

CARTOONS THAT PORTRAIT SCIENTIFIC PROTOCOLS

A.C.^{1,2} Burlamaque-Neto, Lisboa, L.M.¹, Ricci, C.G.⁴, Santos, G.R.¹, Saraiva-Pereira, M.L.², Guigliani, R.², Machado, C.L.B.³, Matte, U.¹

- 1 - Centro de Terapia Gênica, Hospital de Clínicas de Porto Alegre, Porto Alegre, Brazil;
- 2 - Programa de Pós-Graduação em Ciências Biológicas: Bioquímica, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil;
- 3 - Faculdade de Educação, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil;
- 4 - Programa de Pós-Graduação em Química, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil.

Evaluation of gene therapy protocols in our laboratory led us to detect the need for the development of more friendly and comprehensive approaches to the experimental techniques involved. Two sequential cartoon stories were created to portrait plasmid purification, electrophoresis separation, gel band purification and cell culture transfection protocols. This work aims the implementation of art-education materials in scientific research. Scripts were created based on protocols used in our lab. Four students from *Centro de Terapia Gênica* were selected to participate of each stories' implementation. Participants received theoretical explanations about protocols, attended a demonstration and performed the respective techniques individually. Students were interviewed using a semi-structured script. Interviews' contents were qualitatively analyzed in regard to Edgar Morin's complexity theoretical reference. A complementary activity was held with the participants. Techniques mentioned above are portrait in two comics stories named *Freedom for β -Galley* and *Purification for Cell Reality Transformation*. The association of cartoons to formal protocols is viable. Memory and complex thinking stimuli were reported, as well as better comprehension of the inter-relationships between protocols' steps. This work has produced art-education materials that provide better understanding of protocols and stimulate students' reflections on scientific method and science learning in an academic biological research environment. A soundtrack for cartoons is being recorded. Support: CNPq, FIPE-HCPA, FAPERGS.