | A | L | Y | Q | K | D | G | R | H | I | C | C | G | G | S | L | I | N | K | E | W | V | M | S | A | A |   |
| UniRef90_UPI000298A433 | I | V  | G  | G  | E  | D | A | P | A | G | A | W | P | W | Q | A | S | L | Y | H | I | N | G | R | H | S | C | C | G | G | S | L | I | N | N | Q | W | I | H | C | F | Q |   |
| UniRef90_C1BYQ9        | I | V  | G  | G  | Q  | N | A | V | P | G | S | W | P | W | Q | A | S | L | Y | Q | R | S | G | R | F | F | C | C | G | G | S | L | I | N | Q | E | W | V | H | C | F | S |   |
| UniRef90_UPI0003C803B9 | I | V  | G  | G  | K  | D | A | K | P | G | Q | F | P | W | Q | V | A | L | Y | K | R | K | T | T | A | F | C | C | G | G | S | L | I | N | E | K | W | V | V | T | H | C |   |
| UniRef90_UPI0003343484 | I | V  | G  | G  | R  | E | C | A | R | H | S | Q | P | W | Q | V | A | L | Y | H | D | F | S | N | F | E | C | C | G | G | V | L | I | H | P | R | W | V | L | T | A | A |   |
| UniRef90_F6SLQ6        | V | L  | G  | G  | K  | E | C | A | P | G | S | Q | P | W | Q | V | A | L | Y | H | D | F | S | N | F | E | C | C | G | G | V | L | I | H | P | R | W | V | L | T | A | A |   |
| UniRef90_G1LG04        | I | V  | G  | G  | L  | G | A | A | S | G | E | V | P | W | Q | V | A | L | Y | K | E | G | S | R | D | H | F | C | C | G | A | T | I | V | G | D | R | W |   |   |   |   |   |

| QUERY                  |   | 50 | 60 | 70 | 80 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_C3ZPL4        | H | C  | K  | N  | D  | N | Y | E | V | W | L | G | R | H | N | L | F | E | N | E | N | T | A | Q | F | F | G | V | T | A | D | F | P | H | P | G | F | N | L | S |   |   |   |
| UniRef90_C3ZRZ2        | R | I  | N  | A  | R  | R | L | V | I | A | G | D | H | N | L | A | T | N | E | G | T | E | Q | A | R | A | E | R | V | I | A | H | P | P | N | Y | N |   |   |   |   |   |   |
| UniRef90_UPI0003C18D79 | H | C  | F  | H  | G  | K | W | T | V | V | A | G | D | H | N | L | T | V | T | E | P | E | D | T | G | Q | S | I | P | V | S | H | S | F | P | H | P | L | Y | N | M | S | T |
| UniRef90_UPI0003946283 | I | T  | D  | P  | S  | G | V | T | V | T | L | G | R | Q | S | L | F | Q | S | N | P | N | A | V | S | R | T | V | N | K | I | P | H | P | P | N | Y | N | S | T |   |   |   |
| UniRef90_UPI0003EBB55B | S | R  | S  | E  | S  | Y | W | T | A | V | V | G | F | D | I | T | K | T | D | N | P | D | E | Q | V | L | K | V | N | R | V | I | P | H | P | K | F | N |   | P |   |   |   |
| UniRef90_U3KBS7        | F | Q  | D  | P  | A  | M | W | A | A | Y | T | G | T | S | L | R | G | S | D | S | S | T | V | K | M | D | I | S | Q | I | I | P | H | P | S | Y | N |   |   |   |   |   |   |
| UniRef90_UPI0003C2941A | N | R  | N  | E  | L  | A | W | T | V | V | V | G | D | Y | N | L | G | K | Q | D | E | G | E | Q | E | L | P | V | S | R | I | I | T | P | H | P | K | F | N | P |   |   |   |
| UniRef90_UPI0003509F5A | H | C  | F  | D  | I  | Y | S | D | P | K | M | W | V | A | F | L | T | G | T | P | F | L | N | G | I | D | G | K | M | E | K | I | F | R | H | P | F | Y | N | I |   |   |   |
| UniRef90_Q9N1Q1        | H | C  | I  | S  | D  | H | Y | Q | L | W | L | G | R | H | D | L | F | E | N | E | D | T | A | Q | F | V | F | V | S | K | S | F | P | H | P | D | F | N | M | S |   |   |   |
| UniRef90_G3NYA9        | H | C  | F  | T  | S  | G | W | Q | V | S | L | G | R | Q | N | L | Q | Q | G | A | N | P | N | E | V | S | I | N | V | A | S | I | I | L | P | H | P | Q | Y | N | M | S |   |
| UniRef90_UPI000298A433 | R | T  | S  | T  | S  | N | V | I | V | Y | L | G | R | R | F | Q | Q | R | F | L | N | E | N | E | V | S | R | S | V | S | E | I | I | I | N | H | P | N |   | S |   |   |   |
| UniRef90_C1BYQ9        | S | T  | S  | T  | S  | N | L | S | V | Y | L | G | R | K | N | Q | L | G | A | N | P | N | E | V | S | R | T | V | T | K | I | I | R | H | P | N | Y | S |   |   |   |   |   |
| UniRef90_UPI0003C803B9 | I | E  | P  | G  | V  | K | I | T | V | V | A | G | E | H | N | A | E | E | T | E | D | E | Q | T | R | N | V | V | R | A | I | P | H | S | S | Y | N | A | S |   |   |   |   |
| UniRef90_UPI0003343484 | H | C  | M  | S  | G  | F | F | Q | V | W | L | G | R | H | N | L | L | E | D | E | D | E | A | Q | F | V | P | V | T | H | S | F | P | H | P | Q | F | N | L | S |   |   |   |
| UniRef90_F6SLQ6        | H | C  | L  | T  | R  | P | I | R | V | R | L | G | E | H | N | L | K | V | L | E | G | Q | E | Q | L | R | G | V | S | R | A | I | P | H | P | R | Y |   |   |   |   |   |   |
| UniRef90_G1LG04        | H | C  | F  | N  | H  | T | K | V | E | L | V | R | A | H | S | L | T | G | L | G | G | T | P | V | K | M | G | L | R | A | V | L | P | H | P | Q | Y | D | P |   |   |   |   |
| UniRef90_UPI0003C44011 | K | S  | R  | P  | L  | H | W | T | V | L | V | G | D | H | D | R | T | L | K | E | S | T | E | Q | V | R | Q | V | K | T | V | V | V | H | P | F | Y | N |   |   |   |   |   |
| UniRef90_UPI0003F13D65 | H | C  | Y  | G  | S  | F | M | N | V | T | L | G | A | H | D | I | R | V | Y | E | E | T | Q | Q | F | I | P | V | R | A | I | P | H | P | D | Y | N | E | T |   |   |   |   |
| UniRef90_C3YXH2        | R | M  | N  | P  | G  | Q | L | S | V | V | L | G | E | H | N | L | N | R | R | D | V | T | E | V | T | V | N | V | A | R | I | I | M | H | E | H | Y | D | P |   |   |   |   |
| UniRef90_UPI0002745125 | F | Q  | D  | P  | T  | E | W | V | A | V | G | A | T | Y | L | S | G | S | E | A | S | T | V | R | A | R | V | A | Q | I | V | K | H | P | L | Y | N |   |   |   |   |   |   |
| UniRef90_M4ACH7        | H | C  | I  | G  | G  | D | I | Q | V | H | L | G | A | Y | N | L | L | Q | S | N | P | N | E | E | I | R | G | I | A | H | S | F | V | H | P | D | Y | N | P | S |   |   |   |
| UniRef90_I3JIS7        | T | P  | D  | E  | P  | I | T | D | V | K | L | G | Q | N | T | Q | N | G | S | N | P | N | E | V | T | R | T | V | A | D | T | I | C | H | P | D | Y | N | M | S |   |   |   |
| UniRef90_W5M9N3        | A | N  | F  | L  | K  | N | I | R | V | V | A | G | E | H | D | Q | T | S | L | D | A | E | E | Q | S | L | M | V | K | T | A | V | I | H | E | Y | Y | K | H | S |   |   |   |
| UniRef90_R7VRA0        | E | T  | H  | S  | E  | E | I | E | A | Y | V | G | T | T | S | L | N | G | T | D | E | S | G | V | K | V | N | V | T | R | V | I | Q | H | P | L | Y | N | P |   |   |   |   |
| UniRef90_G1QP55        | H | C  | F  | H  | E  | F | W | V | A | Y | V | G | A | T | Y | L | S | G | S | E | A | S | T | V | R | A | R | V | A | Q | I | V | K | H | P | L | Y | N |   |   |   |   |   |
| UniRef90_UPI000443A7B7 | H | T  | R  | L  | E  | L | V | Q | A | Q | L | G | T | A | S | L | A | G | I | G | R | P | V | K | L | G | L | R | R | A | Q | L | H | P | R | Y | D | P | A |   |   |   |   |
| UniRef90_UPI000388AAFF | E | Q  | Y  | R  | D  | L | W | M | V | V | A | G | L | H | D | I | T | E | Q | E | H | S | Q | R | R | S | V | K | Q | Y | T | I | H | Q | D | F | N |   |   |   |   |   |   |
| UniRef90_UPI0003C18F05 | H | C  | R  | G  | S  | S | I | N | V | T | L | G | A | H | N | I | K | Q | Q | E | R | T | Q | Q | A | I | R | V | R | A | I | H | H | P | D | Y | N | P |   |   |   |   |   |
| UniRef90_UPI000443DD6E | H | C  | T  | A  | N  | R | N | V | T | A | G | E | Y | D | L | S | H | K | E | P | G | E | Q | T | L | A | V | E | I | I | V | H | P | N | F | S |   |   |   |   |   |   |   |
| UniRef90_UPI00022F6A5B | H | C  | M  | A  | N  | R | K | N | V | T | A | G | E | H | N | L | S | Q | A | E | P | G | E | Q | T | L | A | I | E | T | I | I | I | H | P | Q | F | S |   |   |   |   |   |
| UniRef90_S9XME3        | H | C  | Q  | T  | R  | S | V | R | V | R | L | G | E | H | N | L | R | K | R | D | G | P | E | Q | L | R | T | V | S | R | I | I | P | H | P | Q | Y |   |   |   |   |   |   |
| UniRef90_G1FE64        | H | C  | Y  | K  | S  | R | Q | V | R | M | G | E | H | D | I | T | Y | S | E | G | S | E | Q | F | I | S | S | S | R | V | I | R | H | P | N | Y | S | S |   |   |   |   |   |
| UniRef90_P15949        | H | C  | Y  | Y  | E  | E | N | K | V | S | L | G | K | N | N | L | Y | E | E | E | P | S | A | Q | H | R | L | V | S | K | S | F | L | H | P | G | Y | N | R | S |   |   |   |
| UniRef90_UPI00022F617E | H | C  | Y  | S  | D  | K | Y | V | W | L | G | R | N | S | L | D | E | N | E | P | S | A | Q | H | L | F | V | E | S | K | S | F | P | H | P | D | F | N | M |   |   |   |   |
| UniRef90_UPI0003C260D8 | R | Y  | I  | L  | D  | Y | L | N | V | T | A | G | E | Y | D | L | S | L | E | E | E | E | E | Q | T | L | P | V | E | S | I | I | K | H | P | Y | F | N | P |   |   |   |   |
| UniRef90_M3ZZU2        | H | C  | V  | Q  | N  | K | W | E | V | Y | L | G | L | H | D | Q | R | K | I | D | K | F | V | V | K | R | K | L | K | Q | I | P | H | P | N | Y | N | P |   |   |   |   |   |
| UniRef90_UPI0003342EB8 | H | C  | E  | G  | S  | S | I | L | V | K | L | G | A | H | N | I | G | R | Q | E | R | T | Q | Q | S | I | G | V | R | A | I | R | H | P | P | R | Y | N | P |   |   |   |   |
| UniRef90_UPI0003344E10 | H | C  | Y  | K  | P  | S | F | R | V | R | L | G | E | H | N | L | A | V | S | E | R | T | E | Q | T | I | N | S | V | K | V | I | R | Y | P | S | Y | N |   |   |   |   |   |
| UniRef90_UPI00046C00A9 | P | V  | I  | N  | S  | V | I | R | V | Q | L | G | E | T | R | I | F | D | Q | T | R | N | Q | T | F | S | A | V | K | R | I | I | L | H | P | S | Y | D | S |   |   |   |   |
| UniRef90_C3KJ30        | T | N  | S  | L  | R  | S | W | T | L | Y | F | G | R | E | T | Q | S | G | P | N | S | N | E | E | N | R | G | V | S | Q | I | I | V | H | P | D | Y | N | N | T |   |   |   |
| UniRef90_W5Q1W6        | R | N  | T  | V  | S  | T | F | N | V | T | A | G | E | Y | D | L | R | H | V | E | P | G | E | Q | T | L | T | I | E | T | I | I | I | H | P | F |   |   |   |   |   |   |   |
| UniRef90_I3N156        | F | Q  | D  | P  | S  | Q | W | V | A | F | T | G | T | T | H | L | S | G | S | E | A | S | A | V | R | S | R | V | V | R | I | A | K | H | P | S | Y | N | P |   |   |   |   |
| UniRef90_UPI000388C38F | H | C  | A  | D  | G  | D | I | T | V | L | L | G | A | H | N | V | R | R | E | E | T | Q | Q | R | V | S | V | R | R | K | I | P | H | P | R | Y | N | K | T |   |   |   |   |
| UniRef90_UPI0003440563 | H | C  | R  | G  | S  | M | R | V | I | L | G | A | H | N | I | E | K | K | E | R | T | Q | Q | V | I | P | V | K | R | A | I | P | H | P | D | Y |   |   |   |   |   |   |   |
| UniRef90_F6X2M9        | H | C  | R  | G  | R  | L | M | N | V | I | L | G | A | H | N | I | R | K | Q | E | K | T | Q | Q | V | I | A | V | R | Q | A | I | R | H | P | D | Y |   |   |   |   |   |   |
| UniRef90_P16295        | I | L  | P  | G  | I  | K | I | E | V | V | A | G | K | H | N | I | E | K | K | E | D | T | E | Q | R | R | N | V | T | Q | I | I | L | H | S | S | Y | N | A | S |   |   |   |
| UniRef90_Q9W7Q2        | V | D  | S  | N  | R  | M | W | R | V | V | M | G | E | H | D | L | K | V | E | S | T | E | Q | T | V | A | V | E | K | S | F | V | H | E | K | Y |   |   |   |   |   |   |   |
| UniRef90_H9KBZ2        | V | P  | D  | Y  | G  | N | F | V | V | K | A | G | K | H | D | L | K | V | E | S | T | E | Q | T | V | A | V | E | K | S | F | V | H | E | K | Y |   |   |   |   |   |   |   |
| UniRef90_M3XR05        | H | C  | R  | K  | P  | R | Y | V | H | L | G | E | H | N | L | Q | R | R | D | G | C | E | Q | T | R | T | A | T | E | S | F | P | H | P | D | F | N | S |   |   |   |   |   |
| UniRef90_O42272        | D | H  | L  | M  | S  | D | Y | K | V | Y | L | G | V | L | Q | L | E | V | P | T | S | E | S | Q | L | L | S | L | K | E | I | I | I | H | P | S | Y | S |   |   |   |   |   |
| UniRef90_P20718        | H | C  | Q  | G  | S  | S | I | N | V | T | L | G | A | H | N | I | K | Q | E | R | T | Q | Q | F | I | P | V | K | R | P | I | P | H | P | A | Y | N | P |   |   |   |   |   |
| UniRef90_H2S873        | D | I  | D  | V  | Q  | F | L | K | V | V | A | G | E | H | N | T | E | V | D | E | G | T | E | I | I | Q | V | S | E | I | I | M | H | E | K | Y |   |   |   |   |   |   |   |
| UniRef90_UPI0003C4BD8F | W | Y  | Y  | P  | N  | S | M | H | V | I | L | G | D | H | N | L | Y | I | F | E | H | T | H | L | M | S | I | E | T | I | V | W | H | P | S | Y | D |   |   |   |   |   |   |
| UniRef90_C3ZRZ3        | Q | A  | S  | A  | S  | S | L | R | I | I | V | G | E | H | N | F | G | S | L | E | G | T | E | Q | S | T | G | V | Q | E | V | I | P | H | P | N | F | D | P | S |   |   |   |
| UniRef90_F1Q9Z9        | N | P  | N  | P  | S  | D | Y | T | V | Y | L | G | R | Q | S | Q | D | L | P | N | P | N | E | V | S | K | S | V | S | Q | V | I | V | H | P | L | Y | Q | G | S |   |   |   |
| UniRef90_G5BRP3        | H | C  | W  | G  | S  | I | N | V | T | L | G | A | H | N | I | R | R | L | E | R | T | Q | Q | R | I | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

QUERY  
UniRef90\_C3ZPL4  
UniRef90\_C3ZRZ2  
UniRef90\_UPI0003C18D79  
UniRef90\_UPI00027FB2AB  
UniRef90\_UPI0003946283  
UniRef90\_UPI0003EBB55B  
UniRef90\_U3KBS7  
UniRef90\_UPI0003C2941A  
UniRef90\_UPI0003509F5A  
UniRef90\_Q9N1Q1  
UniRef90\_G3NYA9  
UniRef90\_UPI000298A433  
UniRef90\_C1BYQ9  
UniRef90\_UPI0003C803B9  
UniRef90\_UPI0003343484  
UniRef90\_F6SLQ6  
UniRef90\_G1LG04  
UniRef90\_UPI0003C44011  
UniRef90\_UPI0003F13D65  
UniRef90\_C3YXH2  
UniRef90\_UPI0002745125  
UniRef90\_M4ACH7  
UniRef90\_I3JIS7  
UniRef90\_W5M9N3  
UniRef90\_R7VRA0  
UniRef90\_G1QP55  
UniRef90\_UPI000443A7B7  
UniRef90\_UPI000388AAFF  
UniRef90\_UPI0003C18F05  
UniRef90\_UPI000443DD6E  
UniRef90\_UPI00022F6A5B  
UniRef90\_S9XME3  
UniRef90\_G1FE64  
UniRef90\_P15949  
UniRef90\_UPI00022F617E  
UniRef90\_UPI0003C260D8  
UniRef90\_M3ZZU2  
UniRef90\_UPI0003342EB8  
UniRef90\_UPI0003344E10  
UniRef90\_UPI00046C00A9  
UniRef90\_C3KJ30  
UniRef90\_W5Q1W6  
UniRef90\_I3N156  
UniRef90\_UPI000388C38F  
UniRef90\_UPI0003440563  
UniRef90\_F6X2M9  
UniRef90\_P16295  
UniRef90\_Q9W7Q2  
UniRef90\_H9KBZ2  
UniRef90\_M3XR05  
UniRef90\_O42272  
UniRef90\_P20718  
UniRef90\_H2S873  
UniRef90\_UPI0003C4BD8F  
UniRef90\_C3ZRZ3  
UniRef90\_F1Q9Z9  
UniRef90\_G5BRP3  
UniRef90\_P79953  
UniRef90\_G1TZK8  
UniRef90\_F6PY06  
UniRef90\_UPI000328A342  
UniRef90\_UPI0002C6665C  
UniRef90\_U3KQV5  
UniRef90\_H2L401  
UniRef90\_Q9CR35  
UniRef90\_UPI00045E44F4  
UniRef90\_UPI00045E02C1  
UniRef90\_G3HHD4  
UniRef90\_I3K8E6  
UniRef90\_Q9Z284  
UniRef90\_UPI0002A4BD7E  
UniRef90\_C3Y9E4  
UniRef90\_G1LIB7  
UniRef90\_UPI0001D5F14F  
UniRef90\_B4LP96  
UniRef90\_UPI00032AE323  
UniRef90\_I3LFP1  
UniRef90\_Q66TN7  
UniRef90\_UPI0003F11D47  
UniRef90\_UPI00035A01F6  
UniRef90\_Q5XGP5  
UniRef90\_K7FPM6  
UniRef90\_UPI00033143BE  
UniRef90\_UPI000328FCCA  
UniRef90\_UPI00020AD06A  
UniRef90\_E7CCH2  
UniRef90\_UPI00046B985D  
UniRef90\_G3NFX9  
UniRef90\_UPI000333E3F5  
UniRef90\_UPI0002C567D0  
UniRef90\_UPI00046BA3F5

[illegible]



|                        | 40 | 50 | 60 | 70 | 80 |
|------------------------|----|----|----|----|----|
| UniRef90_UPI00038C11F2 | M  | L  | E  | K  | S  |
| UniRef90_E9GEP9        | H  | C  | F  | N  | K  |
| UniRef90_L5KD11        | H  | C  | F  | N  | K  |
| UniRef90_G3PHL7        | C  | Q  | I  | R  | G  |
| UniRef90_G1T4U4        | H  | C  | R  | G  | S  |
| UniRef90_P04187        | H  | C  | E  | G  | S  |
| UniRef90_T1GQ14        | H  | C  | L  | Q  | G  |
| UniRef90_UPI000328B8F9 | N  | V  | S  | P  | G  |
| UniRef90_M3XR43        | H  | C  | K  | K  | Q  |
| UniRef90_P00760        | H  | C  | Y  | K  | S  |
| UniRef90_Q1D4H1        | Y  | D  | G  | T  | S  |
| UniRef90_UPI0003AEBE3F | H  | C  | I  | H  | V  |
| UniRef90_UPI0002739B26 | H  | C  | L  | G  | S  |
| UniRef90_G1T7Q8        | H  | C  | F  | L  | L  |
| UniRef90_UPI0003C28BDB | H  | C  | Y  | K  | S  |
| UniRef90_Q920S1        | H  | C  | I  | G  | S  |
| UniRef90_UPI00029D8470 | H  | C  | Q  | G  | S  |
| UniRef90_UPI00035F8CFD | H  | C  | M  | F  | N  |
| UniRef90_UPI00032B2190 | H  | C  | I  | R  | K  |
| UniRef90_UPI0003345796 | H  | C  | I  | Q  | G  |
| UniRef90_M7C7X6        | T  | K  | D  | A  | S  |
| UniRef90_F6Y703        | H  | C  | F  | S  | G  |
| UniRef90_UPI0003C4BA97 | H  | C  | F  | J  | G  |
| UniRef90_UPI0003F0831A | H  | C  | V  | V  | D  |
| UniRef90_UPI00034FB0E1 | H  | C  | E  | V  | K  |
| UniRef90_W5N3J8        | L  | T  | F  | N  | G  |
| UniRef90_UPI000388FBD0 | N  | G  | D  | K  | S  |
| UniRef90_UPI0003C4BE4A | H  | C  | W  | G  | E  |
| UniRef90_H2NKKX7       | H  | C  | W  | G  | S  |
| UniRef90_UPI0003F0E18F | H  | C  | F  | E  | G  |
| UniRef90_H2SKH8        | H  | C  | I  | E  | G  |
| UniRef90_H9GSF7        | N  | V  | M  | F  | S  |
| UniRef90_G3Q0H7        | H  | C  | N  | V  | K  |
| UniRef90_H2L6P3        | G  | A  | N  | P  | A  |
| UniRef90_UPI00021A7E2D | H  | C  | T  | D  | F  |
| UniRef90_F6V1G4        | K  | D  | A  | K  | K  |
| UniRef90_Q5XIZ0        | H  | C  | A  | P  | A  |
| UniRef90_E2C9W5        | V  | P  | S  | A  | N  |
| UniRef90_UPI00034FD5E0 | R  | S  | N  | A  | S  |
| UniRef90_UPI000442201A | H  | C  | Q  | I  | P  |
| UniRef90_H2SIE6        | W  | R  | T  | E  | P  |
| UniRef90_W5UFS5        | F  | Q  | S  | I  | T  |
| UniRef90_H0Y006        | I  | S  | S  | S  | R  |
| UniRef90_F1Q0B8        | H  | C  | Q  | T  | R  |
| UniRef90_UPI000225699C | I  | F  | G  | Y  | V  |
| UniRef90_L9L2L2        | H  | C  | G  | G  | S  |
| UniRef90_UPI00034F9D85 | P  | L  | N  | S  | P  |
| UniRef90_G3W9M0        | S  | T  | D  | P  | R  |
| UniRef90_F7AGI2        | H  | C  | Q  | L  | K  |
| UniRef90_D3ZRW9        | H  | C  | T  | G  | S  |
| UniRef90_G3NXXK1       | R  | V  | S  | A  | S  |
| UniRef90_H2LQH9        | H  | C  | F  | K  | Y  |
| UniRef90_UPI0002BCC71C | H  | C  | S  | V  | R  |
| UniRef90_UPI000388D720 | L  | E  | N  | P  | N  |
| UniRef90_UPI0003F13B5A | L  | L  | F  | S  | D  |
| UniRef90_UPI0002BD1857 | H  | C  | L  | I  | P  |
| UniRef90_G3VMR7        | G  | Y  | G  | Y  | G  |
| UniRef90_Q1D193        | Y  | D  | G  | T  | S  |
| UniRef90_UPI0001CE2FD3 | H  | C  | I  | Y  | E  |
| UniRef90_F1Q3T2        | H  | C  | F  | R  | S  |
| UniRef90_UPI0003D0FA6D | I  | S  | K  | S  | N  |
| UniRef90_UPI000388BF84 | H  | C  | S  | T  | R  |
| UniRef90_H3BCB7        | H  | C  | N  | R  | T  |
| UniRef90_UPI00039572D0 | H  | C  | L  | I  | P  |
| UniRef90_F1PXI5        | H  | C  | L  | I  | S  |
| UniRef90_UPI000333E047 | H  | C  | Q  | G  | S  |
| UniRef90_S7PVS3        | F  | A  | R  | G  | S  |
| UniRef90_UPI00032B174E | H  | C  | F  | I  | N  |
| UniRef90_UPI00033173DD | S  | R  | D  | A  | K  |
| UniRef90_H0W5H4        | H  | C  | L  | G  | S  |
| UniRef90_UPI0003C455F9 | H  | C  | Q  | G  | D  |
| UniRef90_UPI0003AB6499 | H  | C  | Y  | K  | S  |
| UniRef90_C3ZQT9        | H  | C  | V  | H  | D  |
| UniRef90_G1U2Q8        | C  | I  | S  | N  | E  |
| UniRef90_H2LRQ0        | S  | H  | R  | S  | M  |
| UniRef90_UPI0003C91FA2 | H  | C  | I  | L  | S  |
| UniRef90_UPI00033478AC | S  | S  | D  | P  | L  |
| UniRef90_F1N205        | H  | C  | F  | R  | S  |
| UniRef90_L5LSI4        | H  | C  | N  | F  | Q  |
| UniRef90_H2RXT0        | C  | N  | V  | R  | T  |
| UniRef90_Q4RRD7        | H  | C  | V  | Q  | D  |
| UniRef90_U1M0R5        | V  | K  | K  | S  | E  |
| UniRef90_UPI0003D0A0DE | H  | C  | F  | G  | E  |
| UniRef90_I0I1H9        | H  | C  | L  | V  | D  |
| UniRef90_G9B5F0        | H  | C  | V  | I  | G  |
| UniRef9                |    |    |    |    |    |

UniRef90\_UPI00038C11F2  
UniRef90\_E9GEP9  
UniRef90\_L5KD11  
UniRef90\_G3PHL7  
UniRef90\_G1T4U4  
UniRef90\_P04187  
UniRef90\_T1GQ14  
UniRef90\_UPI000328B8F9  
UniRef90\_M3XR43  
UniRef90\_P00760  
UniRef90\_Q1D4H1  
UniRef90\_UPI0003AEBE3F  
UniRef90\_UPI0002739B26  
UniRef90\_G1T7Q8  
UniRef90\_UPI0003C28BDB  
UniRef90\_Q920S1  
UniRef90\_UPI00029D8470  
UniRef90\_UPI00035F8CFD  
UniRef90\_UPI00032B2190  
UniRef90\_UPI0003345796  
UniRef90\_M7C7X6  
UniRef90\_F6Y703  
UniRef90\_UPI0003C4BA97  
UniRef90\_UPI0003F0831A  
UniRef90\_UPI00034FB0E1  
UniRef90\_W5N3I8  
UniRef90\_UPI000388FBD0  
UniRef90\_UPI0003C4BE4A  
UniRef90\_H2NKK7  
UniRef90\_UPI0003F0E18F  
UniRef90\_H2SKH8  
UniRef90\_H9GSF7  
UniRef90\_G3Q0H7  
UniRef90\_H2L6P3  
UniRef90\_UPI00021A7E2D  
UniRef90\_F6V1G4  
UniRef90\_Q5XIZ0  
UniRef90\_E2C9W5  
UniRef90\_UPI00034FD5E0  
UniRef90\_UPI000442201A  
UniRef90\_H2SIE6  
UniRef90\_W5UFS5  
UniRef90\_H0Y006  
UniRef90\_F1Q0B8  
UniRef90\_UPI000225699C  
UniRef90\_L9L2L2  
UniRef90\_UPI00034F9D85  
UniRef90\_G3W9M0  
UniRef90\_F7AGI2  
UniRef90\_D3ZRW9  
UniRef90\_G3NKK1  
UniRef90\_H2LQH9  
UniRef90\_UPI0002BCC71C  
UniRef90\_UPI000388D720  
UniRef90\_UPI0003F13B5A  
UniRef90\_UPI0002BD1857  
UniRef90\_G3VMR7  
UniRef90\_Q1D193  
UniRef90\_UPI0001CE2FD3  
UniRef90\_F1Q3T2  
UniRef90\_UPI0003D0FA6D  
UniRef90\_UPI000388BF84  
UniRef90\_H3BCB7  
UniRef90\_UPI00039572D0  
UniRef90\_F1PXI5  
UniRef90\_UPI000333E047  
UniRef90\_S7PVS3  
UniRef90\_UPI00032B174E  
UniRef90\_UPI00033173DD  
UniRef90\_H0W5H4  
UniRef90\_UPI0003C455F9  
UniRef90\_UPI0003AB6499  
UniRef90\_C3ZQT9  
UniRef90\_G1U2Q8  
UniRef90\_H2LRQ0  
UniRef90\_UPI0003C91FA2  
UniRef90\_UPI00033478AC  
UniRef90\_F1N205  
UniRef90\_L5LSI4  
UniRef90\_H2RXT0  
UniRef90\_Q4RRD7  
UniRef90\_U1M0R5  
UniRef90\_UPI0003D0A0DE  
UniRef90\_I0I1H9  
UniRef90\_G9B5F0  
UniRef90\_S9YY22  
UniRef90\_UPI000328DF43  
UniRef90\_UPI0002C64466  
UniRef90\_UPI000440FCFA  
UniRef90\_A0A026VUU7  
UniRef90\_M3WMN3  
UniRef90\_I3N3W4

|                        | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_H0V7F3        | I | L  | G  | G  | Q  | E | A | E | A | H | A | R | P | Y | M | A | S | V | I | Q | V | D | G | R | H | L | C | G | G | V | L | V | A | P | Q | W | V | A | H | C | L |   |   |   |   |   |
| UniRef90_P36375        | I | L  | V  | G  | G  | Y | E | A | K | N | S | Q | P | W | Q | V | A | S | V | I | R | R | R | G | G | H | L | C | G | G | V | L | V | A | D | P | S | W | V | I | T | A | Q |   |   |   |
| UniRef90_C3ZMV5        | I | L  | V  | G  | G  | S | E | A | Y | P | G | S | W | Q | W | V | A | S | V | I | R | R | R | G | G | H | L | C | G | G | V | L | V | A | D | P | S | W | V | I | T | A | Q |   |   |   |
| UniRef90_UPI000331927B | I | L  | V  | G  | G  | R | A | A | Q | P | H | A | W | P | F | M | V | S | V | I | Q | R | N | G | G | H | F | C | G | G | A | T | L | V | A | P | N | F | V | M | N | F | Q |   |   |   |
| UniRef90_F6R2B1        | I | V  | G  | G  | T  | I | A | N | K | G | Q | F | P | W | Q | V | A | S | V | I | K | D | G | E | K | H | L | C | G | G | I | L | V | A | G | C | W | V | H | C | V | R |   |   |   |   |
| UniRef90_UPI00022F5695 | I | V  | V  | G  | G  | I | L | A | E | R | K | W | P | W | Q | V | A | S | V | I | Q | V | R | N | T | H | V | C | G | G | S | L | I | V | A | S | K | W | W | V | M | T | A | A |   |   |
| UniRef90_H0W3S5        | I | Y  | G  | G  | Q  | D | T | E | A | G | R | W | P | W | Q | A | S | V | I | L | L | Y | R | G | L | H | L | C | G | G | A | V | L | I | V | A | D | S | Y | W | L | V | S | T | A |   |
| UniRef90_T1JFG6        | I | V  | G  | G  | K  | D | A | N | K | G | A | W | P | W | Q | I | A | S | V | I | L | R | L | G | N | R | H | L | C | G | G | A | V | L | I | V | A | N | E | H | W | H | C | V | E | N |
| UniRef90_UPI0003F0A7C3 | I | V  | G  | G  | D  | E | S | S | L | G | D | W | P | W | Q | I | A | S | V | I | L | Y | R | W | G | V | H | W | C | G | G | T | V | I | V | A | S | Q | W | I | H | C | V | E |   |   |
| UniRef90_UPI0004543382 | I | V  | G  | G  | E  | D | A | K | V | G | E | W | P | W | Q | I | A | S | V | I | L | F | R | G | D | F | H | Y | C | G | G | S | L | L | V | A | T | S | S | W | V | H | C | V | F |   |
| UniRef90_P08218        | I | V  | G  | G  | E  | E | A | R | P | N | S | W | P | W | Q | V | A | S | V | I | L | Q | Y | S | S | N | H | T | C | G | G | S | L | I | V | A | A | N | S | W | V | L | T | A | A |   |
| UniRef90_UPI0004402A4A | I | I  | G  | G  | T  | K | A | K | E | G | D | W | P | W | Q | V | A | S | V | I | L | Q | W | S | G | V | H | H | C | G | G | V | L | I | V | A | S | K | K | W | I | L | T | A | A |   |
| UniRef90_UPI00033144D6 | I | I  | G  | G  | H  | E | A | K | P | H | S | R | P | Y | M | V | A | S | V | I | L | K | V | S | D | R | E | R | C | G | G | F | L | I | V | A | R | K | D | V | L | T | A | A |   |   |
| UniRef90_P19799        | I | I  | G  | G  | A  | T | C | A | K | S | S | V | P | Y | I | V | A | S | V | I | L | N | S | G | Y | H | F | C | G | G | S | L | I | V | A | T | N | Q | W | V | V | L | S | A | A |   |
| UniRef90_D3ZY81        | I | I  | G  | G  | H  | E | V | K | P | H | S | Y | P | Y | M | A | F | I | S | V | L | Q | S | G | N | I | S | Y | C | G | G | F | L | V | A | Q | D | Y | F | V | H | C | E | C |   |   |
| UniRef90_Q63636        | I | I  | G  | G  | N  | E | V | S | P | H | S | R | P | Y | M | A | F | I | S | V | L | F | V | G | K | K | T | F | C | G | G | S | L | I | V | A | R | D | N | K | V | L | T | A | A |   |
| UniRef90_Q5M8Y0        | I | V  | G  | G  | T  | D | S | L | K | G | E | F | P |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

UniRef90\_H0V7F3  
UniRef90\_P36375  
UniRef90\_C3ZMV5  
UniRef90\_UPI000331927B  
UniRef90\_F6R2B1  
UniRef90\_UPI00022F5695  
UniRef90\_H0V3S5  
UniRef90\_T1JFG6  
UniRef90\_UPI0003F0A7C3  
UniRef90\_UPI0004543382  
UniRef90\_P08218  
UniRef90\_UPI0004402A4A  
UniRef90\_UPI00033144D6  
UniRef90\_P19799  
UniRef90\_D3ZY81  
UniRef90\_Q63636  
UniRef90\_Q5M8Y0  
UniRef90\_A7SNJ9  
UniRef90\_A0A034WLU3  
UniRef90\_E9QD17  
UniRef90\_UPI000350EFBE  
UniRef90\_F1Q817  
UniRef90\_UPI0003EC4661  
UniRef90\_UPI0003C42FED  
UniRef90\_H0RCD5  
UniRef90\_M3BG09  
UniRef90\_G1MR46  
UniRef90\_V5MDQ2  
UniRef90\_H9KS56  
UniRef90\_S4RV87  
UniRef90\_I4DJ19  
UniRef90\_M3ZG05  
UniRef90\_W4Y3B9  
UniRef90\_U3JP47  
UniRef90\_UPI000388CFGB  
UniRef90\_UPI00042D0648  
UniRef90\_UPI00032AD7F5  
UniRef90\_UPI0003C17969  
UniRef90\_UPI00045DC652  
UniRef90\_UPI0001CE2353  
UniRef90\_UPI0002BCE4CE  
UniRef90\_H2U663  
UniRef90\_Q4RP66  
UniRef90\_H0WCR6  
UniRef90\_UPI000265170B  
UniRef90\_UPI00046282FF  
UniRef90\_UPI00032B0BB5  
UniRef90\_UPI00033439A6  
UniRef90\_UPI0003AFB988  
UniRef90\_A7SBW3  
UniRef90\_UPI0003F083A5  
UniRef90\_G3VYT9  
UniRef90\_I3K150  
UniRef90\_C3Y7Q7  
UniRef90\_UPI00033379A6  
UniRef90\_E9PLV5  
UniRef90\_UPI0003F13961  
UniRef90\_H0XYH7  
UniRef90\_UPI00039400F1  
UniRef90\_F7HLZ8  
UniRef90\_UPI00038C5739  
UniRef90\_T1DEY9  
UniRef90\_UPI000454A0A1  
UniRef90\_UPI00045E37C3  
UniRef90\_X5MNU9  
UniRef90\_F1MGR5  
UniRef90\_UPI0003F0A249  
UniRef90\_UPI0003C85662  
UniRef90\_UPI0003ABC555  
UniRef90\_UPI00039C5083  
UniRef90\_X1WEQ8  
UniRef90\_UPI0000D9D644  
UniRef90\_F1NDU7  
UniRef90\_X1Y2D2  
UniRef90\_UPI0002C46B42  
UniRef90\_C9D6Z6  
UniRef90\_G5BVV1  
UniRef90\_UPI00044481A0  
UniRef90\_B5AKB2  
UniRef90\_M3WRQ9  
UniRef90\_UPI0003F19687  
UniRef90\_A8KB66  
UniRef90\_UPI00029D7566  
UniRef90\_Q2SHS3  
UniRef90\_UPI00033502D9E  
UniRef90\_P00773  
UniRef90\_T1H8M7  
UniRef90\_UPI00042AA9A5  
UniRef90\_UPI000441A34A  
UniRef90\_Q8JFQ7  
UniRef90\_F7G7R0



UniRef90\_H0V7F3  
UniRef90\_P36375  
UniRef90\_C3ZMV5  
UniRef90\_UPI000331927B  
UniRef90\_F6R2B1  
UniRef90\_UPI00022F5695  
UniRef90\_H0W3S5  
UniRef90\_T1JFG6  
UniRef90\_UPI0003F0A7C3  
UniRef90\_UPI0004543382  
UniRef90\_P08218  
UniRef90\_UPI0004402A4A  
UniRef90\_UPI00033144D6  
UniRef90\_P19799  
UniRef90\_D3ZY81  
UniRef90\_Q63636  
UniRef90\_Q5M8Y0  
UniRef90\_A7SNJ9  
UniRef90\_A0A034WLU3  
UniRef90\_E9QD17  
UniRef90\_UPI000350EFBE  
UniRef90\_F1Q817  
UniRef90\_UPI0003EC4661  
UniRef90\_UPI0003C42FED  
UniRef90\_M0RCD5  
UniRef90\_H3BG09  
UniRef90\_G1MR46  
UniRef90\_W5MDQ2  
UniRef90\_H9KS56  
UniRef90\_S4RV87  
UniRef90\_I4DJ19  
UniRef90\_M3ZG05  
UniRef90\_W4Y3B9  
UniRef90\_U3JP47  
UniRef90\_UPI000388CFCB  
UniRef90\_UPI0003C1A3FB  
UniRef90\_UPI00042D0648  
UniRef90\_UPI00032AD7F5  
UniRef90\_UPI0003C17969  
UniRef90\_UPI00045DC652  
UniRef90\_UPI0001CE2353  
UniRef90\_UPI0002BCE4CE  
UniRef90\_H2U663  
UniRef90\_Q4RP66  
UniRef90\_H0WCR6  
UniRef90\_UPI000265170B  
UniRef90\_UPI00046282FF  
UniRef90\_UPI00032B0BB5  
UniRef90\_UPI00033439A6  
UniRef90\_UPI0003AFB988  
UniRef90\_A7SBW3  
UniRef90\_UPI0003F083A5  
UniRef90\_G3VYT9  
UniRef90\_I3K150  
UniRef90\_C3Y7Q7  
UniRef90\_UPI00033379A6  
UniRef90\_E9PLV5  
UniRef90\_UPI0003F13961  
UniRef90\_H0XYH7  
UniRef90\_UPI00039400F1  
UniRef90\_F7HLZ8  
UniRef90\_UPI00038C5739  
UniRef90\_T1DEY9  
UniRef90\_UPI000454A0A1  
UniRef90\_UPI00045E37C3  
UniRef90\_X5MNU9  
UniRef90\_F1MGR5  
UniRef90\_UPI0003F0A249  
UniRef90\_UPI0003C85662  
UniRef90\_UPI0003ABC555  
UniRef90\_UPI000395C083  
UniRef90\_X1WEQ8  
UniRef90\_UPI0000D9D644  
UniRef90\_F1NDU7  
UniRef90\_X1Y2D2  
UniRef90\_UPI0002C46B42  
UniRef90\_C9D6Z6  
UniRef90\_G5BVV1  
UniRef90\_UPI00044481A0  
UniRef90\_B5AKB2  
UniRef90\_M3WRQ9  
UniRef90\_UPI0003F19687  
UniRef90\_A8KB66  
UniRef90\_UPI00029D7566  
UniRef90\_Q2SHS3  
UniRef90\_UPI0003502D9E  
UniRef90\_P00773  
UniRef90\_T1I8M7  
UniRef90\_UPI00042AA9A5  
UniRef90\_UPI000441A34A  
UniRef90\_Q8JFQ7  
UniRef90\_F7G7R0

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_UPI00022F50C2 | 1 | V | G | G | K | V | C | P | K | G | E | C | P | W | Q | A | V | L | K | S | S | G | I | L | L | C | G | A | S | I | L | M | D | T | T | W | H | C | F | D | G |   |
| UniRef90_Q9W2C8        | 1 | V | G | G | Q | E | T | E | V | H | Q | S | P | W | V | A | M | L | K | I | Y | G | R | F | Y | C | A | A | S | I | L | M | D | N | D | Q | F | H | C | V | Y |   |
| UniRef90_UPI000398F7E2 | 1 | V | G | G | H | E | A | Q | P | H | S | H | P | Y | M | A | Y | L | K | I | Y | G | R | F | Y | C | A | A | S | I | L | M | D | N | D | Q | F | H | C | V | Y |   |
| UniRef90_H3BFN4        | 1 | V | V | G | G | E | D | V | R | P | N | S | W | P | W | Q | I | S | L | Q | Y | E | W | R | H | T | C | G | G | T | L | I | N | D | P | N | W | V | T | A | H |   |
| UniRef90_UPI00045734D2 | 1 | V | V | G | T | N | S | T | E | G | E | W | P | W | Q | A | S | L | Q | Y | E | S | G | Y | H | V | C | G | A | S | I | L | N | R | N | W | C | F | D | I | L |   |
| UniRef90_Q562D3        | 1 | V | V | G | G | I | N | A | A | K | N | S | W | P | W | Q | V | S | L | Q | Y | Y | W | Y | H | T | C | G | A | S | I | R | A | N | R | V | L | T | A | H | C |   |
| UniRef90_V9L7A7        | 1 | V | V | G | G | A | P | A | Q | R | G | E | W | P | W | Q | V | S | L | H | E | G | S | Q | H | V | C | G | G | S | I | L | I | S | A | S | W | V | I | H | C | F |
| UniRef90_UPI00042BC878 | 1 | V | V | G | N | A | S | R | L | P | W | Q | P | W | Q | V | S | L | Q | F | Q | S | G | F | H | L | C | G | G | S | I | I | T | P | W | W | I | V | H | C | V |   |
| UniRef90_UPI0004574879 | 1 | I | L | G | G | R | N | S | R | L | G | R | W | P | W | H | C | S | L | Q | D | H | S | G | H | L | C | G | C | A | L | I | G | S | K | W | H | C | F | E | D |   |
| UniRef90_D2I2D9        | 1 | V | I | G | G | K | P | A | Y | M | G | D | F | P | W | Q | V | A | I | K | E | N | E | R | I | K | C | G | G | I | Y | I | T | G | G | C | W | I | H | C | V | S |
| UniRef90_UPI000265268F | 1 | V | V | G | G | I | N | A | L | P | G | E | F | P | W | I | G | S | L | R | V | R | G | R | F | F | C | G | G | T | T | L | I | T | S | Q | W | V | T | A | H |   |
| UniRef90_F7D6Z7        | 1 | I | V | G | G | N | A | C | P | K | G | E | C | P | W | Q | A | L | I | L | L | K | N | E | L | L | C | G | G | T | L | L | I | T | D | T | W | V | V | S | A | A |
| UniRef90_UPI0003341617 | 1 | I | L | G | G | H | E | A | K | P | H | S | H | P | Y | M | A | Y | L | E | F | W | Y | K | K | F | C | G | G | F | L | I | H | E | K | F | V | L | T | A | A |   |
| UniRef90_G1TZH5        | 1 | I | K | G | S | N | A | Q | E | G | E | W | P | W | Q | A | S | L | K | M | D | G | R | H | Y | C | G | A | S | I | L | I | A | S | E | R | Y | L | V | T | A | A |
| UniRef90_K1QHC5        | 1 | I | V | G | G | A | E | A | S | E | N | E | W | P | W | Q | V | S | L | Q | F | P | W | S | H | F | C | G | G | S | I | L | I | A | P | N | Y | L | V | T | A | A |
| UniRef90_P21842        | 1 | I | I | G | G | T | E | S | K | P | H | S | R | P | Y | M | A | H | L | Q | R | N | H | L | A | S | C | G | G | F | L | I | A | R | R | N | F | V | L | T | A | A |
| UniRef90_UPI0002C59202 | 1 | I | V | G | S | D | A | K | P | G | S | W | P | W | Q | V | S | L | L | Q | R | S | G | G | H | I | C | G | G | S | I | L | V | A | P | S | W | V | L | T | A | A |
| UniRef90_UPI000333D355 | 1 | I | A | R | G | Q | V | A | E | P | A | A | W | P | W |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

UniRef90\_UPI00022F50C2 I R S W R N I T V V M G E H D F S E K D G P E Q V R R V V Q V I I P D K Y  
UniRef90\_Q9W2C8 G F R K E R I S V R L L E H D R K M S H M Q K I D R K V A E V I T H P K Y N  
UniRef90\_UPI000398F7E2 H C M G S A T V I V R L L E H D R K M S H M Q K I D R K V A E V I T H P K Y N  
UniRef90\_H3BFN4 C L S S R T Y R V A L G K N N L K E D E E G S V F V A A E K I I V H E G W N S  
UniRef90\_UPI00045734D2 Y Q Q P S F W T V V L G K F K L N V Q S S T E L A F K L L K I V R H P K Y N  
UniRef90\_Q562D3 V D R S V S F R V V L G D H N L N A N D G T E Q A R R I S V S R I I L K H A N W N  
UniRef90\_V9L7A7 E T T S S D L T V F L G R H Q Q S W P N R G E Q A R R I S V S R I I L K H A N W N  
UniRef90\_UPI00042BC878 Y D L Y L P S S W S V Q A G F V T Q P D T S V N P Y S V E K I I L Y H R N Y K P  
UniRef90\_UPI0004574879 R E D A D L W N I V F G I N N M D H P S E F R Q V R K V K R I I L H P R Y  
UniRef90\_D2I2D9 V S K M Y H Y Q I W A S F L N T L T P D G D V I V H L V K Q I F I H E K Y N G S  
UniRef90\_UPI000265268F C I N G S I D Q V I F G S L Q L S V G S E Y E V I A E V D A T I I H P D Y N  
UniRef90\_F7D6Z7 H C F D K L S H V V L G E H K I D K D E G T E Q K R N V A D I I I H P K Q Y  
UniRef90\_UPI0003341617 H C L K S P G Y I L L L G A H N I K K Q E K T Q Q L I R V K R H I P H P Q Y N P  
UniRef90\_G1TZH5 H C F Q K T K N P R N F T V S F G T E V P Y M Q R Y V Q Q I I I H E N Y  
UniRef90\_K1QHC5 H C V D G Q R A R N I R A V N R Q S D T T T S Q A L A V N R I I M H P D Y N  
UniRef90\_P21842 H C A G R F I M V T L G A H N I Q K K E D T W Q K L E V I K Q F P H P K Y D  
UniRef90\_UPI0002C59202 H C F V K N W S V L L G V R S Q D G L L D G A H V R A V A A I L V P D N Y S S  
UniRef90\_UPI000333D355 H C F D S H K N P K L W M A S F G T T R S P L I R R K V Q S I I I H E N Y  
UniRef90\_L9KWM9 N K R I E A Y D I V Y V G L I D L S E A G N H T Q W Y E V N Q V I S H P T Y  
UniRef90\_UPI0003833B6C V D G D L T L R V V A G A H N L N V A N G Y E Q I F S V S R I V I H P S W N  
UniRef90\_F6XB42 H C F T R L K S N L N I A V G T T H L D S P K E R R R L D R L V M H P Q F S  
UniRef90\_A0A026VY88 A Q D D Y W A R L G A T R R G S F H S P Y E Q L L R L D H I S L H P D Y  
UniRef90\_UPI00033315A9 H C F K S N A N P R Q W K V S F G T T S P L M E R D V K R I V L H A R Y R P  
UniRef90\_UPI00046B3B5A H C F R K Y M D V S G W K V R T G T D K L G S P S L P V A K I I I V G F N P  
UniRef90\_UPI00038EAE41 H C F P R Q Y R V R V G V L R L G P T S L H T R S V P V R R V L L S P D Y S  
UniRef90\_B4LGN8 H C V R K V L Y V R F G E H N L D Y E D G T E V Q L R V L K S Y K H P N F D  
UniRef90\_UPI0003EC0A26 H C V Q D K W E A F L G Q V Q N Q T N E W T V K R G V K Q I I I A H R Y Y N  
UniRef90\_F1N4X7 H C F V D R D R G F R Y S E H S V N R N A P G V Q E R G L Q R I I K H P F F N  
UniRef90\_Q9JIQ8 H C V E E P L S S P R Y W T A R Q S L M F Y G S R H Q V E K V I S H P N Y D S  
UniRef90\_J3SDD6 H C F V I E K N Y I R Y S D P S L W R S N S H V Q K R A I K Q I I I S H S L F N  
UniRef90\_UPI0002C4349D H C L T T T W T I F T Y T V W L G S Y S S E G L Q Y Y V S K V I I S H P N F  
UniRef90\_UPI0003506005 Q M G D K R F Q V L L G A H S L T E P E H K R L Y D V R A Q I A H P G S N I  
UniRef90\_UPI0003C85EC6 H C W G S S I S I T L G A H N I L E Q E G T Q Q V I R V R R A I P H P D  
UniRef90\_UPI000333682E H C M E R Q I L T V T L G A H N I E Q R E K T Q Q V I H V K R S I P H P Q Y N P  
UniRef90\_W5MTN6 H C V Y G R N I H F T E W T Q L N L S S P N T V I R R I D R I V M N P Q Y N  
UniRef90\_E9J648 Y Y A Q D R Y W A R L G A T R S F R S P H E Q L L R V D Y I S L H P D Y  
UniRef90\_UPI0003F182B7 H C F D N N K N P K L W M V S F G T T N P L M R R N V Q L I I H E N Y  
UniRef90\_UPI0004418CEF H C L E D M V Q V L L G A H S L S Q P E P S K R L Y D V L R A V P H P D  
UniRef90\_U4U1U2 H C L S G G V H R Y S F R L G S A D W A E G G T L V L A T Q V I P H P L Y N S S  
UniRef90\_I3JIS4 H C I T P F P P V Y L G H N Y L F D P D P N K V T Q T L E D I I C H P E Y D A S  
UniRef90\_G3VSK3 H C L K D Q Y T V F L G K H S L N Y R E A G E Q V R R V V H S I P H P L Y R R S  
UniRef90\_UPI000393E9A9 H C V H N Y R W V Y A G I V T R S A K T A Q H Y A V E K I I I Y N K N Y N  
UniRef90\_UPI0001CBB317 G V S K R N L Q V V L G D H D I T V T E G T E R F H E I K S I I L N P D Y D P  
UniRef90\_UPI00038BB483 T S D I S I Y Q V L L G A L Q L Q Q P G P H A L Y V R V K R V E S N P Q Y  
UniRef90\_UPI000328A27C H C V P E D C A F R V Q V G H V K L Y E N N Q L I R V A Q I I R H P K Y N  
UniRef90\_UPI00033173D7 H C L Q R I K N L D D W T I N F G T I N K P L R R L K I K N V I L H E Y Y  
UniRef90\_UPI000328DB77 H C L S S T Y Q V V L G E F D R A V E E G P E Q V I P I N D L F V H P L W N P S  
UniRef90\_C3Z5A5 K S T R K K S L V R V G E H D F M T R E D T Q K N A Q I A K V I L H P D Y  
UniRef90\_UPI0003AEA395 H C L H M T W I P F L Y T V W L G S N N S E G V K Y H V F R V V I H P K Y  
UniRef90\_UPI000333701B I N K S F T Y R V A L G K S D L T E D E P G S V I V G V D T I H V H E K W N  
UniRef90\_Q9XY56 F Y G T L F P I G F S A R A G S S T V N S G G T V H T I L Y W Y I H P N Y D S  
UniRef90\_H9K2Z0 S P S M G E F R I L A G K Y K L K V I E E T E Q E R L V K N V F V H P R Y K G S  
UniRef90\_K7J096 C T V S Y P A Q S I T V R V G S S R T A N G G A L H Q V N E I V R H E N F  
UniRef90\_A5WYF0 H C V Y E P I S Q L Y I R A G S I F S N F G G Q R R G V S E I K A H P S Y N  
UniRef90\_U3I644 G S K L A D P R A W R A H L G M Q T Q G R A K F V S A V R R I I V H E Y N S  
UniRef90\_UPI0004626BB1 K N P V S Q I T V T V G E Y Q I G N L S T N T Q T I P V V Q V I R N I E F  
UniRef90\_UPI000265362F C V D Y Y V D R V V F W N A H L T D D S D N E V A I E V A D I F V H P E Y D  
UniRef90\_A7SZF8 F P H P S G Y T V V V G A H R I K E R S A I Q Q E F R L T K L F K H K D F S M S  
UniRef90\_F7DJY3 H C V Y S G W K V F A G A L T L P S Y S D A N G Y S V E R I I A H P G Y N P S  
UniRef90\_G3NFA9 H C F Q D S D A I K Y S D A R M T T G N G A A T R P I R R I L L H P Q Y D  
UniRef90\_UPI00046B50D2 C D L Y K S Q S Q V I L G A H S V T K N E P E K Q I M N V T K Q I P Y C Y D P  
UniRef90\_UPI0003BBD7BB I K S L E N L T A V V G E H D L S E K D G D E Q E R V V Q I I V P D K Y  
UniRef90\_W8BW10 E N F E K Q P R V Y S L R I G S T S R G K G G E V V S I S K I H K H P L Y N S  
UniRef90\_H2UMW5 H C K A D L E V R L G E H N I W E P D G T E Q H I M S S K F V R H P Q Y N P  
UniRef90\_UPI00045DE7F2 V S K V H R Y Q I W T T L V N W I R P N N E I L I W Y V N K V I H E N Y N  
UniRef90\_UPI0003D092DC I D R N R D Y G L V Y L G K H N L S T P E P G S L A I M P E K I I V K E D W D P  
UniRef90\_F1N917 H C N L E G G R V I L G A H S R T K R E E E K Q V I E I A E E I R Y P D Y C  
UniRef90\_H2UJF8 S S S G R E Y R V A M G K H N L V E T E D G A A F M G T A D I I V H E S W N  
UniRef90\_I3M070 H C L Q N S Y T V G L G L H S L A N Q E P G S R M M E V L L S I Q H P Q Y N  
UniRef90\_I3M8H6 Q A L P S E Y R V C L G M L R L G P V S P A L S V P V W R V L L P D H S M  
UniRef90\_UPI0003EAEFC4 I K N W R N L I A V L G E H D L S E H D G D E Q S R R V A Q V I I P S T Y  
UniRef90\_UPI0003D0DA4D H C N G X E I T V T L G A H N M S K R E S T Q Q K I K V E K Q I F P N Y N F S  
UniRef90\_C3YXH9 G K S P R S F S V V L G E H H L R R E G P E V T A R V A R I I Q H P G Y S R S  
UniRef90\_Q296D1 D N H E T S P R E F T L R Q G T V L R T T G G S I Q P V Q T I Y K H P A Y D R T  
UniRef90\_UPI0003506645 H C F S D P Y I W S V Y A G I L S Q N E M H S R P Y R V Q K I I S H P N Y D  
UniRef90\_UPI0003EDD977 V K N W R N L T V V L G E H D L G E D E G E Q E R H I T R V I I P D K Y  
UniRef90\_W5M6U1 H C F P E R N R L W Q V F M G S I H M S S R G L V Q S V Q T V V Y H S G Y Q P  
UniRef90\_UPI00034F5D76 H C F D S K K K V Y D W R L V F G A Q E A P V Q E R Y V E K I I I H E K Y S S  
UniRef90\_K71MT6 I K Y E S A S N L K Y V V G S N Q L S S A D N Q V Y Q V E Y I I Y H E K Y D P  
UniRef90\_F6TMW2 H C F P E R N R V R V F A G A V A Q A S P H G L Q L G V Q A V I Y H G G Y  
UniRef90\_UPI0003F0CBC5 G Y S A S S Y E L R M G F I S Q A D S V P T E I R R S V N E I I M H P V I Y  
UniRef90\_UPI00033349C3 H C L K S H L W R L G E H H L W Q W E G P E K L F L A T D F F P H P G F N  
UniRef90\_UPI000388E20B H C I S S T Y L V F L G K H N L R L A E D G S I A V S P Q K I I V H E G W D P  
UniRef90\_E2BE68 H C M P W T I L V A G A Q L R L N D V T P W G Q K R G V K A F R I H P E F N S S  
UniRef90\_UPI0002742496 H C F K S N S N P H Q W A T F G I Y T S P L L R I G V R R I I H D S Y R P A  
UniRef90\_UPI0003ACD1BE H C W G S S V N V V A G V H N I Q Q Q E S T W Q V I P V K E A I H H P D Y N P  
UniRef90\_UPI0003448A6C H C N F R S V V V L G A H S D L G Q R E P T T Q S F A I R R V F  
UniRef90\_H2ZSN4 I Q S R N L F V V L G A H S I S E K E K E K Q I F K V K N I F P H P C F D  
UniRef90\_W5LZM8 H C V E K Y S S P G D W T V S A G V L T L S A T R R A P Q Y T V S H  
UniRef90\_U3KM14 F P Y T G T Y W V L L G A H D I T N L G D K E Q I I P G E K I I V H P D Y D  
UniRef90\_UPI0003316A11 L P L S N I W Q Y I S G I L N L S A I T N E T H F S P I K K I I I H Q N Y K V S  
UniRef90\_UPI00042C3737 H C L L S C Y R Y S V M M G D R S V Y G E S G L V V P I S R V V H P Q F S I

UniRef90\_UPI00022F50C2  
UniRef90\_Q9W2C8  
UniRef90\_UPI000398F7E2  
UniRef90\_H3BFN4  
UniRef90\_UPI00045734D2  
UniRef90\_Q562D3  
UniRef90\_V9L7A7  
UniRef90\_UPI00042BC878  
UniRef90\_UPI0004574879  
UniRef90\_D2I2D9  
UniRef90\_UPI000265268F  
UniRef90\_F7D6Z7  
UniRef90\_UPI0003341617  
UniRef90\_G1TZh5  
UniRef90\_K1QHC5  
UniRef90\_P21842  
UniRef90\_UPI0002C59202  
UniRef90\_UPI000333D355  
UniRef90\_L9KWM9  
UniRef90\_UPI0003833B6C  
UniRef90\_F6XB42  
UniRef90\_A0A026VY88  
UniRef90\_UPI00033315A9  
UniRef90\_UPI00046B3B5A  
UniRef90\_UPI00038EAE41  
UniRef90\_B4LGN8  
UniRef90\_UPI0003EC0A26  
UniRef90\_F1N4X7  
UniRef90\_Q9JIQ8  
UniRef90\_J3SDD6  
UniRef90\_UPI0002C4349D  
UniRef90\_UPI0003506005  
UniRef90\_UPI0003C85EC6  
UniRef90\_UPI000333682E  
UniRef90\_W5MTN6  
UniRef90\_E9J648  
UniRef90\_UPI0003F182B7  
UniRef90\_UPI0004418CEF  
UniRef90\_U4U1U2  
UniRef90\_I3JIS4  
UniRef90\_G3VSK3  
UniRef90\_UPI000393E9A9  
UniRef90\_UPI0001CBB317  
UniRef90\_UPI00038BB483  
UniRef90\_UPI000328A27C  
UniRef90\_UPI00033173D7  
UniRef90\_UPI000328DB77  
UniRef90\_C3Z5A5  
UniRef90\_UPI0003AEA395  
UniRef90\_UPI000333701B  
UniRef90\_Q9XY56  
UniRef90\_H9K2Z0  
UniRef90\_K7J096  
UniRef90\_A5WYF0  
UniRef90\_U3I644  
UniRef90\_UPI0004626BB1  
UniRef90\_UPI000265362F  
UniRef90\_A7SZF8  
UniRef90\_F7DJY3  
UniRef90\_G3NFA9  
UniRef90\_UPI00046B50D2  
UniRef90\_UPI0003BBB7BB  
UniRef90\_W8BW10  
UniRef90\_H2UMW5  
UniRef90\_UPI00045DE7F2  
UniRef90\_UPI0003D092DC  
UniRef90\_F1N917  
UniRef90\_H2UJF8  
UniRef90\_I3M070  
UniRef90\_I3M8H6  
UniRef90\_UPI0003EAE4F4  
UniRef90\_UPI0003D0DA4D  
UniRef90\_C3YXH9  
UniRef90\_Q296D1  
UniRef90\_UPI0003506645  
UniRef90\_UPI0003EDD977  
UniRef90\_W5M6U1  
UniRef90\_UPI00034F5D76  
UniRef90\_K7IMT6  
UniRef90\_F6TMW2  
UniRef90\_UPI0003F0CBC5  
UniRef90\_UPI00033349C3  
UniRef90\_UPI000388E20B  
UniRef90\_E2BE68  
UniRef90\_UPI0002742496  
UniRef90\_UPI0003ACD1BE  
UniRef90\_UPI0003448A6C  
UniRef90\_H2ZSN4  
UniRef90\_W5LZM8  
UniRef90\_U3KM14  
UniRef90\_UPI0003316A11  
UniRef90\_UPI00042C3737



|                        | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_Q924N9        | I | V  | G  | G  | Q  | R | T | P | P | G | K | W | P | W | Q | V | S | L | R | M | Y | S | Y | H | I | C | G | G | S | I | I | H | P | Q | W | I | A | H | C | I |   |   |   |   |
| UniRef90_UPI0002C551C0 | V | V  | G  | G  | Q  | D | A | A | A | G | H | W | P | W | Q | V | S | V | L | L | G | T | Q | N | H | I | V | C | G | G | S | L | I | S | D | R | W | I | L | T | A | A |   |   |
| UniRef90_K1PP23        | V | V  | G  | G  | Q  | T | A | D | T | G | E | W | P | W | Q | V | S | L | Q | L | G | T | Q | N | H | I | V | C | G | G | S | L | I | S | D | T | T | R | V | L | A | H | C | V |
| UniRef90_D3Z9X4        | V | V  | G  | G  | V  | E | A | S | A | D | S | W | P | W | Q | V | S | L | Q | Y | N | K | Q | H | I | V | C | G | G | S | L | I | D | S | T | H | W | I | L | T | A | A |   |   |
| UniRef90_UPI000328EAA7 | I | V  | G  | G  | S  | N | A | K | E | G | S | W | P | W | L | A | A | L | Y | Y | N | D | H | L | V | C | G | G | A | S | L | I | S | N | S | W | L | V | L | T | A | A |   |   |
| UniRef90_UPI0003444887 | I | L  | S  | G  | G  | D | A | T | L | G | E | W | P | W | Q | V | S | L | Q | R | E | E | G | Q | H | I | V | C | G | G | T | L | I | A | E | A | W | V | L | T | A | A |   |   |
| UniRef90_UPI00027FC24B | I | V  | G  | G  | R  | E | A | R | P | H | S | R | P | Y | M | A | S | L | Q | T | R | G | S | H | F | C | G | G | G | T | L | I | L | H | P | S | F | V | Q | C | L | Q |   |   |
| UniRef90_Q7JPN9        | I | V  | G  | G  | Q  | D | T | N | I | T | Q | Y | P | H | Q | I | S | M | R | Y | R | G | N | H | R | C | G | G | T | I | I | Y | R | S | N | Q | I | I | S | A | A |   |   |   |
| UniRef90_F6QZA7        | I | V  | G  | G  | N  | M | S | S | L | M | Q | W | P | W | Q | V | S | L | Y | F | Q | Q | G | Y | H | L | C | G | G | S | L | I | T | P | V | W | I | V | T | A | A |   |   |   |
| UniRef90_D6W8V8        | V | V  | G  | G  | K  | P | S | Q | P | T | A | W | P | W | V | V | S | I | Y | K | N | G | V | F | H | C | G | G | V | L | I | N | D | L | W | I | H | C | V | D |   |   |   |   |
| UniRef90_UPI0003D09D2E | V | V  | G  | G  | T  | N | A | R | A | G | E | W | P | W | Q | V | S | L | R | H | N | R | L | H | I | C | G | G | A | L | V | A | P | Q | W | H | C | F | E | G |   |   |   |   |
| UniRef90_B0XIN5        | I | V  | G  | G  | Q  | L | A | E | P | G | S | F | P | Y | Q | V | S | L | R | S | K | N | A | H | F | C | G | G | S | V | I | S | E | R | W | V | L | T | A | A |   |   |   |   |
| UniRef90_W5MUL5        | V | V  | G  | G  | D  | V | A | R | P | N | S | W | P | W | Q | V | S | L | Q | Y | G | W | G | V | T | C | G | G | T | L | I | T | L | R | W | V | M | T | A | A |   |   |   |   |
| UniRef90_F6PR90        | V | V  | G  | G  | T  | N | S | T | W | G | E | W | P | W | Q | V | S | L | Q | T | T | Q | N | H | L | C | G | G | S | I | I | G | H | Q | W | V | L | T | A | A |   |   |   |   |
| UniRef90_C1BQ60        | I | I  | G  | G  | E  | V | V | E | P | N | S | I | P | Y | Q | I | S | I | K | N | S | G | F | H | F | C | G | G | S | I | Y | D | E | N | T | Y | I | L | H | C | A |   |   |   |
| UniRef90_B4PYK9        | V | V  | G  | G  | E  | D | A | S | K | N | Q | F | P | H | Q | I | S | L | R | N | G | G | S | H | S | C | G | G | S | I | L | T | R | T | Y | I | L | T | A | A |   |   |   |   |
| UniRef90_B4LIB2        | I | V  | G  | G  | S  | Y | A | S | P | L | Q | W | P | F | V | V | A | I | Y | R | D | G | K | F | H | C | G | G | T | I | Y | S | E | H | W | I | H | C | V | I |   |   |   |   |
| UniRef90_B4N135        | I | V  | N  | G  | K  | N | A | T | L | E | D | H | P | Y | Q | V | S | I | R | I | R | S | G | H | F | C | G | G | S | I | D | S | Q | T | V | V | T | A | A | H |   |   |   |   |
| UniRef90_W5MA72        | V | V  | G  | G  | V  | M | A | T | P | N | S | W | P | W | Q | V | S | L | R | V | S | P | H | N | C | G | G | V | L | I | H | S | R | W | V | L | T | A | A |   |   |   |   |   |
| UniRef90_UPI0002A4CB82 | I | V  | G  | G  | S  | D | A | L | A | G | S | W | P | W | Q | V | S | L | Q | M | R | Y | G | H | V | C | G | A | T | L | V | S | N | R | W | L | I | S | A | A |   |   |   |   |
| UniRef90_G1LHR5        | I | V  | G  | G  | Q  | A | A | P | G | R | W | P | W | Q | A | S | V | A | L | G | S | R | H | T | C | G | G | S | V | L | A | P | H | W | V | V | T | A | A |   |   |   |   |   |
| UniRef90_H9G442        | I | I  | G  | G  | T  | D | T | L | P | G | T | W | P | W | I | V | S | I | Q | R | G | Y | T | H | I | C | G | G | S | L | I | S | E | R | W | H | C | V | D |   |   |   |   |   |
| UniRef90_UPI000462C50E | I | V  | K  | G  | K  | D | A | V | P | G | E | F | P | W | Q | I | S | L | Q | L | N | Q | R | H | V | C | G | G | S | L | I | S | E | D | W | H | C | F | Y | Q |   |   |   |   |
| UniRef90_UPI00032AEEC6 | I | V  | G  | G  | V  | P | A | P | E | R | K | W | P | W | Q | V | S | L | Q | V | N | G | H | H | C | G | G | S | L | I | S | S | R | W | V | L | T | H | C |   |   |   |   |   |
| UniRef90_UPI0003F12C64 | V | V  | G  | G  | E  | D | A | I | P | H | S | W | P | W | Q | V | S | L | Q | Y | T | W | R | H | T | C | G | G | T | L | I | A | S | N | Y | V | L | T | A | A |   |   |   |   |
| UniRef90_I3KLJ8        | V | V  | N  | G  | V  | A | I | P | H | S | W | P | W | Q | V | S | M | Q | V | L | H | G | C | G | G | S | L | I | H | E | E | W | I | L | T | A | A |   |   |   |   |   |   |   |
| UniRef90_G3VIV9        | I | V  | S  | G  | Q  | D | A | H | P | G | Q | W | P | W | Q | V | S | L | L | E | N | R | V | A | V | C | G | G | S | L | I | S | T | T | V | V | L | T | A | A |   |   |   |   |
| UniRef90_T1PA20        | V | V  | G  | G  | Q  | D | A | T | E | G | Q | F | P | H | Q | I | S | L | R | R | N | G | S | H | T | C | G | G | S | I | I | S | R | N | F | V | L | T | A | A |   |   |   |   |
| UniRef90_UPI000444595A | I | A  | D  | G  | R  | I | S | R | K | S | A | W | P | W | Q | A | S | L | Q | I | D | G | T | H | F | C | G | A | S | L | I | S | E | E | W | L | L | T | A | A |   |   |   |   |
| UniRef90_UPI00038EF5F0 | I | V  | G  | G  | Q  | D | A | A | V | G | R | W | P | W | Q | V | S | L | R | F | H | R | N | H | I | C | G | G | S | L | I | S | E | R | W | V | L | T | A | A |   |   |   |   |
| UniRef90_UPI0003593F41 | I | V  | G  | G  | T  | N | S | L | G | E | W | P | W | Q | V | S | L | Q | V | S | L | N | H | I | C | G | G | T | I | I | G | H | E | W | H | C | F | D | G |   |   |   |   |   |
| UniRef90_Q5K2P9        | I | V  | G  | G  | S  | D | A | H | P | G | T | W | P | W | Q | V | S | L | H | Q | G | G | G | H | I | C | G | G | S | L | I | A | P | S | W | V | L | S | A | A |   |   |   |   |
| UniRef90_E6ZIR6        | I | V  | G  | G  | V  | N | S | A | E | G | E | W | P | W | Q | V | S | L | L | F | S | G | M | V | Y | C | G | A | S | V | L | T | S | D | W | A | H | C | F | S |   |   |   |   |
| UniRef90_H2SRL5        | I | V  | G  | G  | A  | D | A | G | A | G | S | W | P | W | Q | V | S | L | Q | M | R | Y | G | H | V | C | G | A | T | L | I | A | S | R | W | L | I | S | A | A |   |   |   |   |
| UniRef90_K7FI85        | G | G  | K  | E  | A  | W | P | H | S | R | P | Y | V | A | Y | L | R | R | D | E | R | I | R | C | G | G | F | L | V | A | E | N | F | V | L | T | A | A |   |   |   |   |   |   |
| UniRef90_U5EP40        | I | V  | G  | G  | S  | N | A | E | P | N | Q | Y | P | Y | Q | I | S | L | Q | W | N | F | N | H | F | C | G | G | S | V | I | N | A | N | W | I | L | T | A | A |   |   |   |   |
| UniRef90_UPI0003EAB3C8 | I | V  | G  | G  | Q  | S | A | A | D | G | F | W | P | W | M | A | S | L | Q | R | N | G | S | H | V | C | G | G | T | L | I | A | S | D | W | V | M | T | A | A |   |   |   |   |
| UniRef90_B0LM17        | V | I  | G  | G  | Q  | A | S | P | P | G | A | W | P | W | M | V | S | I | Q | F | R | R | Y | H | T | C | G | G | T | L | L | N | A | H | W | V | L | S | A | A |   |   |   |   |
| UniRef90_B4MP44        | I | V  | G  | G  | T  | A | T | T | I | S | S | F | P | W | Q | I | S | L | Q | R | S | G | S | H | S | C | G | G | V | Y | S | A | N | T | I | V | T | A | A | H |   |   |   |   |
| UniRef90_UPI00034F6086 | I | V  | G  | G  | S  | Q | A | S | L | G | D | W | P | W | Q | V | S | L | Q | F | N | E | R | H | I | C | G | G | S | I | I | T | P | N | Y | I | A | H | C | V |   |   |   |   |
| UniRef90_F7DXA1        | I | M  | G  | G  | Q  | N | A | Q | Q | G | A | W | P | W | Q | A | R | I | Q | G | N | D | G | G | L | C | G | G | S | L | V | T | T | K | W | H | C | F | N | S |   |   |   |   |
| UniRef90_K7IUZ9        | I | V  | G  | G  | E  | D | A | E | K | G | R | H | P | W | Q | V | S | L | H | Q | W | F | N | R | H | V | C | G | G | T | L | L | T | A | G | W | V | L | T | A | G |   |   |   |
| UniRef90_U3KC65        | I | V  | G  | G  | A  | N | A | L | P | G | A | W | P | W | M | V | S | I | Q | H | P | W | K | H | L | C | G | G | S | L | I | G | H | Q | W | H | C | F | D | D |   |   |   |   |
| UniRef90_J9JT67        | I | V  | G  | G  | Q  | N | A | D | P | G | E | W | P | W | I | V | A | L | F | N | S | G | R | H | F | C | G | G | S | L | I | D | D | T | H | V | L | T | H | C |   |   |   |   |
| UniRef90_C3Z5B7        | I | I  | G  | G  | M  | D | A | R | P | G | S | W | P | W | Q | I | S | L | R | G | Y | D | S | H | V | C | G | A | S | L | I | G | R | Q | W | H | C | V | E | R |   |   |   |   |
| UniRef90_UPI000333246E | I | V  | G  | G  | E  | D | C | M | P | H | S | Q | P | W | Q | A | A | L | F | A | E | D | G | F | F | C | G | S | V | L | V | H | P | R | W | V | L | S | A | A |   |   |   |   |
| UniRef90_UPI000258EC2F | I | V  | G  | G  | V  | E | T | Q | V | N | Q | Y | P | W | M | A | L | M | F | K | G | R | F | Y | C | G | A | S | V | I | N | S | R | Y | V | H | C | V | D |   |   |   |   |   |
| UniRef90_UPI0003EC0C85 | I | I  | S  | G  | I  | E | S | K | P | H | S | R | P | Y | M | A | Y | L | E | I | G | N | V | A | N | C | G | G | F | L | I | S | E | E | F | V | V | T | A | A |   |   |   |   |
| UniRef90_E9GLY7        | I | V  | G  | G  | T  | E | A | V | P | N | S | L | P | W | Q | V | A | L | F | I | D | D | Q | Y | F | C | G | G | S | L | I | S | N | E | W | V | L | T | A | A |   |   |   |   |
| UniRef90_UPI0003330257 | I | V  | G  | G  | N  | V | C | P | K | G | E | C | P | W | Q | A | L | L | M | N | G | A | L | L | C | G | A | V | L | L | N | T | T | W | V | L | T | A | A |   |   |   |   |   |
| UniRef90_G3NQX2        | I | V  | G  | G  | V  | N | A | R | R | G | S | W | P | W | Q | V | R | L | E | Y | D | G | V | H | Q | C | G | G | T | I | L | S | N | R | W | I | H | C | F | R |   |   |   |   |
| UniRef90_T1GZ28        | I | V  | G  | G  | Q  | L | A | N | R | G | S | W | P | Y | Q | V | A | L | S | D | W | S | W | F | C | G | G | S | I | L | S | P | D | W | I | L | T | H | C |   |   |   |   |   |
| UniRef90_W5L5M0        | I | F  | G  | G  | R  | K | A | R | P | G | A | H | P | W | Q | A | S | L | Q | A | R | R | R | H | I | C | G | G | I | L | I | D | S | C | W | V | L | T | H | C |   |   |   |   |
| UniRef90_UPI00032ADA91 | V | V  | G  | G  | E  | E | A | S | M | Y | S | W | P | W | Q | V | S | I | Q | Y | Q | K | Q | H | V | C | G | G | S | L | I | L | D | P | H | W | I | L |   |   |   |   |   |   |

UniRef90\_Q924N9 Q S Q D A D P A V Y R V Q V G E V Y L Y K E Q E L L N I S R I I I H P D Y N 80  
UniRef90\_UPI0002C551C0 H C L K K N W I P L L Y T V Q L G S Q P S Q S V K R V F K I I I H P Q  
UniRef90\_K1PP23 E A Y V N Q P T R Y S V E A G L T R V S A N G E T R T V T K V N I H P Q Y S G S  
UniRef90\_D3Z9X4 H C F R K Y L D V S S W K V R A G S N K G S P S L P V A K I F I  
UniRef90\_UPI000328EAA7 H C M Y K W K A I L G L H M T S N L T S P Q I V A R L I D Q I V I N H Y N  
UniRef90\_UPI0003444887 H C F D Q K Q L L S A Y S V L L G Q A E E P Q E L R A V A E L I I H P E Y N  
UniRef90\_UPI00027FC24B N T P H N L V N V V L G A K L Q E P E P T Q Q E F S V A Q V F Q D G Y N  
UniRef90\_Q7JPN9 H C V N T N L T I V A G S S N I W F P T G P Q Q E L E V R E I I I H P K Y  
UniRef90\_F6QZA7 H C V Y D L Y M P S S W T I Q V T L I D T P A P S Y S V D K L I Y H S K Y K P  
UniRef90\_D6W8V8 R F W F F Y Y E I Q V G L L R R F S Y S P M E Q N R W A T V A I I P H E G Y N  
UniRef90\_UPI0003D09D2E P I R L G E Y Q V E L G A L E L S H P P P E A I L A P V A G V A V H P H F  
UniRef90\_B0XIN5 H C T V G R S P L D T R I V G T H L L D S G G N Y Y G V A R M V V H E L Y D A S  
UniRef90\_W5MUL5 H C V D F I Y R V A L G E H N L Y V E E G T E Y Y R D V D Q I I I H E K W D G S  
UniRef90\_F6PR90 H C F D G V W R I Y G G I L H L S E I T K E T P F S Q I K E I I I H P N Y K I S  
UniRef90\_C1BQ60 P S I N S R T Q L V A G E H Q L V P S S T E Q K V N V K E V I A H S G F S  
UniRef90\_B4PYK9 H C V S N E D E N T I R A G S N D R F S G G V L I Q V A E V I V H E E Y  
UniRef90\_B4LIB2 N Y I K Y Y E V R A G L L R R T S Y S P A T Q I Q S V S H V V V H Q A Y  
UniRef90\_B4N135 C M Q S Y K S S E M Q I R L G S T Y R N E G G E V V S V G S F K Y H E N Y N S S  
UniRef90\_W5MA72 S C A G S E G L V A F G D H N I Y G I E G Q E Q I I P V E R K V I H P S W  
UniRef90\_UPI0002A4CB82 H C F Q H A W R A Y M G M R V M A R G N H G A A T R L I R R I L L H P Q Y D  
UniRef90\_G1LHR5 H C M R S F W R V H A G L V S H S A V R P H Q G A V V E R I I I H P L Y S  
UniRef90\_H9G442 K R F M E H W K L V I G A T Q L S R H S P D I Q E R T I K N L I E H Q Q Y  
UniRef90\_UPI000462C50E F R D L S Q Y Q V L I G V T Q L S N P G P Q A C C L G V Q Q V I I H P M Y  
UniRef90\_UPI00032AEEC6 I H S F E D Y T V R L G D R M L P G H S K E T V E I I P V A D I I P S D F D L T  
UniRef90\_UPI0003F12C64 H C I N N T Y R V G L G K N N L D N E E G S Q F V S V D T I F V H S K W N S  
UniRef90\_I3KLJ8 H C F M F P L N V P H H M N S S M D I P S A E E Y K V D T V I R H E G F  
UniRef90\_G3VIV9 H C I E D Y S L V L G S M S S Y P N N D D G V Q I R T V V Q I I K H P S Y  
UniRef90\_T1PA20 H C Y T Y D P S V F T V R A G S N D R F Q G G V L V N V A E I T A H E D Y  
UniRef90\_UPI000444595A H C F D T Y K N P K L W T A S F G I T S P A L M R R P V Q S I I T H E G Y S  
UniRef90\_UPI00038EF5F0 H C I R G S L T S A Y S V W T K T Q Y S Q V K E Y F V S E I I I H P K Y N  
UniRef90\_UPI0003593F41 I P Y P D V W R I Y G G I L N L S E I T K E T P A S R I K E I I I H Q K Y N V S  
UniRef90\_Q5K2P9 H C F V T N G T V L L G V H S Q D G P L E G A H M R S V A T I L I P D N Y S  
UniRef90\_E6ZIR6 K E R L S D P R Y W S A H L G M L T Q G S A K H V A D I Q R I V V H E Y N  
UniRef90\_H2SRL5 H C F Q D S W R A Y M G M R L M T T G S S G A T I R L I R L L H P Q Y D  
UniRef90\_K7FI85 R C Q G E S I T V V L G A H N V S Q W E P S Q Q V I P V Q R Q I P H P Q Y N S  
UniRef90\_U5EP40 H C K F G F I E V V A G E H L A F R N D T T E Q R R Q V D R F I L H E S Y  
UniRef90\_UPI0003EAB3C8 Q C L P S S V N T S E W R V F L G R Q N Q T S  
UniRef90\_B0LM17 H C F K N K N R V N Q W R L I F G A R E P A Q E R F V E K I I I H E K Y S S  
UniRef90\_B4MP44 C L Q S V S A S V L R I R A G S T Y W N S G G V T I S V S S F K N H E G Y N  
UniRef90\_UPI00034F6086 E G V Y S S P Y P W T V Y V G S L Y K S T G T R Y S V K S L I G H Q N Y D  
UniRef90\_F7DXA1 S N P S S F Y T V Y L G S Y Q T S V P N A N E V P M T V K R F M N H P N Y T S S  
UniRef90\_K7IUZ9 H C K T G Q Y L I Y A G K H Q L G T E E D T E Q K R L V E E T F V Y P E Y K G S  
UniRef90\_U3KC65 Y K N I S M V Y V V I G A T Q L S R P G P G A V A R D V K K V V I R E Y  
UniRef90\_J9JT67 V A H M S S W D V A R L T A N L S K S D V K H L E R K I K R V V R H K G F D  
UniRef90\_C3Z5B7 A Q N P S Q W R V R V G S Y T R E V T D P N Q E V Y E V K H V I M H P Q Y D  
UniRef90\_UPI00033246E H C S Q D S Y M V G L G S H S L A T Q E P G S R M I E A S I S I P H P Q Y N  
UniRef90\_UPI000258EC2F R F D P N L M S I R I L E H D R N S T T E S E Q M F K V E K V I R H S A Y S  
UniRef90\_UPI0003EC0C85 H C K G R K I T V L L G A G D I K Q E E S T W Q K L K V K E Q F V H P K Y N S  
UniRef90\_E9GLY7 H C A D A V F F D I Y L G S H N V R E P T R V E I R S T Q Y T V H P D W  
UniRef90\_UPI0003330257 H C F W R N I S V V L G D Y D L S E N D G N E Q V R R V T Q V I I P N K Y  
UniRef90\_G3NQX2 A Q Y R T V N N W R V K L G S I Y S K P V N A N V V E V N T I V Y H S S Y  
UniRef90\_T1GZ28 T Y G A K S A W Y A G T L D V N T L D S S A K A I Q V S S F I I H A N Y N P  
UniRef90\_W5L5M0 I E R M N E M Q V N L G G V N L D K D E A A D Q T F D V E N Y A V H E N Y T E S  
UniRef90\_UPI00032ADA91 H C F R K H L D V D N W K V S A S E K V D H L P S L P V A K I F V T E Y N T T  
UniRef90\_P35038 H C T D G S Q P A S T V R L G S S R H A S G S V I H V A R I V Q H P D Y D  
UniRef90\_F6Z4X9 S P P K K S I T V V L G Q H D F N Q T R D V T Q K F E V E K Y I T Y P L Y N P S  
UniRef90\_L0ATN6 C V D D V S T S Y V R F R A G S S N R E T G G T L H P A S N I T A H P Y D  
UniRef90\_E9GK53 A C V I G Y R H V V V G Q I D P V A T D P S E Q S I S V S A V H I H N D Y D  
UniRef90\_B4PX63 H C T V G Y D S I F L M F G T V Q L F N E N A L N M T A T N I I V H P D Y N  
UniRef90\_A7RGS8 N T Q P S D I E I R L G A H N R I I D D G T E Q D I K V S K L V S H T S Y N S  
UniRef90\_UPI0003316CCD N R D I T T V N V V L G A H D L Q S P E A S Q Q R F S I V R T F A N D Y D P  
UniRef90\_F7H684 H C R H W T A F V G I L S Q S L M F Y G S G H R V E K V I S H P S Y D S  
UniRef90\_C3W4P6 H C N P A D E L Q V V A G E H D Q D V D E G N E Q T V I L S K I I Q H E G Y N  
UniRef90\_G7NQR4 H C V A W Y P Q T Y R V Q T G Q V T L Y R H D Q L T K V A Q I I L H P K F N M S  
UniRef90\_UPI0003C2A0B3 T K K M F G L R G V I G A T Q L S R L G P Q A Q V R N Y R Q V V P H E N Y  
UniRef90\_A7VMR8 W Q N P Y T Q L A I L G D H I L W E N E G T E Q F M S V D A I Y W H Q S Y D  
UniRef90\_G5EMP3 H C F K W D T F K T M K V L D D F N D L K D V E E R T I S K V I I H E N F S S T  
UniRef90\_G7NXX0 I S S H L E Y R V K L G D T N V H H R S K T A L V V P V R D I V I H R Y F M S S  
UniRef90\_UPI0003AF965F H C M M N E Y A I H M G S D R L V G G Q K A I K A T R S F R H P G Y S  
UniRef90\_UPI0003F08E18 D D P A S T M T I H V G S H N R D S R D D G Q A I G V E K V L R H E R Y N  
UniRef90\_K7IV01 L P R S G E F V R A G K H F I K S N E A T E Q I S L T T E V F I H K N Y  
UniRef90\_A7S9G1 H C F P R H W Q V R L G E H S F H K N D R T E K I L K V A Q I K I H P R Y  
UniRef90\_UPI0003C134CF A N E I H R W Q M C L G K N L T F T E P T E K C F K V L G I Y R H E N F  
UniRef90\_UPI0003F08C98 H C R K P W Y I V H L G E H N L Q E Q D G C E Q T R T A T E S F P H P E Y N N S  
UniRef90\_UPI000359652D M N S V K L L D D W K V Y G G V S D L K Q P M E G I P V S Q V I I N S N Y S  
UniRef90\_UPI00046C08EB H C N G D K I T V Y L G A H N I Q Q R E Q S Q K I P V H C R I P H Q Q Y N  
UniRef90\_HOVNG6 H C F K G N F S V L L G A W Q L G H P G P R S Q K V G V A W V L H P R Y S  
UniRef90\_UPI0003AF51E9 D N S A L S P Q N W R V Y G G T V S L N L P V P Y F V E K I I V N E N Y N  
UniRef90\_UPI0003F0BEFF H C I V D E D H M G V T M H D D W T Q A T R V V K G V S R L I M H E N S Y D D S  
UniRef90\_E7FCZ0 W R P S Y L I K V V L S E H D L S K I E G F E R V F N V S K A L V H Y M Y N  
UniRef90\_UPI0003F092B2 H C I K N A R N P S V W R A V I G T N N Q H T K R I K V N A I F I H P G F N  
UniRef90\_UPI00038EA004 F E E I A P Q E L N I V V G T N D L T S P H M E I K Q V T S I I L H K D Y  
UniRef90\_UPI0002654184 G M E A S D F T V T L G I R H L S D S H E H K V V R E A D S V V M H P D Y  
UniRef90\_A7S1T0 G E T A S R V H I R L G A H R R T K G S G N E Q D F R V I R L V T H P N Y  
UniRef90\_UPI0003373B1 H C F R K Y L D L Y N W K V R A F E K M D H F Q S L P V A K I F T P K  
UniRef90\_UPI0003BBAC03 H C F P E D Y Q V L L G S T Q L Y Q H T Q N A R K M S V N R I I M H P D F  
UniRef90\_A0A026WDT2 H C L D G L V R P P Y S N L R V L T G N N Q G S S H S V R S A R I H P N Y I P T  
UniRef90\_B0W1J3 Q C I T Q N F V I W A G S H N L N L N E D T R Q V I S V Q R S V V H P D Y N P S  
UniRef90\_B0W771 Y Y T D S E P S E F S I R A G S T L R N E G G Q L I T A S E I F I H P W Y D  
UniRef90\_D3PHU3 V I N V D I T T V V A G D H N Q L F P S K N E Q L L K I K K V I T N P D F  
UniRef90\_A7SBN1 H C V G A H N I R N D G K E L Y V A R V I R H E K Y  
UniRef90\_UPI000333B043 E K N I A T F D L Y V G L T N L R A A G A H T Q W F A V S R V I L H P S Y

UniRef90\_Q924N9  
UniRef90\_UPI0002C551C0  
UniRef90\_K1PP23  
UniRef90\_D3Z9X4  
UniRef90\_UPI000328EAA7  
UniRef90\_UPI0003444887  
UniRef90\_UPI00027FC24B  
UniRef90\_Q7JPN9  
UniRef90\_F6QZA7  
UniRef90\_D6W8V8  
UniRef90\_UPI0003D09D2E  
UniRef90\_B0XIN5  
UniRef90\_W5MUL5  
UniRef90\_F6PR90  
UniRef90\_C1BQ60  
UniRef90\_B4PYK9  
UniRef90\_B4LIB2  
UniRef90\_B4N135  
UniRef90\_W5MA72  
UniRef90\_UPI0002A4CB82  
UniRef90\_G1LHR5  
UniRef90\_H9G442  
UniRef90\_UPI000462C50E  
UniRef90\_UPI00032AEEC6  
UniRef90\_UPI0003F12C64  
UniRef90\_I3KLJ8  
UniRef90\_G3VIV9  
UniRef90\_T1PA20  
UniRef90\_UPI000444595A  
UniRef90\_UPI00038EF5F0  
UniRef90\_UPI0003593F41  
UniRef90\_Q5K2P9  
UniRef90\_E6ZIR6  
UniRef90\_H2SRL5  
UniRef90\_K7FI85  
UniRef90\_U5EP40  
UniRef90\_UPI0003EAB3C8  
UniRef90\_B0LM17  
UniRef90\_B4MP44  
UniRef90\_UPI00034F6086  
UniRef90\_F7DXA1  
UniRef90\_K7IUZ9  
UniRef90\_U3KC65  
UniRef90\_J9JT67  
UniRef90\_C3Z5B7  
UniRef90\_UPI000333246E  
UniRef90\_UPI000258EC2F  
UniRef90\_UPI0003EC0C85  
UniRef90\_E9GLY7  
UniRef90\_UPI0003330257  
UniRef90\_G3NQX2  
UniRef90\_T1GZ28  
UniRef90\_W5L5M0  
UniRef90\_UPI00032ADA91  
UniRef90\_P35038  
UniRef90\_F6Z4X9  
UniRef90\_L0ATN6  
UniRef90\_E9GK53  
UniRef90\_B4PX63  
UniRef90\_A7RGS8  
UniRef90\_UPI0003316CCD  
UniRef90\_F7H684  
UniRef90\_C3W4P6  
UniRef90\_G7NQR4  
UniRef90\_UPI0003C2A0B3  
UniRef90\_A7VMR8  
UniRef90\_G5EMP3  
UniRef90\_G7NXX0  
UniRef90\_UPI0003AF965F  
UniRef90\_UPI0003F08E18  
UniRef90\_K7IV01  
UniRef90\_A7S9G1  
UniRef90\_UPI0003C134CF  
UniRef90\_UPI0003F08C98  
UniRef90\_UPI000359652D  
UniRef90\_UPI00046C08EB  
UniRef90\_H0WNG6  
UniRef90\_UPI0003AF51E9  
UniRef90\_UPI0003F0BEFF  
UniRef90\_E7FCZ0  
UniRef90\_UPI0003F092B2  
UniRef90\_UPI00038EA004  
UniRef90\_UPI0002654184  
UniRef90\_A7S1T0  
UniRef90\_UPI00033373B1  
UniRef90\_UPI0003BBAC03  
UniRef90\_A0A026WDT2  
UniRef90\_B0W1J3  
UniRef90\_B0W771  
UniRef90\_D3PHU3  
UniRef90\_A7SBN1  
UniRef90\_UPI000333B043

|                        | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_UPI0003DF5917 | I | V  | G  | H  | D  | A | G | D | G | E | Y | P | Y | Q | V | S | I | L | R | L | N | N | Y | H | I | C | G | G | S | I | L | D | Y | Y | T | H | T | A |   |   |   |   |
| UniRef90_UPI00045423D3 | I | F  | G  | G  | T  | S | A | P | S | G | R | K | W | P | Q | V | S | I | L | R | F | S | G | L | H | I | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |   |
| UniRef90_V4B521        | I | V  | N  | G  | T  | A | S | A | Y | Y | G | E | F | P | W | Q | V | S | I | L | R | F | S | N | G | L | H | I | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |
| UniRef90_UPI0003C39F1B | I | V  | G  | G  | Y  | E | V | D | I | R | D | V | P | F | Q | V | S | I | L | R | S | S | Y | N | H | F | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |   |
| UniRef90_E4XW59        | I | V  | G  | G  | A  | V | V | E | Q | I | R | D | W | P | W | Q | V | S | I | L | R | N | S | G | S | T | H | F | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |
| UniRef90_H9GCR0        | I | V  | E  | G  | A  | E | A | P | S | S | K | W | P | W | Q | V | S | I | L | R | Q | Y | G | S | S | H | I | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_UPI00042AC84C | I | V  | G  | G  | M  | P | A | P | F | Q | K | W | P | W | Q | V | S | I | L | R | H | Y | S | G | L | H | V | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_I3M1T8        | I | V  | G  | G  | Q  | E | A | P | E | N | K | W | P | W | Q | V | S | I | L | R | R | F | Y | W | R | H | M | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_W5PIW6        | I | V  | G  | G  | R  | E | A | Q | P | H | S | R | P | Y | M | A | S | I | L | R | Q | L | S | G | S | H | F | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_Q4RU3         | I | V  | G  | G  | E  | D | A | Q | E | G | E | L | P | W | Q | V | S | I | L | R | L | K | G | R | H | T | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |   |
| UniRef90_UPI000440522B | I | V  | G  | G  | K  | D | A | E | L | G | R | W | P | W | Q | V | S | I | L | R | L | L | W | G | S | H | Y | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_UPI000258D67A | I | V  | G  | G  | V  | E | S | S | P | G | D | W | P | F | L | A | A | I | L | R | L | G | G | P | E | F | Y | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_Q8BJV6        | I | V  | G  | G  | Q  | W | S | S | P | G | Q | W | P | W | Q | V | S | I | L | R | T | Y | D | G | N | H | V | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_UPI00039598A5 | I | V  | G  | G  | D  | E | C | P | P | G | Q | C | P | W | Q | V | S | I | L | R | L | D | E | G | E | E | F | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_B4JIV2        | I | V  | G  | G  | R  | R | A | Q | A | G | Q | F | P | H | Q | V | S | I | L | R | Y | Y | G | S | H | I | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |   |
| UniRef90_W5PDY3        | I | A  | D  | G  | S  | V | A | K | K | A | D | W | P | W | Q | V | S | I | L | R | Q | V | D | G | L | I | F | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |
| UniRef90_H3GRJ0        | I | Y  | G  | G  | S  | D | G | N | A | G | K | Y | P | Y | L | A | S | I | L | R | S | G | G | I | Y | F | C | G | G | S | I | L | D | A | Y | Y | T | H | T | A |   |   |
| UniRef90_F1QU14        | I | E  | D  | G  | T  | E | A | K | P | H | S | R | P | Y | M | V | S | I |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |



UniRef90\_UPI0003DF5917 H C I Y R K N A S E I T I V V G T N Y L S S G T I Y V V K E M I W H E N Y N 80  
UniRef90\_UPI00045423D3 E K I V E A I D V Y V G I M D L D V A T S Y T Q W L E I N R L F I H P T Y  
UniRef90\_V4B521 G Q S A S Y Y R I V L G R H R R N N A D S A E Q Y L D V T R I T I H P G Y N P  
UniRef90\_UPI0003C39F1B D G N S P T A P L F S V R I G S T Y S E K G G L L L R V L R I H Q E K Y N F S  
UniRef90\_E4XW59 C A G S V S I R V T V G D W S Q N T L S N S E V T V I S T R I I M H P N Y N  
UniRef90\_H9GCR0 H C F F M N W K V V A G A S D L K R P G G G W E G V P V K E V I N A N Y S  
UniRef90\_UPI00042AC84C E K R I E T F D V Y V G I S N L D M A T R Y T Q W F E L N Q Q V I M H P  
UniRef90\_I3M1T8 H C V P E F Y R V Q L R E Q H L Y Y R D Q L L P I S R I I P H P N Y  
UniRef90\_W5PIW6 L R N P Q R V S V V L G A H R L Q T P E P T Q Q R L C I S R L F E N N Y D P  
UniRef90\_Q4RUA3 D R D P K E W T A L V G A T H I N G E E L Q S R T I N I K S L L V S P Y Y N S  
UniRef90\_UPI000440522B T S E T S L Y Q V L L G V R Q L V K P G P H A M Y A R V K Q V K S N P L Y  
UniRef90\_UPI000258D67A H C V G N Y T D V S S G W T I Q L G V T R R H G Q K L K V K T V V I P H P N Y N  
UniRef90\_Q8BJV6 E H S R E A Y E V K L G D H Q L D S Y S N D T V V H T V A Q I I T H S S Y  
UniRef90\_UPI00039598A5 I N Q S K E I K V V V G K V D R E K K E P S E S M H T V D K I F I H S K F  
UniRef90\_B4JIV2 H C V K F G H N V S P Q V G S L V L N S F E T Y V D V T D V V V H P Q Y  
UniRef90\_W5PDY3 H C F D S Y E N P K R V T A S F G T T S P Q L M R R E V Q S V V I H P D Y  
UniRef90\_H3GRJ0 W E L N D M Y V S F G M R H S S G K G S N K A E H T R V S E I F R H P N F N M T  
UniRef90\_F1QU14 W K K G D V I T V V V G A H D L S E N E I Y N S F K V T S Y I P H E D Y  
UniRef90\_UPI0003ACAC69 H C K S D D D Q S V W L G C C D S F D E K D T V Q F L Q V S D S F P H P D F K L S  
UniRef90\_UPI0003C3758D H C M Q S Y S A S Q F K R L G S T N Y S K G G D L V A V K S F K F H E G Y N P  
UniRef90\_F7AN32 H C G V T Y R K T S S V H A S S W Q S L P G I Q H F T V K K V F R H P N Y N S  
UniRef90\_V8P374 E T K N G T L Q V L L G A H S L S E T E P N K R L Y G I R Q L I P H P G  
UniRef90\_UPI00034F46BD H C V G N H S D V N G W T I Q L R S H A Y Y G Q K V K V R R V V H P Q Y N  
UniRef90\_UPI000333067D H C L R N N S D E W A V N F G I A V N Q P I M T I K V K N I I E H E N Y H S  
UniRef90\_B5SN1 I K S G K N L S V V L G E H D L S Q E E G D E Q V L H V A Q V I V P A T Y  
UniRef90\_T1PBR3 H C I E I P P Q Y L T V R A G S R H V D R G G Q L V R V A E V K M H P L Y D G S  
UniRef90\_UPI0003831E83 L Q P G D N V T V V A G E Y N T E D D H T E Q R R Q V L K L I P H P T Y N  
UniRef90\_Q52PE1 H C L G R P M N V T L G A N T E N L E K T Q Q V I P V K R T I P H P D Y D  
UniRef90\_UPI0003C387D0 H C C Y G F E S L L L V F G T I E L F D D T A L N M T A T N L N V H P Q Y N P T  
UniRef90\_B0WH75 H C V D Y Y S T V Y Y Q S V Q V G R S D V S E S V H F I E D V I V H P Y N P  
UniRef90\_Q0P416 I N K N F E Y S V V L G G L N L V G K E P T D Q T V L V E K T I I H E K F  
UniRef90\_UPI00035A1F1B H C F L Q A R N V T M W R V H L T H L G P E V Q V R H I K Q L L V H Q E Y  
UniRef90\_Q8HXR1 H C A G R S V T V T L G A H N L Q K K E D T W R L E V I K Q F P Y P K Y E P  
UniRef90\_UPI000441DE0F H C F K R F Y L R V L G D H H T G V R D E S E R E L P V E K I L L H R N Y R S S  
UniRef90\_UPI00033396A3 H C I Q R Q Y T V K L G D I H V N H L A P T A V A I P A K D I L V H Q E F S L A  
UniRef90\_Q8T9T5 H C M D I R S N E M T V V A G E T T Q L S R G G S R L R V E R F V I H P R Y D R S  
UniRef90\_F1PZN9 F I N K S E S A L E I M H G E R I T G I K N L K R M K V D K L I I H P Y F D S  
UniRef90\_W7FRF4 H C V Q G S S P A S I A V L G R L S T E P S A H A S N V K A I H V H P A F N S  
UniRef90\_UPI000333B04C H C L L D S Y S V G L G L H S L T S Q E P G S R V L E P L L S I Q H P E Y D  
UniRef90\_U5EZD4 Y D R S G R E V V A G E H D F T Y N K G V E Q V R Q I T K F I V H E D Y  
UniRef90\_UPI00034FC990 H C N K D T L T V Y L G K H N L R T S V D G V Q I R F V S Q I I I H P E Y N A S  
UniRef90\_O46137 H C M V G E S P V V G E H D S A N V A P N R V S H N V D S I F I H P D Y S  
UniRef90\_B4LUZ8 C V E N A N G S L R V R I G A T R K D R G G V L A D I Q R V H R H P K Y D P  
UniRef90\_F6UZD9 C N I T E K T K I I I G A H S L T A K E S Q K Q I I P I I K K F Q H E D F  
UniRef90\_UPI0003339A8C H C K M G Q Y V V Q V G S D K L G D K R A Q K I K A T Q S F R H P R Y S S  
UniRef90\_UPI0003C27D56 H C Y T S C I S I R L G E H N L K G V D W T E Q L R L P C K L I R H P D Y K P  
UniRef90\_UPI0003DF5AA9 H C V E G L S N L N G I T V I G T T Q L N S G G V S Y L P Q K V V A H S G F N S  
UniRef90\_UPI000273E6B0 I S S S R T Y Q V V L G E Y D R A V K E G P E Q V I P I D E L F V H P L W N R S  
UniRef90\_UPI00045DA9B6 V R N P G I A T V V L G A Y D L K R R E S R Q T F P V R N I S R N G Y D P  
UniRef90\_F1RZN7 H C F P D I W R I Y G G I L N I S E I T K E T P F S Q V K E I I I H Q N Y  
UniRef90\_E9GTT4 G A N V A R L R V V V G E H S Q T Q A S G L E I Q I S A V S S F T M H E N Y S S  
UniRef90\_UPI000328F8C6 P L S N P R Y W T A F A G I L Q Q S F M Y Y G K G Y K I E K V I P Y P Y S D S  
UniRef90\_F7IDB0 H C L E P E E C A F R V Q V G Q L R L Y E D D Q R T K V A E I L R H P Q Y N E S  
UniRef90\_UPI0003C903C8 H C F D K R K N P Y G D W R L V F G A K D E P L Q E R F I E K I V I H D Q Y N P  
UniRef90\_UPI0003AF1077 H C T H W R V H V G L V S H S T V R P H Q G A V I E R I I A H P K Y S  
UniRef90\_UPI00021A86D9 H C V S S A W E L K I R L G S T F Y N K G G T E I R Q G L Q V I R H P K Y N S  
UniRef90\_B4M9U9 C M Q S Y K A S E I Q V R L G A T E R N E G G E V V S V K T F K F H E G Y N S  
UniRef90\_K7J4L0 H C F E D T Y G M S I L T G S T Y R S K G G Q K H Q I E K V I I H R G Y D  
UniRef90\_UPI00038BEFF1 C T T K T S Y Q V I L G A H S K D K D E P E K Q I L S V K K A F P Y C F D  
UniRef90\_UPI00042C3705 H C F D R N F D M Y V G L V D L R V A G N H T Q W F E V N K V I I H P T Y  
UniRef90\_UPI0003F10549 K N N P L F W S V V A G D H D R T L K E S T D Q V R R A K H I I M H E D F D  
UniRef90\_A6XZZ9 F R D P T T I D V V I G I N N L N N E A S E G V R V P V R R I Y I H E D Y  
UniRef90\_H3BFT8 I Y S S R S Y Q V A L G K H N L R V I E P G S A L I T A G K L I N H P R W D P  
UniRef90\_W8AUL1 V S S I P A D F L Q V Q A G S L N R S T S G C T I Q V E R V I S Y P Y N  
UniRef90\_UPI00038728C1 A R N I T M W Q V V V G A N R L T Q L G P K A Q V R N I K R L L V H Q H Y S  
UniRef90\_E1BLW6 P E Q L P P T D L R V L G T N S L T S P L E I L K G V T T I I R H K D F  
UniRef90\_Q4T7E2 H C F K R Y Y K V R V G D Y H S L V P E E Y E E Y A I D Q I L L H P N Y N S  
UniRef90\_B0XE90 H C V H N E W T V V L G E Y D R G R E S G Y E Q R I P V D K I L L H E K Y  
UniRef90\_H2ZZJ9 H C V Q S I V S T T V V A G T V D Y R N P G Q A R T A I R W L A H P Q Y S S  
UniRef90\_G3NHR1 S A G T K D M Q V V V G A L S T N I E A T A Q T I Q V E E A I V H E N Y  
UniRef90\_UPI00029DC11C H C V G P D V R V Q L R E Q H L Y Y Q D Q L L P V S R I I V H P Q F  
UniRef90\_UPI00046BA6B2 H C F D R N Q P L Q A Y I V M L G T I S Q F P H Y R S V A Q F I H R S Y  
UniRef90\_R7U8M6 H C T Q G S A S G Y R I R T G S T S R S R G G Q V H Q V I R V V N P F Y  
UniRef90\_W5K0M6 H C W N Q G E K L M V V R A D D L L N T R S L F S V A V K F Y H I H P S Y D S  
UniRef90\_G1PSH4 H C I P G C W A E W L Q T P H Q D S A S C D S V Q V A R I I R H P N Y S  
UniRef90\_I3NHA7 H C V Q T H Y R V I L G N K L N E F D E N A V M V P V K D V Y P H Q G F  
UniRef90\_UPI0002236114 K R N M T N I F V T L G A H N I Q K K E N T Q Q V I P V L Q A F P H P E F S S  
UniRef90\_UPI00026596EE H C V D Y R K F V V A G E H D L T K N E G T E I Y F A V N R I A I H P Q W D S  
UniRef90\_K7F4E8 H C F R H S K P A W T V T F N L L R P R M K R S V K A I I V H E K Y  
UniRef90\_UPI0002989355 V R K D A D P A A Y R I H A G D V Y L Y G R T L L N V T R I I V H P D Y  
UniRef90\_UPI0003C47ED7 H C W G E E I N V T L G A K I K D K E R T Q Q K I T V R Q Q I P H P E Y D  
UniRef90\_N6TPR9 F W V I P D V S M L S I R A G S Q W R S G G Q Q V A R E I V I H E L Y N  
UniRef90\_G1NEZ6 A T R V H L Y R V W I G L L D T I E Y D K E T D T Y R L K Q L I I H E K Y N A A  
UniRef90\_W5JNQ1 N P E T A T F M I W A G A H D F S A T E P S R Q V I T V T R T I P H P A Y N P S  
UniRef90\_I3K1I4 W R P S T F M R V V L C E H S L I K N E G F E Q I F N V S K I Y V H N Y N  
UniRef90\_E2BCF1 E Y E K H Y Y E V Q A G A L R F S F S P M A Q W R R A R N V L I H A D F S  
UniRef90\_P35048 H C A K T N S A Y Q V Y T G S N K V I E G G Q A Y R V K T I I N H P L Y D  
UniRef90\_B0XLK5 D G V D K I P A K G F K V H V G S A N L E G G Q L Y A V A E T F A H E Q Y  
UniRef90\_W5UKN2 H C M N R S I T V I L G E T D V L V R E G R E A V H A V E Q V L V H T N Y Q P  
UniRef90\_K7GDX3 H C N G D E I T V T L G A H D L D Q E E T T Q Q E I P I R Q L H P P D Y S  
UniRef90\_Q5FVZ2 H C V G T K Y T V R L G E Y D I R K L E D T E Q Q F A V I K I I P H P E Y S  
UniRef90\_W4X002 I M T Q G E L K V I V G K Y Y L L E D E E A Q Q E V K V A K I Y V H E N Y

UniRef90\_UPI0003DF5917  
UniRef90\_UPI00045423D3  
UniRef90\_V4B521  
UniRef90\_UPI0003C39F1B  
UniRef90\_E4XW59  
UniRef90\_H9GCR0  
UniRef90\_UPI00042AC84C  
UniRef90\_I3M1T8  
UniRef90\_W5PIW6  
UniRef90\_Q4RUA3  
UniRef90\_UPI000440522B  
UniRef90\_UPI000258D67A  
UniRef90\_Q8BJV6  
UniRef90\_UPI00039598A5  
UniRef90\_B4JIV2  
UniRef90\_W5PDY3  
UniRef90\_H3GRJ0  
UniRef90\_F1QU14  
UniRef90\_UPI0003ACAC69  
UniRef90\_UPI0003C3758D  
UniRef90\_F7AN32  
UniRef90\_V8P374  
UniRef90\_UPI00034F46BD  
UniRef90\_UPI000333067D  
UniRef90\_B5SNI1  
UniRef90\_T1PBR3  
UniRef90\_UPI0003831E83  
UniRef90\_Q52PE1  
UniRef90\_UPI0003C387D0  
UniRef90\_B0WH75  
UniRef90\_Q0P416  
UniRef90\_UPI00035A1F1B  
UniRef90\_Q8HXR1  
UniRef90\_UPI000441DE0F  
UniRef90\_UPI00033396A3  
UniRef90\_Q8T9T5  
UniRef90\_F1PZN9  
UniRef90\_W7FRF4  
UniRef90\_UPI000333B04C  
UniRef90\_U5EZD4  
UniRef90\_UPI00034FC990  
UniRef90\_O46137  
UniRef90\_B4LUZ8  
UniRef90\_F6UZD9  
UniRef90\_UPI0003339A8C  
UniRef90\_UPI0003C27D56  
UniRef90\_UPI0003DF5AA9  
UniRef90\_UPI000273E6B0  
UniRef90\_UPI00045DA9B6  
UniRef90\_F1RZN7  
UniRef90\_E9GTT4  
UniRef90\_UPI000328F8C6  
UniRef90\_F7IDB0  
UniRef90\_UPI0003C903C8  
UniRef90\_UPI0003AF1077  
UniRef90\_UPI00021A86D9  
UniRef90\_B4M9U9  
UniRef90\_K7J4L0  
UniRef90\_UPI00038BEFF1  
UniRef90\_UPI00042C3705  
UniRef90\_UPI0003F10549  
UniRef90\_A6XZZ9  
UniRef90\_H3BFT8  
UniRef90\_W8AUL1  
UniRef90\_UPI00038728C1  
UniRef90\_E1BLW6  
UniRef90\_Q4T7E2  
UniRef90\_B0XE90  
UniRef90\_H2Z2J9  
UniRef90\_G3NHR1  
UniRef90\_UPI00029DC11C  
UniRef90\_UPI00046BA6B2  
UniRef90\_R7U8M6  
UniRef90\_W5KOM6  
UniRef90\_G1PSH4  
UniRef90\_I3NHA7  
UniRef90\_UPI0002236114  
UniRef90\_UPI00026596EE  
UniRef90\_K7F4E8  
UniRef90\_UPI0002989355  
UniRef90\_UPI0003C47ED7  
UniRef90\_N6TPR9  
UniRef90\_G1NEZ6  
UniRef90\_W5JNQ1  
UniRef90\_I3KI14  
UniRef90\_E2BCF1  
UniRef90\_P35048  
UniRef90\_B0XLK5  
UniRef90\_W5UKN2  
UniRef90\_K7GDX3  
UniRef90\_Q5FVZ2  
UniRef90\_W4X002

|                        | 1 | 10                                  | 20                          | 30                  | 40 |
|------------------------|---|-------------------------------------|-----------------------------|---------------------|----|
| UniRef90_F1QIC5        |   | G T E A K P Y S R P Y M V S L       | Q I N S K H I C G G S L I   | T E Q F V L T A A   |    |
| UniRef90_UPI000298C140 | V | G G D N A R P H S W P W Q I S L     | Q Y T W R K H I C G G T L I | A N S F V L T A H   |    |
| UniRef90_UPI0002C65E01 | I | G G N E V T P H S R P Y M V S L     | K T G W K N I C A G A L I   | A K D W V L T A A   |    |
| UniRef90_U3J2T3        | I | F A G V K T T A G K H P W M V S L   | K T S H I C C G G V L I     | A K S C W V L T A G |    |
| UniRef90_UPI0002A49C68 | I | F G G L K V S P G A I P W Q V S L   | Q Q K Y R H V C C G G V L I | K S C W T A G H C   |    |
| UniRef90_AOA0344WLJ2   | I | V G G T N A S P N E F P W I A V L   | F K S G K Q F C G G S V I   | T K N H I L T A H   |    |
| UniRef90_B4HNG4        | I | V G G T A T T I S S F P W Q I S L   | Q R S G S H S C C G G S I   | S A N I L V T A A   |    |
| UniRef90_UPI0003F19A5D | I | V G G M P A R R K W P W Q V S L     | Q I N N K H I C C G G L I   | A S R W T A A H C   |    |
| UniRef90_UPI00034FA7C4 | I | L K G Y P C L P H S Q P W Q V A L   | F Q K T R L L C G A T L I   | A P Q W L T A A     |    |
| UniRef90_G1KJP9        | I | L G G N T A Q K D E F P W Q V A I   | R E R E R V S C C G G V I   | G G C W V H C V I R |    |
| UniRef90_E2A5X0        | I | V G G K D V A P G E I P Y Q V S L   | Q K R E S H I C C G G S I   | N E Y Y V I T A A   |    |
| UniRef90_Q17BS3        | I | V G G S P A K E N A Y P W M A A L   | Y Y N N R F T C C G G S L   | T D R Y I H C V I F |    |
| UniRef90_A7RKX5        | I | V G G T E A P I N G W P W Q A M L   | L R N G D Q F C C G G S I   | D P G W V H C L V   |    |
| UniRef90_UPI00029D8827 | I | V G G Q E A R W G D S P W Q V L     | D S K K K L V C G A V L I   | H V S W T V A H C   |    |
| UniRef90_UPI00022F44B6 | I | V G G S D A Q P G S W P W V V A L   | Y Y R D S Y R C G A S L I   | S S E W L V S A A   |    |
| UniRef90_UPI0003318A41 | V | G G C V A N A P H S W P W Q V S L   | R T R G S H F C C G G T L   | T P E W H C L E R   |    |
| UniRef90_B0KW84        | I | V G G R E C K D G E C P W Q A L     | I N E N E G F C C G G T L   | S E F Y V I T A A   |    |
| UniRef90_C1BRH4        | I | Y G G E E V E P N S V P F Q I S L   | Q K P G F H F C C G G S I   | D K D T V I T A A   |    |
| UniRef90_G3MF67        | I | V G G R A A L P G S W P W Q V A I   | Q E R G R H F C C G A L I   | T R R H V L T A A   |    |
| UniRef90_F6YGA4        | I | V G G T K S A R G S W P W Q A S L   | R L K G F H L C G A T L I   | N N C W C F K R F   |    |
| UniRef90_W8CBQ3        | I | V G G Y E A Q K G E A P F I V S L   | K T S S H F C A G S I I     | D E N W V L T A A   |    |
| UniRef90_V6F7U3        | I | V G G A R A P E S K W P W Q V S L   | Q F S R T H I C C G G T L   | D A Q W I L T A A   |    |
| UniRef90_W5JDH1        | I | A G G S E A E D G Q F P Y Q V A L   | I N E G L V Y C C G G A V L | N R R W V I T A A   |    |
| UniRef90_H0YWR0        | V | V G G K S A E A G A W P W L V S I   | Q S G T G H L C C G G S L   | I N T Q W V L T A A |    |
| UniRef90_UPI00045DF896 |   | E V Q K G E K P W Q V S I           | F I N S R K H L C C G G V I | H Q Q W V L T A A   |    |
| UniRef90_UPI00038EEDD8 | I | S G G Y E C L P H S K P W Q V A L   | F Y N G T L Y C C G V L I   | H Q Q W V L S A A   |    |
| UniRef90_H3C480        |   | S D A A V G S W P W Q A S L         | H Y S D G H I C C G G T L   | I N N Q W I H C V L |    |
| UniRef90_UPI0002687848 | I | V G T E S K P H S R P Y M A S I     | T F Y D S N R C C G G F L   | V A K D I V M T A A |    |
| UniRef90_U4UIA2        | V | G G L N A E R N Q F P Y Q V S L     | Q R L R Y H I C C G G T L   | S P N W V L S A A   |    |
| UniRef90_L9KQ09        | V | V G G C V A R P H S W P W Q I S L   | R R F R K H F C C G G T L   | S P E W H C L E R   |    |
| UniRef90_UPI0002C64E8C | I | V G G M P A Q E G K W P W Q V S L   | Q I R D Q H R C C G G S I   | A R Q W V L T A A   |    |
| UniRef90_Q2XSC1        | I | V G G S D T T I G K H P W Q I S L   | Q R G T G H S C C G G S I   | D E K W V V T A A   |    |
| UniRef90_Q9N2D1        | I | V G G K E A P G H K W P W Q V S L   | R Q Y W K H F C C G G S I   | H P Q W V L T A A   |    |
| UniRef90_F5BZN7        | I | V G G C V S K P H S W P W Q I S L   | Q T T G G H F C C G G L I   | H P Q W H C L G K   |    |
| UniRef90_G3TJV3        | V | N G K P T K R G Q S P W Q V A L     | L S K K R L A C C G V L I   | H S W V L T H C     |    |
| UniRef90_B3XZY6        | I | V G G K N A E Q G Q F P W Q A A L   | K E K F V W T C C G A V Y L | G S H W V A H C V   |    |
| UniRef90_UPI0003C9093C | I | V G G N A S V P G E W P W Q I T L   | H S T W G H L C C G G S I   | I G N Q W H C F Y G |    |
| UniRef90_G7Q044        | I | V G G H A A R A G A W P W Q A S L   | R L R R V H V C C G G S L   | S P Q W V L T A A   |    |
| UniRef90_UPI0003B3BEF3 | I | V G G S F V P I E T Q P W I A A I   | F Q N R F L C C G G S L     | S P G W V L T A A   |    |
| UniRef90_G1PFG9        | V | V G G Q A A A H G A W P W M V S L   | Q S R Y R H A C C G G T L   | N A Q W V L T A A   |    |
| UniRef90_Q29MJ9        | I | V G G Q D T P I E D P W Q V S L     | V V G G D H A C C G G S I   | Y Q Q D F V I T A A |    |
| UniRef90_UPI00042CDADA | V | L H G G P C E Q T S H P Y Q A A L   | Y M A G H L L C C G G V L   | I H P L W V L T A A |    |
| UniRef90_V4ALJ4        | I | I G G K P S T P G R F W P W Q V S L | Q I E P W H R C C G G V L   | I H P S W V L T A A |    |
| UniRef90_E0VKQ3        | I | V G G R K A T T L E F P Y Q V E L   | E M T Y M H C C G G S I     | I S N N F I L T A A |    |
| UniRef90_Q64ID4        | V | I N G R D A P P G S F K Y Q A G I   | I I N G A G F C C G G S I   | L R A N Y I L T H C |    |
| UniRef90_Q97098        | V | V G G Q D A A E S S A P Y Q V S L   | Q L A D G H F C C G G S I   | L N E R W I L T A A |    |
| UniRef90_W4XQV7        | I | V G G S L T Q L G D W P W M V S L   | R D S N N H R C A A V V V I | N R T V A V L T A A |    |
| UniRef90_A7SQF0        | I | V G G R E A P R N S W P W Q V E I   | I L K T T H Y C C G G S I   | I D P Y W I L T S S |    |
| UniRef90_B4KFB8        | I | V G G V Q V S I K D Y P Y Q I S L   | Q R S F H M C C G G S I     | I G V G W A T A A H |    |
| UniRef90_K1R8F0        | I | M G G T D A R K G S W P W           |                             |                     |    |

|                        | 50  | 60  | 70                    | 80 |
|------------------------|---|---|-----------------------|----|
| UniRef90_F1QIC5        | H C W A N E N E I Y D S                       | G K N N L V D N E E G S L F A N V         | E S Y I P H P D Y N S |    |
| UniRef90_UPI000298C140 | I S N T K T Y R V A L                         | G A K H S M D E N E R E K Q I I V I       | D T I F V H E K W N S |    |
| UniRef90_UPI0002C65E01 | H C G E R K S K V I L                         | G A H S M D E N E R E K Q I I V I         | K E F P H K Y D       |    |
| UniRef90_U3J2T3        | H C L T E K F Q V A L                         | G K Q N L R K R E P S A Q Q I F D V       | E K I I V H K Y       |    |
| UniRef90_UPI0002A49C68 | I D K S K D M Q V L M G S L S L D K T D       | H S A Q Q I F D V E N A I V H Q R Y       |                       |    |
| UniRef90_A0A0344WLJ2   | V S R M T S W D V A A M T A H L T N Y E       | V Q H V V R R I K R L V R H K G F D F S   |                       |    |
| UniRef90_B4HNG4        | H C H E R S V T L M K V R V G A Q N H N Y     | G G T L V P V A A Y K V H E Q F D S       |                       |    |
| UniRef90_UPI000319A5D  | V T G H E Y T V R L G D K S L Y P N S         | K T T L V V P A E D I V C H R F F D D T   |                       |    |
| UniRef90_UPI00034FA7C4 | H C R K P W M R V L L G E H N L N R E D N     | G C E Q R Q T A T E S F P H P D F N N S   |                       |    |
| UniRef90_G1KJP9        | A S R T H V Y R L F T G M L N S I R T N D     | G I D T F N L K R V I I H E N Y D S       |                       |    |
| UniRef90_E2A5X0        | H C V E N K I P A D V I I A D T V N L N R     | P G P Q H A I K Q I I S H E K Y D P       |                       |    |
| UniRef90_Q17BS3        | R L S P A R F R V Q L L V Y N R T Q P T T N S | V E R S V K A I I H P K N Y H S           |                       |    |
| UniRef90_A7RKX5        | G E Q D S V V V R L G A H Y R S N K T G T E   | K D I K V A Q I I P H K N Y H S           |                       |    |
| UniRef90_UPI00029D8827 | L E S H K K L I V R L G E Y D M R R W E S     | W E V D L D I K E V I V H P N Y T K S     |                       |    |
| UniRef90_UPI00022F44B6 | H C V Y G R N V D P T R W T Q S N L T S P     | Q V E R R V I D Q I V I N P H Y D         |                       |    |
| UniRef90_UPI0003318A41 | S S R P S S Y M V V L G A H R E K L I D D     | G I Q K I E V A K M V L E P S             |                       |    |
| UniRef90_B0KW84        | L H Q A K R F K V R V L G D R D T E K E       | E G G I Q V I H E V A M V I K H N R F S I |                       |    |
| UniRef90_C1BRH4        | Y C H S D V L V V A G E H N L S L E S G       | D E Q S V D V E K I I T H E N Y N         |                       |    |
| UniRef90_G3MF67        | H C V W K R N I V Y V G S H I R I L N K S     | T A T S L A V E D I C S H P N F S         |                       |    |
| UniRef90_F6YGA4        | G K Q V H R Y S L R V G D Y H T G V E D       | E F E R E L P L Q K L V I H K N Y R S T   |                       |    |
| UniRef90_W8CBQ3        | H C L V Y N S F Q V V A G L H S R N D E S     | D V Q I R K V S Q Y I V H E E Y           |                       |    |
| UniRef90_V6F7U3        | H C F F I T R E K I L E F G W K V Y V G       | T N D L H H L P A Q I I I N S N Y S       |                       |    |
| UniRef90_W5JDH1        | A C L L G K D L S D V Q F V G S A D R L T     | G G E N V T A E R F I L H P G F D S T     |                       |    |
| UniRef90_H0YWR0        | H C F A D S R N I S A M R T Q L T E P G       | P G A E V R L I K R L L V H K E Y S S A   |                       |    |
| UniRef90_UPI00045DF896 | H C F M E V K N L T V V M G A R K S S D A     | S L E R M R V Q K I I I H K D Y T P       |                       |    |
| UniRef90_UPI00038EEDD8 | H C W R S Y T V R L G L H R I Q Q W E P       | S G S Q M E A N F S V Q H P Y Y T K       |                       |    |
| UniRef90_H3C480        | I D I P D A W V V Y L G R E S Q L G P N K     | H E V K H S V S K I I V S P Q Y N E S     |                       |    |
| UniRef90_UPI0002687848 | Q C N G S N I K V T L G A G N I K K Q S       | E N T Q V I S V V K A K P H E N F N S     |                       |    |
| UniRef90_U4UIA2        | H C T P N G Y T Y R V A A G I L L Q S D S     | G Q Q T V A V A Q V I N H A L Y           |                       |    |
| UniRef90_L9KQ09        | S S R P S T Y R V I L G A H Q E E N L E       | P D V Q E V G V A R L F T E P S           |                       |    |
| UniRef90_UPI0002C64E8C | H C I H E E Y M V K L G D N V L G P N S       | R K T L V V P R D I V S H Q R F           |                       |    |
| UniRef90_Q2XSC1        | H C V E G S S A S R V A A G S T I W S E       | D V Q T R T L K D F T M H P D Y D G S     |                       |    |
| UniRef90_Q9N2D1        | H C F G P Y I R V Q L G E Q H L Y Y Q D       | R L L L V S R I I V I H P N Y             |                       |    |
| UniRef90_F5BZN7        | S E D P S Y Y K V F L G V H T K S G N E       | P S Q E R N V E K L M R V P N             |                       |    |
| UniRef90_G3TJV3        | M E E A R K L I V R L G E Y D L R R R E K     | Q W E V D L N I Q Q V L I H P N Y S R S   |                       |    |
| UniRef90_B3XZY6        | G F G R A N M R V R L G E H S R N T K E       | E S Q D S M S V E S V T I H S G Y N       |                       |    |
| UniRef90_UPI0003C9093C | V K S P K I L R V Y G G I L N Q S E I L       | E D T P F F E V Q E I I I H D R Y E S A   |                       |    |
| UniRef90_GTQ044        | H C F S G S L N S S D Y Q V H L G E L E       | T P H F S T V R Q I I L H                 |                       |    |
| UniRef90_UPI0003B3BEF3 | H C F F Q R L R V Y L G K S D T N N T D       | P D E Q L F S V E K I I I H Q K Y N P S   |                       |    |
| UniRef90_Q1PFG9        | H C F R L N K K P Y D W R L I F G A R E       | A P L Q E R F V E K I I L H E R Y S S     |                       |    |
| UniRef90_Q29MJ9        | H C V S K V N P E K Q V R A G S T L R S       | Q G G T L H R V A A I K C Y P G Y S N S   |                       |    |
| UniRef90_UPI00042CDADA | H C K K P N L Q V Y L G K H N L Q Q R E       | F F Q E E S S V V R T V A H P G Y N A A   |                       |    |
| UniRef90_V0ALJ4        | H C V E R N W R I V L A E D N L N E G S       | G R E V Y R K I S R I V A H P G Y         |                       |    |
| UniRef90_E4VKQ3        | H C K K Y P A T V F R L V G A D S T S K       | G G V I Y N V E K V I C H E K Y           |                       |    |
| UniRef90_Q64ID4        | I D Q A T E T Q V I L G H H V I Q E A L       | N T H Q V I V S R R H Y V H P G W N P     |                       |    |
| UniRef90_Q97098        | H C L K E K D A D E V L A G T N S L K E       | G G Q R Y R V D R L F S H S R Y N         |                       |    |
| UniRef90_W4XQV7        | H C V D I F E T A V L G D L K L S R P S       | P Y H L E I G V Q S S I S H P N Y D S     |                       |    |
| UniRef90_A7SQF0        | H C F W T Y N N I S T Q E H D V R K Y E       | G F E E I I Q G D Q L Y I H P G           |                       |    |
| UniRef90_B4KFB8        | C V E S A S V E S L K R V G A T R K E K       | D G L I V N I R R I H R H P D Y N S       |                       |    |
| UniRef90_K1R8F0        | H C E Y K F M L I R T G I H N V S S N P       | V E Q Q R M I Q K I Y T H P G Y           |                       |    |
| UniRef90_UPI0003442577 | W V L T A A H C I S R K E A D P S A Y R       | G G R M L N V S R V I V I H P N Y         |                       |    |
| UniRef90_G3T854        | C S G S S R Y W R L G E H S L S Q L D         | W T E Q I R R S G F S V T Y P S Y         |                       |    |
| UniRef90_UPI0003C88E62 | V E S S P K V L R V Y S G I L N Q S E I       | K E D T S F F G V Q E I I I H D Y E M A   |                       |    |
| UniRef90_Q16NR4        | S N P S G R F R V Q                           |   |                       |    |



UniRef90\_F1QIC5  
UniRef90\_UPI000298C140  
UniRef90\_UPI0002C65E01  
UniRef90\_U3J2T3  
UniRef90\_UPI0002A49C68  
UniRef90\_A0A034WLU2  
UniRef90\_B4HNG4  
UniRef90\_UPI0003F19A5D  
UniRef90\_UPI00034FA7C4  
UniRef90\_G1KJP9  
UniRef90\_E2A5X0  
UniRef90\_Q17BS3  
UniRef90\_A7RKX5  
UniRef90\_UPI00029D8827  
UniRef90\_UPI00022F44B6  
UniRef90\_UPI0003318A41  
UniRef90\_B0KW84  
UniRef90\_C1BRH4  
UniRef90\_G3MF67  
UniRef90\_F6YGA4  
UniRef90\_W8CBQ3  
UniRef90\_V6F7U3  
UniRef90\_W5JDH1  
UniRef90\_H0YWR0  
UniRef90\_UPI00045DF896  
UniRef90\_UPI00038EEDD8  
UniRef90\_H3C480  
UniRef90\_UPI0002687848  
UniRef90\_U4UIA2  
UniRef90\_L9KQ09  
UniRef90\_UPI0002C64E8C  
UniRef90\_Q2XSC1  
UniRef90\_Q9N2D1  
UniRef90\_F5BZN7  
UniRef90\_G3TJV3  
UniRef90\_B3XZY6  
UniRef90\_UPI0003C9093C  
UniRef90\_G7Q044  
UniRef90\_UPI0003B3BEF3  
UniRef90\_G1PFG9  
UniRef90\_Q29MJ9  
UniRef90\_UPI00042CDADA  
UniRef90\_V4ALJ4  
UniRef90\_E0VKQ3  
UniRef90\_Q64ID4  
UniRef90\_O97098  
UniRef90\_W4XQV7  
UniRef90\_A7SQF0  
UniRef90\_B4KFB8  
UniRef90\_K1R8F0  
UniRef90\_UPI0003442577  
UniRef90\_G3T854  
UniRef90\_UPI0003C88E62  
UniRef90\_Q16NR4  
UniRef90\_UPI0003EBBBBE  
UniRef90\_UPI000298A74D  
UniRef90\_UPI000395B85A  
UniRef90\_W4WTL2  
UniRef90\_UPI000273A141  
UniRef90\_UPI000443C1FF  
UniRef90\_Q1G1M9  
UniRef90\_UPI0003C4B6EF  
UniRef90\_B3N9I7  
UniRef90\_Q63ZQ6  
UniRef90\_UPI000398FFAD  
UniRef90\_F6T461  
UniRef90\_UPI000443A535  
UniRef90\_A0A026WVV7  
UniRef90\_Q7T3B6  
UniRef90\_UPI0003332277  
UniRef90\_UPI000359A8ED  
UniRef90\_H3AXZ6  
UniRef90\_UPI000329BA0F  
UniRef90\_A7RMT1  
UniRef90\_W5PAR6  
UniRef90\_W5JQU4  
UniRef90\_D2HZX9  
UniRef90\_H3CL35  
UniRef90\_F7FFE9  
UniRef90\_W4ZDF2  
UniRef90\_UPI0002658424  
UniRef90\_H2ZTM1  
UniRef90\_Q9XY55  
UniRef90\_UPI0003F0AE36  
UniRef90\_A7C3G8  
UniRef90\_M7BF43  
UniRef90\_A0A034WE25  
UniRef90\_H2SPL4  
UniRef90\_UPI0003C368A6  
UniRef90\_UPI00045E2BF5  
UniRef90\_T1EEZ1  
UniRef90\_UPI000443E7A7

|                        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_UPI0003D09C14 | V | I | V | G | G | S | D | A | P | G | R | W | P | W | Q | V | S | L | H | L | D | A | Q | H | L | C | G | G | S | L | V | A | E | P | W | V | T | A | A |   |   |   |
| UniRef90_H9GGD6        | I | V | Y | G | G | T | K | A | M | T | G | K | H | P | W | Q | V | S | L | Q | W | Q | K | R | H | F | C | G | G | T | L | I | E | A | C | W | V | H | C | L |   |   |
| UniRef90_H3D344        | I | V | S | G | G | E | D | A | R | P | H | S | W | P | W | Q | V | S | L | Q | T | D | S | K | R | H | F | C | G | G | T | L | I | E | S | A | C | W | V | L | H | C |
| UniRef90_H0VZS4        | I | V | E | G | G | W | D | A | E | I | G | S | A | P | W | Q | V | S | L | F | R | K | T | E | L | H | F | C | G | G | S | L | I | S | D | R | W | V | L | T | A | A |
| UniRef90_UPI000359DD74 | V | V | G | G | R | E | I | A | A | G | A | W | P | W | L | V | S | L | R | Y | K | E | R | H | L | C | C | G | G | T | L | I | H | P | Q | W | V | L | T | A | A |   |
| UniRef90_F1PUA6        | I | I | G | G | K | N | S | L | R | G | G | W | P | W | Q | V | S | L | R | L | K | G | S | R | L | L | C | G | G | T | L | L | S | S | C | W | V | L | T | A | A |   |
| UniRef90_D2A2R8        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| UniRef90_H3C0R5        | I | V | N | G | E | N | C | P | P | G | E | C | P | W | Q | V | S | L | M | N | D | H | R | W | F | C | C | G | G | T | L | I | S | N | A | Y | I | L | T | H | C |   |
| UniRef90_UPI000332F8B7 | I | V | G | G | Q | E | A | P | K | N | K | W | P | W | Q | V | S | L | R | I | H | W | M | H | F | C | C | G | G | S | L | I | H | P | Q | W | C | V | G | P | D |   |
| UniRef90_N6TK69        | I | V | G | G | K | E | A | L | G | E | Y | P | W | M | A | R | S | L | R | I | H | K | N | S | H | F | C | C | A | G | F | L | I | H | P | K | Y | V | T | A | A |   |
| UniRef90_UPI00038C5143 | I | V | G | G | N | S | A | Q | G | K | W | P | W | Q | V | S | L | R | I | L | Y | N | Y | H | I | C | C | G | G | S | L | I | H | P | Q | W | V | A | H | C | L |   |
| UniRef90_I3J1A8        | V | V | G | G | E | D | V | R | A | H | S | W | P | W | Q | I | S | L | Q | Y | K | S | G | H | T | C | C | G | G | T | L | I | S | N | E | W | V | T | A | A | H |   |
| UniRef90_E0VTX0        | I | I | N | G | V | A | A | P | E | G | K | Y | P | Y | M | V | S | L | M | K | D | G | K | H | V | C | C | G | G | S | L | I | T | K | N | W | A | L | T | A | A |   |
| UniRef90_I3MX64        | I | V | G | G | S | D | A | Q | D | G | A | W | P | W | L | V | S | L | Q | I | R | Y | G | H | H | F | C | C | A | G | S | L | I | K | D | R | W | H | C | T | R | D |
| UniRef90_UPI00038EBC5E | V | T | D | G | I | T | C | N | P | H | S | Q | P | W | M | V | A | L | F | H | R | L | Q | H | Y | C | C | G | S | V | L | V | H | P | Q | W | V | L | S | A | A |   |
| UniRef90_K7GAU0        | I | V | G | G | K | D | C | L | P | E | G | C | P | W | Q | V | S | L | L | N | E | K | E | G | F | C | C | G | G | T | L | I | H | A | Q | F | F | L | T | H | C |   |
| UniRef90_D2HDY4        | I | V | G | G | C | D | V | S | A | R | R | Y | P | W | Q | V | S | L | R | F | Y | W | K | H | S | F | C | C | G | G | S | L | I | N | A | Q | W | V | L | T | A | A |
| UniRef90_M7ASQ4        | I | L | R | G | F | Q | C | R | E | H | S | Q | P | W | V | A | A | L | F | D | G | V | R | F | R | C | C | G | G | T | L | I | H | N | Q | W | V | L | T | A |   |   |

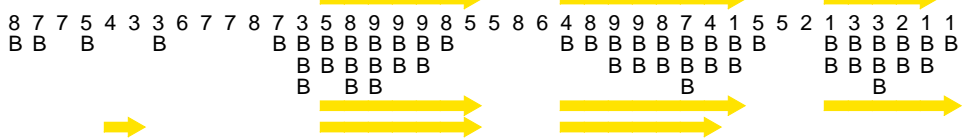
|                        | 50 | 60 | 70 | 80 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_UPI0003D09C14 | H  | C  | V  | H  | S | Y | R | H | L | W | Q | V | F | A | G | L | V | T | Q | A | V | G | W | Q | A | I | G | A | V | S | I | L | S | H | P | R | Y | N | D | S |   |   |
| UniRef90_H3GGD6        | R  | T  | D  | A  | R | T | L | Q | V | A | L | G | K | H | S | R | E | A | G | D | L | D | R | R | E | Y | H | E | Q | M | F | D | V | E | K | I | L | K | H | G | R | Y |
| UniRef90_H3D344        | I  | K  | D  | E  | H | R | L | Q | V | E | L | G | K | H | S | R | E | A | G | E | R | N | M | E | K | I | S | L | E | K | I | H | I | H | P | R | Y | N | I |   |   |   |
| UniRef90_H0VZS4        | H  | C  | I  | L  | F | P | W | V | R | I | G | K | H | S | R | S | R | Y | N | E | G | H | E | Q | R | I | Q | V | L | E | K | I | H | I | H | P | R | Y | N | I |   |   |
| UniRef90_UPI000359DD74 | H  | C  | V  | H  | F | N | W | D | A | V | L | G | E | Y | N | R | R | V | N | E | G | H | E | Q | R | I | Q | V | L | E | K | I | H | I | H | P | R | Y | N | I |   |   |
| UniRef90_F1PUA6        | H  | C  | F  | K  | R | Y | Y | A | V | R | V | G | D | Y | H | T | L | V | P | D | E | F | E | E | E | I | G | V | Q | Q | I | V | I | H | S | R | E | Y | R | P |   |   |
| UniRef90_D2A2R8        | H  | C  | T  | D  | G | L | T | A | A | Q | S | I | R | A | G | T | S | S | R | G | S | G | G | Q | V | S | L | E | V | A | R | I | Y | Q | H | S | S | Y | N | S |   |   |
| UniRef90_H3C0R5        | M  | N  | E  | T  | N | Y | F | V | K | L | G | E | F | D | M | L | V | D | E | G | N | E | A | I | H | E | V | E | T | I | L | A | H | N | K | Y |   |   |   |   |   |   |
| UniRef90_UPI000332F8B7 | I  | P  | N  | P  | E | N | F | R | V | Q | L | R | E | Q | H | L | Y | Y | G | D |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| UniRef90_N6TK69        | H  | C  | I  | N  | D | P | S | V | L | L | G | E | H | A | G | D | V | T | T | T | V | D | C | S | Q | V | S | R | I | N | K | I | I | H | E | N | Y | D |   |   |   |   |
| UniRef90_UPI00038C5143 | H  | K  | R  | D  | A | D | P | S | S | F | R | I | H | A | G | D | V | Y | L | Y | G | K | E | L | L | R | V | S | Q | V | I | I | H | Q | D | Y |   |   |   |   |   |   |
| UniRef90_I3J1A8        | C  | I  | G  | S  | Y | T | Y | R | V | Y | L | G | K | H | S | L | D | T | N | E | S | G | S | I | A | I | S | P | S | V | I | V | V | H | P | N | W | D | S |   |   |   |
| UniRef90_E0VXT0        | H  | C  | C  | A  | A | M | K | D | T | E | G | Y | M | Y | G | N | S | L | L | S | K | G | S | D | H | D | I | V | I | S | Y | K | I | H | E | K | Y | N | P | S |   |   |
| UniRef90_I3MX64        | A  | R  | D  | P  | L | Q | W | R | A | V | M | G | T | N | V | N | M | S | Q | A | Y | T | K | R | I | K | V | K | A | I | S | I | H | P | D | F |   |   |   |   |   |   |
| UniRef90_UPI00038EBC5E | H  | C  | W  | K  | P | S | Y | T | I | G | L | G | L | H | G | V | Y | D | W | Y | N | G | S | Q | I | I | K | A | K | Y | S | V | K | H | P | Q | Y |   |   |   |   |   |
| UniRef90_K7GAU0        | I  | N  | Q  | S  | K | I | K | V | F | V | G | E | V | D | R | E | K | E | N | D | E | M | I | Y | A | A | E | K | V | M | V | H | G | R | F | V | S | A |   |   |   |   |
| UniRef90_D2HDY4        | H  | C  | V  | E  | P | E | D | G | A | F | R | V | Q | V | G | Q | L | R | L | Y | D | H | D | Q | L | H | R | V | A | E | I | I | R | H | P | K | F | N | A | S |   |   |
| UniRef90_M7ASQ4        | Q  | C  | N  | T  | G | R | T | N | V | R | L | G | E | H | N | L | W | H | L | D | W | S | E | Q | L | T | M | S | S | R | L | I | P | H | P | L | Y | N | S | S |   |   |
| UniRef90_UPI0004546A03 | H  | C  | R  | K  | P |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

UniRef90\_UPI0003D09C14  
UniRef90\_H9GGD6  
UniRef90\_H3D344  
UniRef90\_H0VZS4  
UniRef90\_UPI000359DD74  
UniRef90\_F1PUA6  
UniRef90\_D2A2R8  
UniRef90\_H3C0R5  
UniRef90\_UPI000332F8B7  
UniRef90\_N6TK69  
UniRef90\_UPI00038C5143  
UniRef90\_I3J1A8  
UniRef90\_E0VTX0  
UniRef90\_I3MX64  
UniRef90\_UPI00038EBC5E  
UniRef90\_K7GAU0  
UniRef90\_D2HDY4  
UniRef90\_M7ASQ4  
UniRef90\_UPI0004546A03  
UniRef90\_B0W3T2  
UniRef90\_UPI00045DE17B  
UniRef90\_UPI00034F57A0  
UniRef90\_UPI00038C1A05  
UniRef90\_B0WB63  
UniRef90\_M2PD96  
UniRef90\_G3HBW6  
UniRef90\_F6SZK1  
UniRef90\_R7V354  
UniRef90\_UPI000328DC10  
UniRef90\_UPI00046C2DAA  
UniRef90\_UPI000441B20B  
UniRef90\_U3IWA9  
UniRef90\_UPI0003C3A00B  
UniRef90\_J9LWP0  
UniRef90\_A4F890  
UniRef90\_F6YJ36  
UniRef90\_UPI00034F48BB  
UniRef90\_UPI00022B3EF7  
UniRef90\_UPI00046D6AD5  
UniRef90\_H2ZX97  
UniRef90\_UPI00046B8830  
UniRef90\_E9GTT8  
UniRef90\_G7TSI4  
UniRef90\_P23604  
UniRef90\_X1YEQ6  
UniRef90\_E0VN67  
UniRef90\_T1J1Z4  
UniRef90\_UPI000388CAD0  
UniRef90\_UPI0003C35471  
UniRef90\_H2SA40  
UniRef90\_W5LYS8  
UniRef90\_UPI00021A6D51  
UniRef90\_UPI000258E750  
UniRef90\_Q7Q6U0  
UniRef90\_T1J631  
UniRef90\_UPI000359D5CD  
UniRef90\_B0WAI7  
UniRef90\_UPI0002BD0233  
UniRef90\_F7BT48  
UniRef90\_K1PNU1  
UniRef90\_F7AEE9  
UniRef90\_B4NL08  
UniRef90\_L5KGD4  
UniRef90\_Q9ER04-2  
UniRef90\_UPI00044057F3  
UniRef90\_E2BS70  
UniRef90\_K1QAG3  
UniRef90\_UPI0002C65DBC  
UniRef90\_D6WIP2  
UniRef90\_J9JY63  
UniRef90\_H3BGS8  
UniRef90\_UPI00042BA553  
UniRef90\_UPI0003C11F3F  
UniRef90\_UPI00038BDEFB  
UniRef90\_G3VAC2  
UniRef90\_B4R0T5  
UniRef90\_G3X821  
UniRef90\_W5MAD4  
UniRef90\_T1JUP1  
UniRef90\_U4U2F6  
UniRef90\_F4WIT7  
UniRef90\_A2I7J3  
UniRef90\_UPI00035014AB  
UniRef90\_W8C5I2  
UniRef90\_D0R8R1  
UniRef90\_I1SRK8  
UniRef90\_B3NVG0  
UniRef90\_B3M1U1  
UniRef90\_E4VP21  
UniRef90\_UPI0002C44616  
UniRef90\_E2C5S6  
UniRef90\_UPI0003F0B5A1



|                        | 1 | 10 | 20 | 30 | 40 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| UniRef90_U3JDV6        | I | G  | K  | E  | V  | K | R | H | S | R | P | Y | M | A | Y | L | T | S | N | R | T | S | R | C | G | G | F | L | I | R | P | D | A | V | H | C | V | A |   |   |   |
| UniRef90_G1PZW5        | I | V  | G  | G  | S  | N | A | S | P | A | G | R | W | P | W | Q | V | S | V | R | R | Y | N | Q | H | L | C | G | G | S | L | I | H | H | Q | W | V | L | T | T | A |
| UniRef90_UPI000376FA67 | I | V  | G  | G  | E  | D | A | G | D | G | L | W | P | W | Q | V | F | L | L | V | K | K | T | N | Q | C | G | G | S | L | I | S | K | H | W | H | C | F | K | G |   |
| UniRef90_W5LWA6        | I | V  | G  | G  | R  | P | A | M | R | G | G | W | P | W | M | A | M | L | H | R | T | R | G | P | F | C | G | G | T | L | L | G | D | Q | W | V | L | T | A | A |   |
| UniRef90_Q868H5        | I | V  | N  | G  | E  | N | C | P | P | G | Q | C | P | W | Q | A | L | L | L | D | E | N | V | G | F | C | G | G | T | L | L | T | N | Y | I | I | L | T | H | C |   |
| UniRef90_T1H2D1        | I | V  | G  | G  | F  | R | V | R | Q | S | S | V | S | Y | Q | I | S | L | Q | Y | R | Q | G | H | F | C | G | G | S | F | I | R | T | N | V | V | C | A | A | H |   |
| UniRef90_H3BXX5        | I | F  | G  | G  | S  | K | S | V | Y | G | A | H | P | W | Q | V | S | V | Q | V | R | P | R | H | T | C | G | G | V | L | L | S | S | C | W | V | L | T | H | C |   |
| UniRef90_T1KNU5        | I | L  | G  | G  | D  | P | V | I | P | G | S | W | P | W | Q | A | S | I | M | W | P | S | G | H | F | C | G | G | A | L | I | H | P | Q | Y | H | C | I | A | A |   |
| UniRef90_UPI0003C46D99 | I | V  | G  | G  | H  | D | A | A | D | G | K | W | P | W | Q | V | G | L | R | S | K | W | S | L | D | C | G | G | S | L | I | H | P | Q | W | V | L | T | A | A |   |
| UniRef90_Q18NR4        | I | V  | G  | G  | E  | E | I | S | I | N | K | V | P | Y | Q | A | Y | L | L | D | N | E | Y | F | Q | C | G | G | S | I | I | S | K | R | H | I | L | T | A | A |   |
| UniRef90_W5ND89        | I | V  | G  | G  | M  | E | A | W | A | H | S | W | P | W | Q | A | C | L | K | V | I | T | T | P | A | C | G | G | A | L | I | G | P | L | W | H | C | F | N | I |   |
| UniRef90_I3K8H3        | I | I  | N  | G  | K  | E | V | E | P | H | S | L | P | F | M | A | Y | V | T | S | P | D | S | F | C | G | G | T | L | I | S | P | Q | W | H | C | T | G | K |   |   |
| UniRef90_A0A059E3K2    | V | I  | V  | G  | G  | Q | E | A | D | P | A | D | W | P | G | M | A | S | L | Q | R | S | V | F | H | E | C | G | A | T | M | I | S | P | E | W | A | I | T | A | G |
| UniRef90_Q920S2-2      | I | V  | G  | G  | I  | E | S | M | Q | G | R | W | P | W | Q | A | S | L | R | L | K | K | S | H | R | C | G | G | S | L | L | S | R | R | W | V | L | T | A | A |   |
| UniRef90_E0W3S0        | I | I  | T  | H  | G  | Q | L | T | S | R | G | Q | W | P | W | H | V | A | L | Y | K | N | V | G | F | F | C | G | G | S | L | I | N | N | K | Y | V | L | T | A | A |
| UniRef90_UPI00038C0CE9 | I | V  | N  | G  | T  | L | T | K | Q | G | D | S | P | W | Q | A | I | L | L | D | S | K | K | K | L | C | G | G | V | L | I | H | A | S | W | V | L | T | H | C |   |
| UniRef90_P98064        | I | F  | N  | G  | R  | P | A | Q | K | G | T | M | P | W | I | A | M | L | H | L | N | G | Q | P | F | C | G | G | S | L | L | G | S | N | W | V | L | T | A | A |   |
| UniRef90_F1RFZ4        | I | V  | G  | G  | H  | D | V | S | T | W | K | Y | P | W | Q | V | S | L | R | S | R | W | M | H | H | C | G | G | S | L | V | H | P | Q | W | V | A | H | C | V |   |
| UniRef90_A0A034VU59    | I | F  | G  | G  | Q  | N | A | E | G | Q | F | P | Y | Q | V | L | V | T | R | A | G | D | G | Y | C | G | G | A | L | I | S | R | N | Y | V | L | T | A | A |   |   |
| UniRef90_J9M1T7        | I | I  | G  | G  | S  | T | T | P | Y | G | A | Y | P | W | Q | V | E | L | Q | D | G | W | E | H | H | C | G | G | A | L | I | S | E | T | I | A | H | C | L | K |   |
| UniRef90_UPI0002B48509 | V | I  | N  | G  | V  | N | A | K | G | A | W | P | W | Q | L | L | I | R | F | M | D | E | H | H | C | G | G | T | I | I | S | P | F | W | I | L | T | A | A |   |   |
| UniRef90_B3MWA3        | I | F  | G  | G  | E  | E | A | G | P | N | D | T | P | Y | A | A | S | L | R | V | D | N | A | H | A | C | G | A | C | I | M | S | P | N | T | H | C | A | H | R |   |
| UniRef90_UPI0003956775 | I | I  | G  | G  | R  | E | V | K | P | H | S | R | P | Y | M | A | Y | L | K | L | Q | I | G | N | Y | C | G | G | F | L | I | R | P | D | A | V | H | C | V | D |   |
| UniRef90_I3K1H4        | I | I  | V  | G  | G  | R | P | T | G | V | H | R | Y | P | W | V | A | K | L | M | Y | E | S | H | F | H | C | G | G | S | L | I | T | N | Q | W | V | S | C | L | S |
| UniRef90_UPI0002742C7B | I | V  | H  | G  | E  | K | C | L | P | H | S | Q | P | W | Q | V | A | I | E | R | T | N | K | K | I | A | C | S | A | V | L | V | H | P | Q | W | V | L | S | A | A |
| UniRef90_T1GHX0        | I | V  | G  | G  | V  | E | A | Q | Y | G | Q | W | P | W | M | A | A | I | F | L | H | G | E | F | W | C | G | G | S | L | I | G | D | K | Y | I | L | T | A | A |   |
| UniRef90_UPI0002060489 | I | V  | G  | G  | R  | P | T | G | V | H | R | Y | P | W | V | A | K | L | M | Y | E | S | H | F | H | C | G | G | S | L | I | N | S | D | Y | V | H | C | V | R |   |
| UniRef90_UPI0003314393 | I | I  | G  | G  | H  | E | A | K | P | H | S | R | P | Y | M | A | Y | L | R | I | H | D | Q | F | Q | C | G | G | F | L | I | R | E | N | V | V | L | T | A | A |   |
| UniRef90_UPI0003340530 | I | V  | G  | G  | H  | D | A | K | V | G | E | W | P | W | Q | V | S | L | L | W | V | Q | W | R | S | H | C | G | G | S | L | I | Y | R | Q | W | V | L | T | A | A |
| UniRef90_E1BZN8        | I | I  | G  | G  | S  | S | L | P | G | S | H | P | W | T | A | A | I | Y | I | G | E | S | F | C | A | G | S | L | I | Q | T | C | W | H | C | F | A | N |   |   |   |
| UniRef90_UPI0003EC356C | M | I  | V  | G  | T  | Y | H | C | P | K | G | N | C | P | W | Q | V | L | V | Q | L | N | A | K | A | H | C | G | G | V | L | I | H | P | K | W | V | H | C | I | H |
| UniRef90_H0UXH1        | I | I  | G  | G  | H  | E | A | K | P | H | S | R | Y | M | A | Y | L | K | L | R | P | R | K | L | C | S | G | F | R | I | H | E | D | F | V | L | T | A | V |   |   |
| UniRef90_UPI00038C108D | I | V  | G  | G  | C  | V | A | Y | P | H | S | W | P | W | Q | V | S | L | R | T | R | G | Q | H | F | C | G | G | T | L | I | S | P | E | W | H | C | L | E | K |   |
| UniRef90_E9H5G4        | I | V  | N  | G  | I  | P | A | S | A | G | E | F | P | Y | M | T | V | L | L | L | N | G | Y | L | C | G | G | T | L | V | G | P | S | H | I | L | T | A | A |   |   |
| UniRef90_C3YHV2        | I | V  | D  | G  | N  | K | A | A | P | G | S | Y | P | W | K | V | S | L | R | L | D | N | N | H | V | C | S | G | A | L | I | D | E | Q | W | C | V | D | I | D |   |
| UniRef90_I3KFD6        | I | V  | G  | G  | C  | V | S | N | P | H | S | W | P | W | Q | V | S | L | R | T | S | G | K | H | I | C | G | G | T | L | I | Y | P | Q | W | H | C | F | E | S |   |
| UniRef90_G3TW84        | I | A  | G  | G  | T  | E | A | R | P | H | S | R | P | Y | M | A | F | I | R | F | I | N | W | R | R | C | G | G | F | L | V | R | E | D | F | V | M | T | A | A |   |
| UniRef90_B0WJE9        | I | V  | N  | G  | E  | V | A | K | K | Q | Q | F | P | F | M | V | S | L | Q | K | R | W | T | H | F | C | G | A | S | I | I | S | D | R | W | I | V | T | A | A |   |
| UniRef90_A0A022T4U4    | I | I  | N  | G  | D  | D | V | L | D | N | S | Y | P | Y | Q | V | S | I | Q | T | G | N | E | H | Q | C | A | G | T | I | I | S | P | S | W | V | V | T | S | A |   |
| UniRef90_D6WV19        | I | V  | G  | G  | E  | V | S | R | K | G | A | W | P | W | I | V | L | L | G | Y | G | S | P | F | K | C | G | G | T | I | T | A | R | H | V | L | T | A | A | H |   |
| UniRef90_B3M4V6        | M | F  | G  | G  | R  | A | S | E | I | T | E | Q | P | W | Q | A | A | I | H | K | K | H | F | H | L | C | G | G | I | L | I | D | S | C | W | H | C | F | E | E |   |
| UniRef90_I3KAA9        | I | V  | G  | G  | E  | D | S | M | D | A | Q | W | P | W | I | V | S | L | L | K | N | G | S | H | H | C | A | G | S | L | L | T | N | R | W | V | V | T | A | A |   |
| UniRef90_G3I2T9        | I | I  | G  | G  | S  | E | A | P | T | T | R | Y | S | Y | T | V | A | L | Q | Q | G | G | S | N | F | F | C | G | G | T | L | I | A | P | D | V | V | L | T | A | A |
| UniRef90_B8C3Q1        | I | V  | G  | G  | H  | E | T | D | I | V | N | V | S | Y | I | V | S | L | Q | Q | L | Y | G | N | H | H | C | G | G | S | I | V | N | N | R | T | I | V | T | A | A |
| UniRef90_Q29C14        | I | I  | G  | G  | D  | A | N | A | G | E | F | P | F | A | A | A | I | Q | S | Q | Q | Q | Y | F | C | G | G | A | L | V | N | T | L | F | I | V | T | S | G |   |   |
| UniRef90_A1XG85        | I | A  | S  | G  | R  | E | A | N | V | G | Q | W | P | W | Q | V | S | L | R | Q | G | L | L | H | I | C | A | A | T | L | I | S | K | Q | W | V | C | F | R | S |   |
| UniRef90_UPI00034489F7 | I | V  | G  | G  | Q  | D | C | K | D | G | E | C | P | W | Q | A | L | L | V | N | E | N | E | G | F | C | A | G | T | I | E | F | H | I | L | T | A | A | H | C |   |
| UniRef90_D2I5N8        | I | I  | G  | G  | K  | E | A | P | G | S | R | W | P | W | Q | V | S | L | R | V | R | W | R | H | Q | C | G | G | S | L | I | H | P | Q | W | V | L | T | A | A |   |
| UniRef90_Q9XSM2        | V | V  | G  | G  | V  | D | A | K | L | G | D | F | P | W | M | A | L | L | G | Y | R | K | R | W | L | C | G | G | S | L | I | S | S | K | H | V | H | C | I | H |   |
| UniRef90_Q5MPB8        | I | V  | G  | G  | D  | L | I | S | I | L | S | V | P | W | Q | A | S | V | L | Y | F | G | E | H | M | C | G | A | A | I | Y | S | E | D | I | V | I | T | A | A |   |
| UniRef90_Q6XHR1        | I | V  | G  | G  | D  | L | I | S | I | L | S | V | P | W | Q | A | S | V | L | Y | F | G | E | H | M | C | G | A | A | I | Y | S | E | D | I | V | I | T | A | A |   |

lupas\_21  
lupas\_14  
lupas\_28  
jnet  
conf  
sol25  
sol5  
sol0  
jhmm  
jpssm



lupas\_21  
lupas\_14  
lupas\_28  
jnet  
conf  
sol25  
sol5  
sol0  
jhmm  
jpssm

UniRef90\_U3JDV6  
UniRef90\_G1PZW5  
UniRef90\_UPI000376FA67  
UniRef90\_W5LWA6  
UniRef90\_Q868H5  
UniRef90\_G3PS47  
UniRef90\_T1H2D1  
UniRef90\_H3BXX5  
UniRef90\_T1KNU5  
UniRef90\_UPI0003C46D99  
UniRef90\_Q18NR4  
UniRef90\_W5ND89  
UniRef90\_I3K8H3  
UniRef90\_A0A059E3K2  
UniRef90\_Q920S2-2  
UniRef90\_E0W3S0  
UniRef90\_UPI00038C0CE9  
UniRef90\_P98064  
UniRef90\_F1RFZ4  
UniRef90\_A0A034VU59  
UniRef90\_J9M1T7  
UniRef90\_UPI0002B48509  
UniRef90\_B3MWA3  
UniRef90\_UPI0003956775  
UniRef90\_I3K1H4  
UniRef90\_UPI0002742C7B  
UniRef90\_T1GHX0  
UniRef90\_UPI0002060489  
UniRef90\_UPI0003314393  
UniRef90\_UPI0003340530  
UniRef90\_E1BZN8  
UniRef90\_UPI0003EC356C  
UniRef90\_H0UXH1  
UniRef90\_UPI00038C108D  
UniRef90\_E9H5G4  
UniRef90\_C3YHV2  
UniRef90\_I3KFD6  
UniRef90\_G3TW84  
UniRef90\_B0WJE9  
UniRef90\_A0A022T4U4  
UniRef90\_D6WVI9  
UniRef90\_B3M4V6  
UniRef90\_I3KAA9  
UniRef90\_G3I2T9  
UniRef90\_B8C3Q1  
UniRef90\_Q29C14  
UniRef90\_A1XG85  
UniRef90\_UPI00034489F7  
UniRef90\_D2I5N8  
UniRef90\_Q9XSM2  
UniRef90\_Q5MPB8  
UniRef90\_Q6XHR1

lupas\_21  
lupas\_14  
lupas\_28  
jnet  
conf  
sol25  
sol5  
sol0  
jhmm  
jpssm