

Mechanisms Through Which Dietary And Nutritional Factors May Influence Estrogen Metabolism

(keeps estrogen safe!)

Mechanism of Action	Nutrients
Promote C-2 hydroxylation over C-4 and/or C-16a hydroxylation of estrogens	Cruciferous vegetables, indole-3-carbinol, DIM , rosemary, isoflavones (soy, kudzu, clover)
Reduce the oxidation of catechol estrogens (2-OH and 4-OH)	Vitamins A, E, & C, N-acetylcysteine, turmeric, green tea , lycopene, α -lipoic acid, flavonoids
Promote the methylation of catechol estrogens (2-OH and 4-OH)	Folate, vitamins B ₂ , B ₆ , and B ₁₂ , trimethylglycine, magnesium
Increase circulating concentrations of SHBG, thus reducing levels of unbound, active estrogens	Fiber, lignans (flaxseed), flavonoids (chrysin)
Inhibit the activity of aromatase, which converts into estrogens	Lignans (flaxseed), flavonoids (chrysin)
Promote the detoxification of estrogens by upregulating Phase I and Phase II enzymes	Turmeric (curcumin), D-limonene, magnesium, vitamins B ₂ , B ₆ , and B ₁₂ , flavonoids
Inhibit the activity of β -glucuronidase, which deconjugates estrogens in the large intestine, allowing them to be reabsorbed and re-metabolized	Fiber, probiotics (acidophilus, bifidobacteria), calcium D-glucarate
Modify estrogen receptor activity	Isoflavones (soy, kudzu), lignans (flaxseed), indole-3-carbinol, resveratrol