ZYMO RESEARCH

The Beauty of Science is to Make Things Simple

PRODUCT INFORMATION

5-Fluoroorotic Acid (5-FOA)

Product Formulations:

- Ultra Pure Powder >98%: F9001-1 (1g) and F9001-5 (5g)
- 100X Solution: F9003 (10 ml)
- 2X SC/5FOA (Synthetic Complete Glucose Medium): F9002 (250 ml)

Highlights

- Easy to use formulations.
- Certified for maximum activity.
- Biologically tested.
- Stable and convenient counter-selection options.

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GENERAL INFORMATION

Specificity:

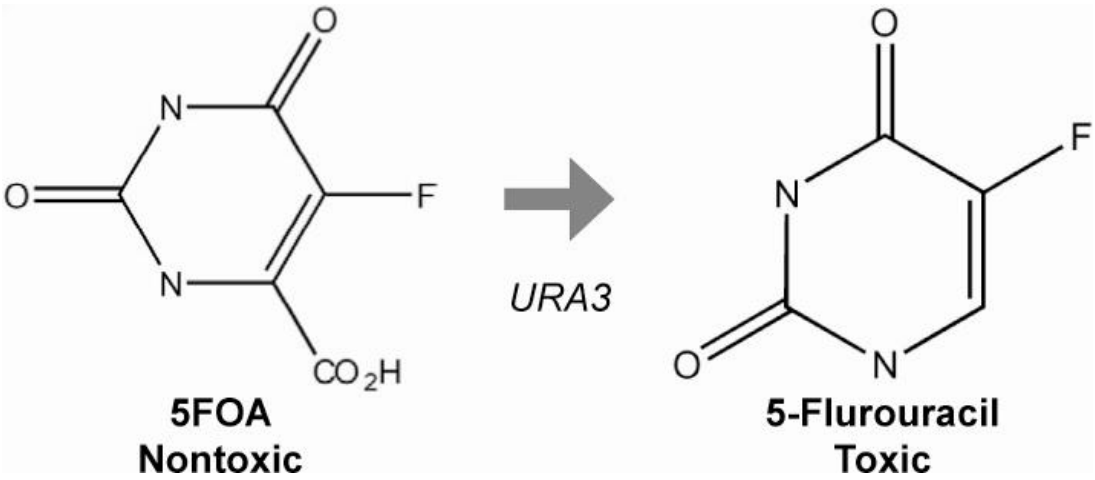
Saccharomyces cerevisiae, *Schizosaccharomyces pombe*, and other fungi species containing *URA3* orthologs.

- **Molecular Formula: $C_5H_3FN_2O_4$**
- **Stability:** Quality is guaranteed for 1 year from time of purchase.

Contents:

Product	Qty./Size	Storage	Catalog
Ultra Pure Powder: (>98%)	1 g	-20° C	F9001-1
Ultra Pure Powder: (>98%)	5 g	-20° C	F9001-5
100X 5-FOA (100 mg/ml in DMSO)	10 ml	-20° C	F9003
2X SC/5-FOA (2 mg/ml in SC media)	250 ml	4° C	F9002

This product is for research use only and should only be used by trained professionals. Some reagents included with this kit are irritants. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility.



5FOA
Nontoxic

5-Flurouracil
Toxic

GENERAL DESCRIPTION

5-FOA Counter-selection with 5-FOA is a commonly used molecular genetic method for yeast. Curing yeast strains of plasmids, plasmid shuffle, allelic replacement, and two-hybrid screens are standard methods employing 5-FOA (Boeke, J.D. *et al.* 1984 and 1987; Vidal, M. 1997). The nontoxic 5-FOA compound is converted to toxic 5-flurouracil in yeast strains expressing a functional *URA3* gene (orotine-5' -monophosphate decarboxylase), whose normal cellular function is in the synthesis of uracil. Practically, strains that are phenotypically Ura^+ become Ura^- and $5\text{-}FOA^R$ (resistant), after selection.

The question of solubility is often raised in relation to 5-FOA at Zymo Research from customers using our ultra pure
5-FOA powder (>98%). This nontoxic compound is only slightly soluble in water and reliable useful data on solubility is
generally lacking from chemical companies. The ability of 5-FOA to dissolve in different commonly used solvents was
tested to find a useful solvent that is compatible with yeast selection methods to provide a convenient

PROTOCOLS FOR 5-FOA MEDIUM

Powder:

1. Make standard yeast synthetic medium in 400 ml and add 1 g of 5-FOA powder and sterilize by filtration. Alternatively, add 5-FOA powder after autoclaving once the medium has cooled to about 55°C.

2. Autoclave agar water (20 g/600 ml, with stir bar), allow cooling to about 55°C.

3. Add warm 5-FOA containing mediium to the agar water, mix, and pour plates.

100X Solution:

1. Make standard yeast synthetic agar-containing medium per your preferred laboratory method. Autoclave to sterilize. Include a stir bar for easy mixing.

2. Cool to about 55°C. Add any heat sensitive components (amino acids, sugars, or other items).

3. Add 10 ml of 100X 5-FOA solution per liter, mix, and pour plates.

2X SC/5-FOA: Synthetic Complete Glucose containing medium

1. Prepare 250 ml of agar water (5 g agar/250 ml) and sterilize by autoclaving. Include a stir bar for easy mixing

2. Pre-warm the 2X SC 5-FOA medium to about 55°C.

3. Add the 2X SC/ 5-FOA medium to the agar water, mix, and pour plates.