

## Modeling of rabies virus ERA glycoprotein

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### ABSTRACT

Modeling of rabies virus CVS 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, ERA 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 strain ERA glycoprotein (G) gene, genomic RNA was downloaded GenBank: GQ406342.1 linear 1575 bp cRNA 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

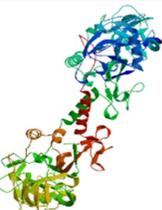
MVPQALLFVPLLVFPLFCFGKFPPIYTIPDKLGPWSPIDIHHLSCPNLVEDEGCTNLSGFSYMELKVG YILAIKMNGFTCTGV	12
VTEAETYTNFVG YVTTTFKRKHFRPTDACAAYNWK	0
MAGDPRYEESLHNPYPDYRWLRTVKTTKESLVIISPSVADLDPYDRSLHSRVFSPGKCSGVAVSSTYCSTNHDTIWM PENP	24
RLGMSCDIFTNSRGKRASKGSETCGFVDERGLYKSLKG	0
ACKLKL CGVLGLRLMDGTWVAMQTSNETKWCPPDQLVNLHDFRSDEIEHLVVEELVRKREECLDAESIMTTKSVSF RRL	36
SHLRKLVPGFGKAYTIFNKTLMEADAHYKSVRTWNEILPS	0
KGCLRVGGRCHPHVNGVFFNGIILGPDGNVLIPEMQSSLLQQHMELLESSVIPLVHPLADPSTVFKDGEAEDFVEVHLPDV	48
HNQVSGVDLGLPNWGKYVLLSAGALTALMLIIFLMTCC	0
RRVNRSEPTQHNLRG TGREVSVTSQSGKIISWESHKSGGETRL	52
	4

#### Template Results

A total of 129 templates were found to match the target sequence. This list was filtered by a heuristic down to 33. The top templates are:

Template	Sequence Identity	Biounit Oligo State	Description
6lgx.1	89.15	homo-dimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein at basic pH
6lgx.1	90.53	homo-dimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein at basic pH
6lgx.1	90.53	homo-dimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein at basic pH
6lgx.1	89.15	homo-dimer	Glycoprotein,Glycoprotein,Glycoprotein Structure of Rabies virus glycoprotein at basic pH
6lgw.2	89.22	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	0.75 ± 0.05		monomer	-
	02	6lgw.2.C	0.65	± 0.05		monomer	-
	01	6lgx.1.A	0.63	0.66 ± 0.05		homo-dimer	-

**Id Template GMQE QMEANDisCo Global Oligo State Ligands**

04 **2k1a.1.A** 0.01 ± 0.12 monomer -



It may be seen that valuable models were constructed and the structural details and binding sites could be visualized.

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