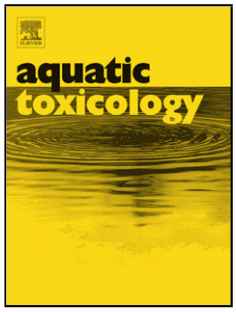

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ENVIRONMENTAL POLLUTION AND TOXIC SUBSTANCES: CELLULAR APOPTOSIS AS A KEY PARAMETER IN A SENSIBLE MODEL LIKE FISH

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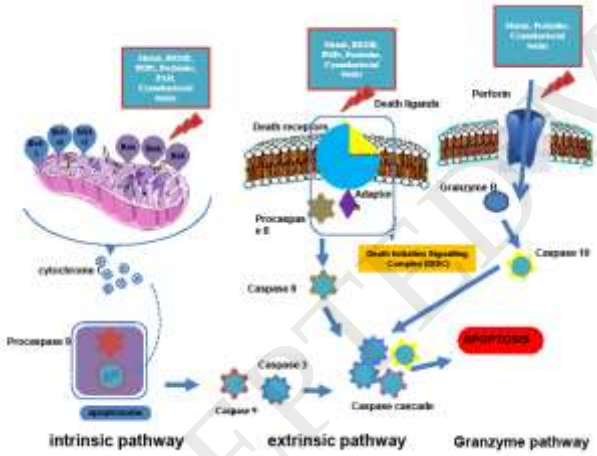
GRAPHICAL ABSTRACT



Highlights

- High level of metals act as apoptotic process inductor on several key tissues
- HSP70 and metalloprotein are able scarcely to block the apoptosis process
- BKPME, POPs and PAH induce in fish high levels of apoptosis
- Insecticides are in grade to provoked apoptosis in liver, gonads, kidney and blood
- Biological compounds, like bacterial-lypopolysaccaride are able to induce apoptosis