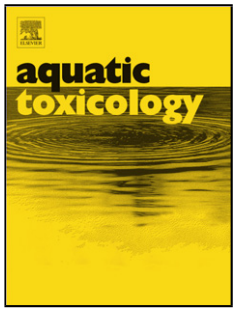

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Authors: Lindsey C. Felix, Van A. Ortega, Greg G. Goss

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Cellular uptake and intracellular localization of poly (acrylic acid) nanoparticles in a rainbow trout (*Oncorhynchus mykiss*) gill epithelial cell line, RTgill-W1

Lindsey C. Felix[a], Van A. Ortega[a], and Greg G. Goss[a,b]*

[a]Department of Biological Sciences, University of Alberta, Edmonton, Alberta, T6G 2E9, Canada

[b]National Institute for Nanotechnology, National Research Council of Canada, Edmonton, Alberta, T6G 2M9, Canada

*Corresponding author.
E-mail addresses: lfelix@ualberta.ca (L.C. Felix), vortega@ualberta.ca (V.A. Ortega), greg.goss@ualberta.ca (G.G. Goss).

Highlights

- Energy-dependent endocytotic processes were active in trout gill epithelial cells.
- Gill cells internalized 3 – 9 nm Nile red-loaded poly (acrylic acid) nanoparticles.
- Clathrin-mediated endocytosis was the key mechanism underlying nanoparticle uptake.
- Nanoparticles moderately accumulated in (colocalized with) lysosomal compartments.
- Results obtained *in vitro* imply a potential risk to aquatic organisms, namely fish.

A B S T R A C T

The ever-growing production of engineered nanoparticles (NPs) for use in many agricultural, commercial, consumer, and industrial applications will lead to their accidental or intentional release into the environment. Potential routes of environmental exposure include manufacturing or transport spills, disposal of NP-containing products down the drain and/or in landfills, as well