Endocrine disrupting effects in rats perinatally exposed to a dietary relevant mixture of phytoestrogens - DTU Orbit (01/12/2018)

Dietary phytoestrogens may prevent certain human diseases, but endocrine activity has been reported in animal studies. Sprague-Dawley rats were exposed perinatally to a 1-, 10- or 100-fold “high human dietary intake” mixture of 12 phytoestrogens consisting of mainly the lignan secoisolarici resinol and the isoflavones genistein and daidzein. This mixture induced persistent adverse effects, as adult male mammary glands showed hypertrophic growth. A reduced anogenital distance in newborn males indicated an anti-androgenic mode of action. Testosterone levels, testis and prostate weights, and expression of selected genes in testis and prostate were unaffected. Decreased serum estradiol was seen in genistein-exposed dams. This study indicated adverse effects at high intake levels in rats, but does not provide evidence for risk of phytoestrogen-mediated endocrine disruption at normal human dietary consumption levels. Further studies are warranted to increase the knowledge upon which risk assessment on dietary phytoestrogen exposure during pregnancy and infancy is based.

General information
State: Published
Organisations: National Food Institute, Division of Toxicology and Risk Assessment
Pages: 41-51
Publication date: 2013
Peer-reviewed: Yes

Publication information
Journal: Reproductive Toxicology
Volume: 40
ISSN (Print): 0890-6238
Ratings:
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 2
Scopus rating (2017): CiteScore 2.52 SJR 0.846 SNIP 0.761
Web of Science (2017): Impact factor 2.58
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 2.92 SJR 1.078 SNIP 1.001
Web of Science (2016): Impact factor 2.341
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 2
Scopus rating (2015): CiteScore 3.36 SJR 1.229 SNIP 1.102
Web of Science (2015): Impact factor 2.85
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 2
Scopus rating (2014): CiteScore 3.28 SJR 1.274 SNIP 1.101
Web of Science (2014): Impact factor 3.227
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 2
Scopus rating (2013): CiteScore 2.91 SJR 1.036 SNIP 1.061
Web of Science (2013): Impact factor 2.771
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): CiteScore 3.28 SJR 1.198 SNIP 1.088
Web of Science (2012): Impact factor 3.141
ISI indexed (2012): ISI indexed yes
Web of Science (2012): Indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): CiteScore 3.15 SJR 1.138 SNIP 1.231
Web of Science (2011): Impact factor 3.226
ISI indexed (2011): ISI indexed yes
Web of Science (2011): Indexed yes
BFI (2010): BFI-level 2
Scopus rating (2010): SJR 1.334 SNIP 1.391
Web of Science (2010): Impact factor 3.137
Web of Science (2010): Indexed yes
BFI (2009): BFI-level 2
Scopus rating (2009): SJR 0.937 SNIP 1.125
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.048 SNIP 1.071
Scopus rating (2007): SJR 0.656 SNIP 0.825
Scopus rating (2006): SJR 0.769 SNIP 1.055
Web of Science (2006): Indexed yes
Scopus rating (2005): SJR 0.623 SNIP 0.911
Web of Science (2005): Indexed yes
Scopus rating (2004): SJR 0.658 SNIP 0.966
Web of Science (2004): Indexed yes
Scopus rating (2003): SJR 0.598 SNIP 0.992
Web of Science (2003): Indexed yes
Scopus rating (2002): SJR 0.565 SNIP 0.757
Scopus rating (2001): SJR 0.532 SNIP 1
Web of Science (2001): Indexed yes
Scopus rating (2000): SJR 0.471 SNIP 0.754
Scopus rating (1999): SJR 0.462 SNIP 0.879
Original language: English
Keywords: Mammary, Histology, Daidzein, Genistein, Secoisolariciresinol, Lignans, Diet, Anti-androgenic
DOIs:
10.1016/j.reprotox.2013.05.014
Source: dtu
Source-ID: n:oai:DTIC-ART:elsevier/390017123::30923
Research output: Research - peer-review › Journal article – Annual report year: 2013