Prostaglandin F Synthase from human, Recombinant

Cat. No. NATE-0552

Lot. No. (See product label)

Introduction

Description PGF synthase catalyzes the conversions of 4-androstene-3,17-dione to testosterone, estrone to 17β-estradiol, prostaglandin H2 to PGF2α, and PGD2 to 9α,11β-PGF2. Prostaglandin (PG) F2 is synthesized via three pathways.

Applications Prostaglandin F synthase (PGF synthase) is a member of the aldo-keto reductase superfamily of proteins which catalyze the conversion of aldehydes and ketones to thier corresponding alcohols. Prostaglandin F synthase is used in cancer research since it is upregulated in many cancers such as breast and prostate cancer. PGF synthase is also used to study kidney and renal cell carcinoma.

Synonyms prostaglandin-D2 11-reductase; reductase, 15-hydroxy-11-oxoprostaglandin; PGD2 11-ketoreductase; PGF2α synthetase; prostaglandin 11-ketoreductase; prostaglandin D2-ketoreductase; prostaglandin F synthase; prostaglandin F synthetase; synthetase, prostaglandin F2α; prostaglandin-D2 11-reductase; PGF synthetase; NADPH-dependent prostaglandin D2 11-keto reductase; prostaglandin 11-keto reductase; prostaglandin-F synthase; EC 1.1.1.188; 55976-95-9

Product Information

Species Human

Source E. coli

EC Number EC 1.1.1.188

CAS No. 55976-95-9

Molecular Weight mol wt ~37 kDa

Purity > 90% (SDS-PAGE)

Pathway Arachidonic acid metabolism, organism-specific biosystem; Arachidonic acid metabolism, conserved biosystem; Metabolism of xenobiotics by cytochrome P450, organism-specific biosystem; Metabolism of xenobiotics by cytochrome P450, conserved biosystem; Steroid hormone biosynthesis, organism-specific biosystem; Steroid hormone biosynthesis, conserved biosystem; androgen biosynthesis, organism-specific biosystem

Function 15-hydroxyprostaglandin-D dehydrogenase (NADP+) activity; alditol:NADP+ 1-oxidoreductase activity; aldo-keto reductase (NADP) activity; androsterone dehydrogenase (A-specific) activity; androsterone dehydrogenase activity; delta4-3-oxosteroid 5beta-reductase activity; dihydrotestosterone 17-beta-dehydrogenase activity; geranylgeranyl reductase activity; indanol dehydrogenase activity; ketoreductase activity; ketosteroid monooxygenase activity; oxidoreductase activity, acting on NADH or NADPH, quinone or similar compound as acceptor; phenanthrene 9,10-monooxygenase activity; prostaglandin F receptor activity; prostaglandin-F synthase activity; retinal dehydrogenase activity; retinol dehydrogenase activity; testosterone 17-beta-dehydrogenase (NAD+) activity; testosterone 17-beta-dehydrogenase (NADP+) activity; trans-1,2-dihydrobenzene-1,2-diol dehydrogenase activity

Unit Definition One unit is defined as the amount of enzyme required to produce 1 μmol of NADP per minute at 37°C in 50 mM KPO4 pH 7.2 containing 250 μM NADPH and 25 μM 9,10-phenanthrenequinone

Storage and Shipping Information

Storage	−70°C