Inference: The above result shows that the query M protein shares 45.05% identity to MERS CoV M protein. This can impart some minor variation in the Membrane protein structure between the two pathogens (Fig. 3.4).

3.4 Comparison of Envelope (E) Proteins of NCoV and MERS CoV

MYSFVSEETGTLIVNSVLLFLAFVVFLLVTLAILTALRLCAYCCNIVNVSLVKPSFYVYSRVKNLNSSRVPDLLV

	Description	Max Score	Total Score	Query Cover	E value	Per. Ident	Accession
☑	E protein [Middle East respiratory syndrome-related coronavirus]	51.2	51.2	94%	8e-11	40.00%	AWH65948.1
☑	small envelope protein [BtVs-BetaCoV/SC2013]	50.8	50.8	94%	1e-10	38.67%	AHY61342.1
☑	E protein [Middle East respiratory syndrome-related coronavirus]	49.7	49.7	94%	4e-10	37.33%	AVV62542.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	49.3	49.3	94%	4e-10	37.33%	AUM60019.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	48.5	48.5	94%	9e-10	37.33%	ATQ39391.1
☑	E protein [Coronavirus Neoromicia/PML-PHE1/RSA/2011]	47.4	47.4	94%	3e-09	36.00%	AIG13101.1
☑	E protein [Middle East respiratory syndrome-related coronavirus]	46.6	46.6	94%	5e-09	36.00%	AVV62531.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	45.8	45.8	94%	1e-08	36.00%	ALA49390.1
☑	E protein [Middle East respiratory syndrome-related coronavirus]	45.1	45.1	94%	2e-08	36.00%	AGV08472.1
☑	E protein [Middle East respiratory syndrome-related coronavirus]	45.1	45.1	94%	2e-08	36.00%	AHZ65623.1
☑	E protein [Betacoronavirus England 1]	45.1	45.1	94%	2e-08	36.00%	YP_007188584.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	45.1	45.1	94%	2e-08	36.00%	ASU90334.1
☑	E protein [Middle East respiratory syndrome-related coronavirus]	45.1	45.1	94%	2e-08	36.00%	ANF29266.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	45.1	45.1	94%	2e-08	36.00%	ALR69546.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	45.1	45.1	94%	2e-08	36.00%	QBM11741.1
☑	E protein [Middle East respiratory syndrome-related coronavirus]	45.1	45.1	94%	2e-08	36.00%	ALX27237.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	44.7	44.7	94%	3e-08	36.00%	ANI69894.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	44.7	44.7	94%	3e-08	36.00%	ALA49346.1
☑	envelope protein [Middle East respiratory syndrome-related coronavirus]	44.3	44.3	94%	4e-08	36.00%	ASU90554.1
☑	E protein [Middle East respiratory syndrome-related coronavirus]	43.1	43.1	94%	1e-07	34.67%	ATG84684.1
☑	E protein [Middle East respiratory syndrome-related coronavirus]	42.7	42.7	94%	2e-07	34.67%	AGV08540.1

Fig. 3.5 Comparison of the E Protein with MERS CoV proteome using BLAST

Inference: From the above BLAST result it can be inferred that the E protein shares a considerable similarity with the E protein of MERS CoV with query coverage of 94% and identity being 40% (Fig. 3.5).