Fri-H-50CD

EFFECT OF GSSG ON THE INHIBITION OF GLUCOSE-6-
PHOSPHATE-DEHYDROGENASE AND 6-PHOSPHOGLUCONATE-
DEHYDROGENASE BY NADPH IN ASPERGILLUS OYRZAE.

M. Kelesa Sanchez, T. Mulino Blanco, J.A.

The NADPH is a competitive inhibitor with respect to NADP of G6PH and 6PGDH, although the K are
different. 20% for G6PH, and 50% for 6PGDH. The
reversing effect of GSSG discovered by Eggleston
and Krebs for G6PDH from rat liver is investigated on
crude, ultrafiltered and dialysed extracts. The
GSSG is a stronger activator of 6PGDH than G6PDH.
The results change with the ratio NADP/NADPH, and
the reversing effect is greater for 6PGDH for
every ratio in ultrafiltered and crude extracts.
The highest values of reverse are 20% for 6PGDH
and almost 50% for G6PDH. Dialysed fractions do
not exhibit reverse at all.

Fri-H-52CD

LACK OF ASYMMETRY IN D-GLYCERALDEHYDE-3-
PHOSPHATE DEHYDROGENASE DURING ALKYLATION
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D-Glyceraldehyde-3-phosphate dehydrogenase
was alkylated with iodoacetamide in
crystalline state and in solution. The
enzyme is completely inactivated with similar
constants in both states. This indicates that the mercaptide-imidazolium
ion-pair in all four subunits is equally
accessible for the alkylating not
only in solution but also in the crystal-
line enzyme. These results do not support the
asymmetry of the active sites within
the tetramer as suggested by X-ray dif-
fraction studies.

Fri-H-54CD

PYRIDOXAL 5'-PHOSPHATE AS A MOLECULAR PROBE FOR
THE REACTION CENTRES OF THE D-RIBULOSE 1,5-BIS-
PHOSPHATE CARBOXYLASE/OXYGENASE FROM SPINACH.

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Biochemie und Molekulare Biologie, Technische Uni-
versit"at Berlin, Frankfurter Str. 29, 1000 Berlin 10.
Pyridoxal 5'-phosphate (PLP) functions as an active
site directed inhibitor or as an effecter of the
carbomoylating activity on reaction conditions.
Spectrophotometrical binding studies indicate two
binding sites for this label which can be select-
dively differentiated by fluorimetric techniques.
Our results show a low competition between PLP and
D-ribulose 1,5-bisphosphate as well as the effecter
sugar phosphates 6-phosphogluconate and fructose
1,6-bisphosphate at the reaction centres of
the carbomylase. PLP binding to the enzyme is not
affected by low concentrations of these effecters at
which these agents stimulate the carboxylase
of CO2. It is proposed that the PLP inhibition of
the stimulatory activity of these modulators or-
ginates from a modification of the regulatory
sites of the enzyme as a consequence of PLP binding

to the catalytic sites.

Fri-H-55CD

INHIBITION OF ATP SYNTHESIS BY PENSEROL
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Pensерol, cis-3-pentoxybenzoyl-3-bromo
acrylic acid, was developed in Czechoslo-
vakia as a carsinostatic agent. Penserol
inhibited incorporation rates of 14C-
precurors/adenine, valine, thymidine,
uridine/into TCA insoluble materials of
both Ehrlich carcinoma and L1210 cells.
To elucidate this inhibition the effect
on aerobic glucose disappearance, lactate
accumulation, endogenous respiration
and level of ATP have been compared. It
was concluded that inhibition of Pen-
serol with the generation or utilization
of ATP is a primary effect and the inhi-
bition observed is a secondary consequen-
ce.

Fri-H-51CD

HIGHLY ACTIVE PAPAYA PEPTIDASES
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Papaya peptidases A and B were isolated from
commercial chymopapain by chromatogra-
phy on CH-Sepharose and agarose-
mercurial. In contrast to previous
findings, papaya peptidases exhibited
high specific activity, similar to that of papain, and contained about 1 mole of
-SH group per mole enzyme. These results are not consistent with the idea that the essential -SH group of papaya
peptidase A is "masked" in the native
state, but rather suggest that previous
preparations contained a substantial
amount of inactive enzyme.