December 2016 notes on Berberine:

Much of this science was performed in Asia, but all of these papers reflect world-class quality research.
First, the most interesting berberine (BBR) study regards aggressive PCa suppression.
This 2015 full paper discusses lab work done in Taipei showing berberine inhibits the metastatic ability of prostate cancer cells by suppressing Epithelial-to-Mesenchymal Transition (EMT) associated genes.

Graphs show that berberine largely suppresses an aggressive prostate cancer cell's ability to spread.
PCa suppression is demonstrated at berberine concentrations in a dish between 10 and 50 micro molar.
Next, the researchers determine which epigenetic changes berberine induces that suppress spreading.
Finally, the authors graph significant human survival increases via these same specific gene changes!
NOTE: The gene change survival improvements are population studies, not a berberine human trial.
prostatecancertopics.com/files/Berberine-PCa-2015-Liu.pdf

Second, this 2014 full paper discusses lab work done in Jilin Province, China showing berberine inhibits proliferation of prostate cancer cells at increasing concentrations, and over longer exposure.
Graphs show that berberine can kill over 50% of aggressive PC3 prostate cancer cells in lab dish tests.
Higher kill rates are achieved as berberine treatment is extended from 24 hours through 72 hours.
Higher kill rates are achieved as berberine concentrations increase from 10 through 50 micro molar.
prostatecancertopics.com/files/Berberine-PCa-2014-Lu.pdf

Four papers detail research on the impact of berberine on Type 2 Diabetes: 2012-Yin-Figure-1.jpg
prostatecancertopics.com/files/Berberine-Type-2-Diabetes-2015-Chang.pdf Yin-Berberine-Pathways
prostatecancertopics.com/files/Berberine-Type-2-Diabetes-2012-Yin.pdf
prostatecancertopics.com/files/Berberine-Type-2-Diabetes-2012-Zhang.pdf
prostatecancertopics.com/files/Berberine-Type-2-Diabetes-2008-Yin.pdf

Three papers detail research on the impact of berberine on LDL:
Key paper is 2008 FDA randomized, double-blind, placebo-controlled Phase III human trial of 1g/day BBR!
prostatecancertopics.com/files/Berberine-LDL-2008-Zhang.pdf
prostatecancertopics.com/files/Berberine-LDL-2006-Brusq.pdf
prostatecancertopics.com/files/Berberine-LDL-2005-Kong.pdf

Five papers detail research on berberine bioavailability:
prostatecancertopics.com/files/Berberine-Bioavailability-2016-Alolga.pdf
prostatecancertopics.com/files/Berberine-Bioavailability-2014-Persiani.pdf
prostatecancertopics.com/files/Berberine-Bioavailability-2013-Tan.pdf
prostatecancertopics.com/files/Berberine-Bioavailability-2011-Li.pdf
prostatecancertopics.com/files/Berberine-Bioavailability-2006-Zuo.pdf

The bottom line on bioavailability: Early studies concluding "low absorption" of berberine were based on measuring only very low berberine blood levels after oral dosing. The body of evidence in bioavailability studies now concludes instead, absorption of berberine is quite high. Berberine and metabolites are so rapidly moved out of the blood into the body's tissue that almost no serum level is measured.
Thus, no blood tests will be able to map IC50 lab study levels to tissue levels in humans or mice.
This is consistent with multiple early human trials showing stronger activity than blood levels can explain.

CAUTION: This 2015 paper discusses recent lab work done at University of Macau, Taipa, Macao, China.
These results purport to show prostate cancer ***growth stimulus*** at low sub micro molar concentrations.
Higher concentrations are confirmed to be PCa suppressive, but evidence is presented that berberine partially nullifies cancer toxicity and effectiveness of multiple chemo therapy agents including Taxotere !
prostatecancertopics.com/files/Berberine-Attenuates-Chemo-2015-Bao.pdf