Poster #2

A Rapid method to Quantify Estrogenic Compounds in Wastewater with Recombinant Yeast

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Many studies use recombinant yeast (*Saccharomyces cerevisiae*) with the human estrogen receptor and a reporter gene to quantify estrogenic compounds in wastewater. The usual protocol is to filter 3 or 4 liters of water through a series of filters followed by solid phase extraction. The estrogenic compounds are eluted from the solid phase extraction disk, dried, and dissolved in DMSO. The yeast is incubated in the presence of a small quantity of the concentrate, ie.1µl per 1ml of medium, and the response of the yeast's reporter system is tested after incubation.

We have modified the protocol so that only 50 ml of wastewater is filter sterilized with a 2µm bacteriological filter. The yeast is then grown directly in the wastewater that is diluted by half with 2X medium. The processing time of the wastewater is reduced from over 4 hours to less than 15 minutes. We have measured estradiol-equivalent concentrations of 4E-11 M in wastewater by this method.

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