

Description	Max Score	Total Score	Query Cover	E value	Per. Ident	Accession
spike protein [Coronavirus_Neomercia-PML-PHE1(RSA/2011)]	571	571	83%	0.0	34.55%	<a href="#">AY29650.2</a>
spike protein [Middle East respiratory syndrome-related coronavirus]	570	570	83%	0.0	34.46%	<a href="#">ATQ39360.1</a>
S protein [Middle East respiratory syndrome-related coronavirus]	560	560	79%	1e-177	35.57%	<a href="#">AHV059564.1</a>
spike glycoprotein [Middle East respiratory syndrome-related coronavirus]	553	553	78%	2e-177	35.19%	<a href="#">ASJ26610.1</a>
spike protein [Middle East respiratory syndrome-related coronavirus]	555	555	78%	8e-178	35.29%	<a href="#">QAT98898.1</a>
S protein [Middle East respiratory syndrome-related coronavirus]	555	555	78%	1e-175	35.19%	<a href="#">AVN89313.1</a>
spike protein [Middle East respiratory syndrome-related coronavirus]	555	555	78%	2e-175	35.19%	<a href="#">ALA49374.1</a>
spike glycoprotein [Middle East respiratory syndrome-related coronavirus]	555	555	78%	2e-175	35.19%	<a href="#">ASU90241.1</a>
S protein [Middle East respiratory syndrome-related coronavirus]	554	554	78%	2e-175	35.19%	<a href="#">AVN89291.1</a>
S [Middle East respiratory syndrome-related coronavirus] [Middle East respiratory syndrome-related coronavirus]	554	554	78%	2e-175	35.29%	<a href="#">AJQ44102.1</a>
spike protein [Middle East respiratory syndrome-related coronavirus]	554	554	78%	2e-175	35.13%	<a href="#">ALJ54452.1</a>
spike glycoprotein [Middle East respiratory syndrome-related coronavirus]	554	554	78%	3e-175	35.19%	<a href="#">AMQ03401.1</a>
S protein [Middle East respiratory syndrome-related coronavirus]	554	554	78%	3e-175	35.19%	<a href="#">AHY22545.1</a>
S protein [Betacoronavirus_England_1]	554	554	78%	3e-175	35.19%	<a href="#">YP_007188579.1</a>
spike protein [Middle East respiratory syndrome-related coronavirus]	554	554	78%	3e-175	35.19%	<a href="#">ALA49396.1</a>
spike protein [Middle East respiratory syndrome-related coronavirus]	554	554	78%	3e-175	35.19%	<a href="#">AID55087.1</a>

Fig. 3.3 Comparison of the S Protein with MERS CoV proteome using BLAST

**Inference:** From the above BLAST result it can be inferred that the S protein of Query shows an identity of about 34% to the MERS CoV Spike protein (Fig. 3.3).

### 3.3 Comparison of Membrane (M) Proteins of NCoV and MERS CoV

```
MADSNGTITVEELKKLLEQWNLVIGFLFTWICLLQFAYANRRN
FLYIHKLIFLWLLWPVTLACFVLAAYVRINWITGGIAIAMAACLVGLMWLSYFIASFRL
FARTSMWSFNPETNILLNVPLHGHTILRPLLESELVIGAVILRGHRLRIAGHHLGRCD
IKDLPKEITVATSRTLSYYKLGASQRVAGDSGFAAYSRYRIGNYKLNLDHSSSSDNIALLVQ
```

Description	Max Score	Total Score	Query Cover	E value	Per. Ident	Accession
M protein [Middle East respiratory syndrome-related coronavirus]	189	189	90%	4e-61	45.05%	<a href="#">AVH65960.1</a>
membrane protein [Middle East respiratory syndrome-related coronavirus]	188	188	90%	8e-61	44.06%	<a href="#">AJM65020.1</a>
membrane protein [Middle East respiratory syndrome-related coronavirus]	188	188	90%	1e-60	44.06%	<a href="#">AJM65020.1</a>
M protein [Middle East respiratory syndrome-related coronavirus]	187	187	90%	3e-60	43.07%	<a href="#">AVH25232.1</a>
M protein [Middle East respiratory syndrome-related coronavirus]	186	186	90%	4e-60	44.55%	<a href="#">AVH65949.1</a>
M protein [Middle East respiratory syndrome-related coronavirus]	186	186	90%	1e-59	45.05%	<a href="#">AVH25243.1</a>
membrane glycoprotein [Ox43-BetaCoV(SG2013)]	185	185	90%	2e-59	43.07%	<a href="#">AHV81343.1</a>
membrane protein [Middle East respiratory syndrome-related coronavirus]	181	181	90%	1e-57	42.86%	<a href="#">ATY74387.1</a>
M protein [Middle East respiratory syndrome-related coronavirus]	180	180	90%	1e-57	43.35%	<a href="#">AGV08590.1</a>
M protein [Middle East respiratory syndrome-related coronavirus]	180	180	90%	2e-57	43.35%	<a href="#">AVN89358.1</a>
M protein [Middle East respiratory syndrome-related coronavirus]	179	179	90%	2e-57	42.86%	<a href="#">AVN89393.1</a>
membrane protein [Middle East respiratory syndrome-related coronavirus]	179	179	90%	3e-57	42.86%	<a href="#">ASU90214.1</a>
M [Middle East respiratory syndrome-related coronavirus] [Middle East respiratory syndrome-related coronavirus]	179	179	90%	3e-57	42.86%	<a href="#">ALZ74445.1</a>
membrane protein [Middle East respiratory syndrome-related coronavirus]	179	179	90%	3e-57	42.36%	<a href="#">ALT6608.1</a>

Fig. 3.4 Comparison of the M Protein with MERS CoV proteome using BLAST