

ERG11 Protein, *Saccharomyces cerevisiae* (GST)

Cat. No.:	HY-P72165
Synonyms:	ERG11; CYP51; YHR007CLanosterol 14-alpha demethylase; EC 1.14.14.154; CYPLI; Cytochrome P450 51; Cytochrome P450-14DM; Cytochrome P450-LIA1; Sterol 14-alpha demethylase
Species:	Others
Source:	E. coli
Accession:	P10614 (M1-S20)
Gene ID:	856398
Molecular Weight:	Approximately 29.1 kDa

PROPERTIES

AA Sequence	M S A T K S I V G E A L E Y V N I G L S
Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm sterile filtered PBS, 6% Trehalose, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	ERG11 protein, a sterol 14alpha-demethylase, is a crucial enzyme in the third module of the ergosterol biosynthesis pathway, playing a pivotal role in fungal membranes where ergosterol serves as the major sterol component with diverse functions. The third module, known as the late pathway, involves consecutive reactions primarily occurring in the endoplasmic reticulum (ER) membrane, ultimately leading to ergosterol synthesis. Initiating from lanosterol, ERG11 catalyzes a three-step oxidative removal of the 14alpha-methyl group (C-32) of the sterol, releasing it in the form of formate. This process results in the conversion of the sterol to 4,4-dimethyl-5alpha-cholesta-8,14,24-trien-3beta-ol, a critical intermediate in ergosterol biosynthesis. Interestingly, ERG11 exhibits the ability to demethylate substrates not intrinsic to yeast, including eburicol and 24,25-dihydrolanosterol, highlighting its versatility in sterol modification.
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Caution: Product has not been fully validated for medical applications. For research use only.

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