

Sequences producing significant alignments		Download	Manage Columns	Show	100	
Select all 100 sequences selected		GenPept	Graphics	Distance tree of results	Multiple alignment	
Description	Max Score	Total Score	Query Cover	E value	Per Ident	Accession
ORF1ab polypeptide [Middle East respiratory syndrome-related coronavirus]	6068	6343	97%	0.0	51.41%	AU869023.1
ORF1ab polypeptide [Middle East respiratory syndrome-related coronavirus]	6061	6338	97%	0.0	51.38%	AU869013.1
ORF1ab [Middle East respiratory syndrome-related coronavirus]	6016	6294	96%	0.0	50.87%	AXP07343.1
orf1ab [Middle East respiratory syndrome-related coronavirus]	6013	6291	97%	0.0	50.85%	QAT98908.1
ORF1ab [Middle East respiratory syndrome-related coronavirus]	6009	6331	96%	0.0	50.50%	AV92535.1
ns3caca polypeptide [Middle East respiratory syndrome-related coronavirus]	5999	6276	97%	0.0	50.89%	AN86933.1
ORF1ab [Middle East respiratory syndrome-related coronavirus]	5999	6281	97%	0.0	50.90%	AV89418.1
ns3caca polypeptide [Middle East respiratory syndrome-related coronavirus]	5999	6276	97%	0.0	50.87%	AN89866.1
ORF1ab [Middle East respiratory syndrome-related coronavirus]	5999	6281	97%	0.0	50.90%	AV89440.1
ORF1ab [Middle East respiratory syndrome-related coronavirus]	5999	6271	97%	0.0	50.87%	AHY22533.1
1AB polypeptide [Middle East respiratory syndrome-related coronavirus]	5999	6274	97%	0.0	50.90%	ASU69745.1
1AB polypeptide [Middle East respiratory syndrome-related coronavirus]	5998	6273	97%	0.0	50.89%	ASU45783.1
1AB polypeptide [Middle East respiratory syndrome-related coronavirus]	5998	6274	97%	0.0	50.90%	ASU90822.1
ORF1ab polypeptide [Middle East respiratory syndrome-related coronavirus]	5998	6272	97%	0.0	50.89%	AV90956.1
ORF1ab [Middle East respiratory syndrome-related coronavirus]	5998	6280	97%	0.0	50.95%	AV89374.1

Fig. 3.2 Comparison of the ORF1ab polypeptide with the MERS CoV proteome using BLAST

**Inference:** The above result shows that ORF1AB protein of query (Novel Corona Virus 2019) shares 51.41% identity to that of the MERS CoV. Thus they both share a close evolutionary relation.

### 3.2 Comparison of Spike (S) Proteins of NCoV and MERS CoV

#### S protein of Novel CoV2019:

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MFVFLVLLPLVSSQCVNLTTRTQLPPAYTNSFTRGVYYPDKVFR
SSVLHSTQDLFLPFFSNVTWFHAIHVSGTNGTKRFDNPVLPFNDGVYFASTEKSNIR
GWIFGTTLDSKTQSLILVNNATNVVIKVFCEQFCNDPFLGVYHYKNNKSWMESEFRVY
SSANNCTFEYVSQPFLLMDLEGGKQGNFKNLERFVFKNIDGYFKIYSKHTPINLVRDLPLQ
GFSALEPLVDLPIGINITRFQTLALHRSYLTDPGSSSGWTAGAAAAYVGYLQPRFTL
LKYNGTITIDAVDCALDPLSETKCTLSFTVEKGIYQTSNFRVQPTESIVRFPNITN
LCPFGVEFNATRFASVYAWNRKRISNCVADYSVLYNSASFSTFKCYGVSPTKLNDLCF
TNYVADSFVIRGDEVQRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSNNDLSDKVGNNYN
YLYRLFRKSNLKPFERDISTEIQAGSTPCNGVEGFNCYFPLQSYGFQPTNGVGYQPY
RVVLSFELLHAPATVCGPKKSTNLVKNKCVNFNENGLTGTGLTESNKKFLPFYQQFG
RDIADTTDAVRDPQTEILDITPCSFGGVSVITPGTNTSNQVAVLYQDVNCTEVPVAFI
HADQLTPTWRVYSTGSNVFQTRAGCLIGAEHVNNSEYECDIPIGAGICASYQTQTNspr
RARSVASQSIAYTMSLGAENSVAYSNNISAIPTNFTISVTEILPVSMTKTSVDCTM
YICGDSTECNLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFG
GFNFSQILPDPSKPKRSFYIEDLLFNKVTLADAGFIKQYGDCLGDIAQMAKQKFN
GLTVLPLPLTDEMIAYTISALLAGTITSGWTFGAGAALQIPFAMQMAYFRIGVGTQN
VLYENQKLIANQFNSAIGKIQDLSSTASALGKLQDVVNQNAQALNLTVKQLSSNFGA
ISSVLNDILSRLDKVEAEVQIDRLITGRLQSLQTYVTQLIRAAEIRASANLAATKMS
ECVLGQSKRVDFCGKGYHLMSFPQSAPHGVVFLHVTVYPAQEKNFPTAPAICHDGKAH
FPREGVFSVNGTHWVFTQRNFYEPQIITDNTFVSGNCDVIGIVNNTVYDPLQPELD
SFKEELDKYFNHSTSPDVLGDISGINASVNNIQKEIDRLNEVAKNLSLIDLQELG
KYEYQIKWPWYIWLGFIAGLIAIVMTIMLCCMTCSCCLKGCCSCGSCCKFDEDDSEPVLKGVKLHYT
    
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