

Modeling of rabies virus Pittman Moore strain glycoprotein

Manjusha Tyagi*

Sri Guru Ram Rai University, Dehradun

*manjushatyagi20008@gmail.com

ABSTRACT

Modeling of rabies virus Pittman Moore strain glycoprotein was done using SWISS-MODEL software and valuable structural details were studied. The reacting sites in the protein could be visualised.

Key words: Modeling, rabies, virus, Pittman Moore strain, glycoprotein

INTRODUCTION

Rabies virus is very important since it causes infection in animals and man and is fatal. Glycoprotein is responsible for its infectious property and is responsible for producing neutralizing antibodies and thus plays role in protection.

MATERIALS AND METHODS

Protein

Rabies virus G gene for glycoprotein, genomic RNA, strain Pitman Moore was downloaded GenBank: AJ871962.1 linear 1575 bp RNA and amino acid sequence was used for modelling.

Modelling software

<https://swissmodel.expasy.org> was reached to model the protein.

RESULTS AND DISCUSSION

Project summary

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MVPQALLFVPLLGFSLCFGKFPIYTIPDELGPWSPIDIHHLSCPNLVEDEGCTNLSEFSYMELKVGYISAIKVNFTCTGVV 12
TEAETYTNFVGYYVTTFKRRKHFRTDPAACRAAYNWK 0

MAGDPRYEESLHNPYPDYHWLRTVRTTKESLIISPSVTDLDLPYDKSLHSRVFPGGKCSGITVSSSTYCSTNHDYTIWMPENPR 24
PRTPCDIFTNSRGKRASKGNKTCGFVDERGLYKSLKG 0

ACRLKLCGVLGLRLMDGTWVAMQTSDETKWCPPDQLVNLHDFRSDEIEHLVVEELVKKREECLDALESIMTTKSVSFRRL 36
SHLRKLVPGFGKAYTIFNKTLMEADAHYKSVRTWNEIIPS 0

KGCLKVGGRCHPHVNGVFFNGIILGPDGHVLIPEMQSLLQQHMELLKSSVIPLMHPLADPSTVFKEGDEAEDFVEVHLPDV 48
YKQISGVDLGLPNWGKYVLMTAGAMIGLVLIIFSLMTWC 0

RRANRPESKQRSFGGTGRNVSVTSQSGKVIPSWESYKSGGQTRL 52
4
```

Template Results

A total of 67 templates were found to match the target sequence. This list was filtered by a heuristic down to 12. The top templates are:

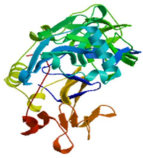
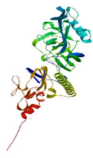
Template	Sequence Identity	Biounit Oligo State	Description
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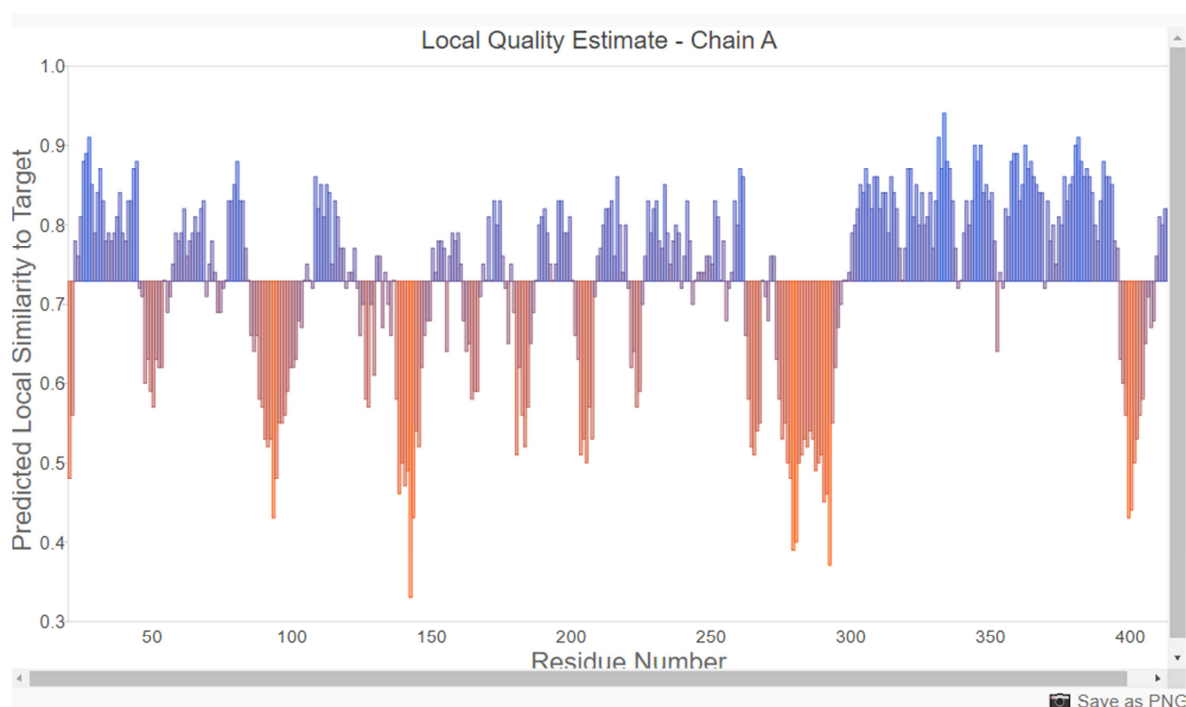
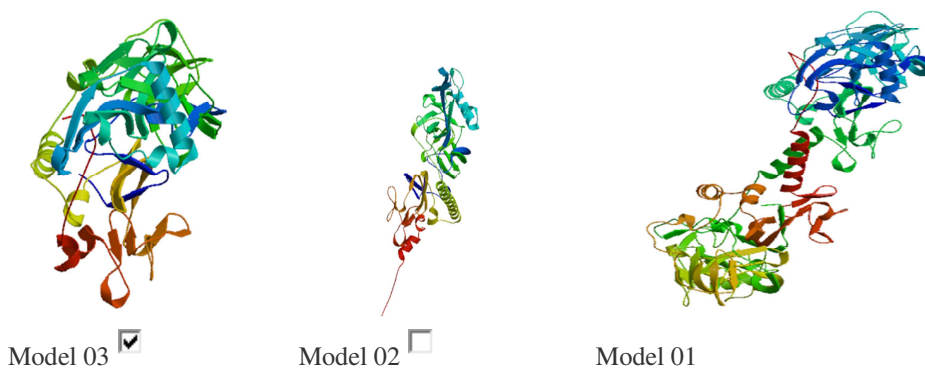
6lgx.1	95.15	homo-dimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein at basic pH
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6lgx.1	97.23	homo-dimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein at basic pH
6lgx.1	97.23	homo-dimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein at basic pH
6lgx.1	95.15	homo-dimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein at basic pH
6lgw.2	94.74	hetero-trimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein in complex with neutralizing antibody 523-11 at acidic pH

Model Results

Id Template GMQE QMEANDisCo Global Oligo State Ligands

	03	7u9g.1.A	0.69	± 0.05	monomer	-
	02	6lgw.2.C	0.65	± 0.05	monomer	-
	01	6lgx.1.A	0.64	± 0.05	homo-dimer	-



The three models could be constructed and their structural details were visualised.

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