

## Prolactin-releasing peptide receptor in GtoPdb v.2021.3

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### Abstract

The precursor ([PRLH](#), [P81277](#)) for PrRP generates 31 and 20-amino-acid versions. [QRFP43](#) ([43RFa](#)) (named after a pyroglutamylated arginine-phenylalanine-amide peptide) is a 43 amino acid peptide derived from [QRFP](#) ([P83859](#)) and is also known as P518 or 26RFa. RFRP is an RF amide-related peptide [31] derived from a FMRFamide-related peptide precursor ([NPVF](#), [Q9HCQ7](#)), which is cleaved to generate [neuropeptide SF](#), [neuropeptide RFRP-1](#), [neuropeptide RFRP-2](#) and [neuropeptide RFRP-3](#) (neuropeptide NPVF).

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### References

1. Abe T, Koga N, Tomita M, Tonoike T, Kushima M, Takahashi K, Sano Y and Taniyama M. (2003) Cellular localization of prolactin-releasing peptide receptors in the human pituitary. *Acta Neuropathol* **106**: 495-500 [[PMID:12915950](#)]
2. Adán N, Guzmán-Morales J, Ledesma-Colunga MG, Perales-Canales SI, Quintanar-Stéphano A, López-Barrera F, Méndez I, Moreno-Carranza B, Triebel J and Binart N *et al.*. (2013) Prolactin promotes cartilage survival and attenuates inflammation in inflammatory arthritis. *J Clin Invest* **123**: 3902-13 [[PMID:23908112](#)]
3. Ascencio-Cedillo R, López-Pulido EI, Muñoz-Valle JF, Villegas-Sepúlveda N, Del Toro-Arreola S,

- Estrada-Chávez C, Daneri-Navarro A, Franco-Topete R, Pérez-Montiel D and García-Carrancá A *et al.*. (2015) Prolactin and prolactin receptor expression in cervical intraepithelial neoplasia and cancer. *Pathol Oncol Res* **21**: 241-6 [PMID:24990775]
4. Auffret J, Freemarm M, Carré N, Mathieu Y, Tourrel-Cuzin C, Lombès M, Movassat J and Binart N. (2013) Defective prolactin signaling impairs pancreatic  $\beta$ -cell development during the perinatal period. *Am J Physiol Endocrinol Metab* **305**: E1309-18 [PMID:24064341]
  5. Bernard V, Young J, Chanson P and Binart N. (2015) New insights in prolactin: pathological implications. *Nat Rev Endocrinol* **11**: 265-75 [PMID:25781857]
  6. Bhattacharyya S, Luan J, Challis B, Schmitz C, Clarkson P, Franks PW, Middelberg R, Keogh J, Farooqi IS and Montague C *et al.*. (2003) Association of polymorphisms in GPR10, the gene encoding the prolactin-releasing peptide receptor with blood pressure, but not obesity, in a U.K. Caucasian population. *Diabetes* **52**: 1296-9 [PMID:12716769]
  7. Bogorad RL, Courtillot C, Mestayer C, Bernichtein S, Harutyunyan L, Jomain JB, Bachelot A, Kuttenn F, Kelly PA and Goffin V *et al.*. (2008) Identification of a gain-of-function mutation of the prolactin receptor in women with benign breast tumors. *Proc Natl Acad Sci USA* **105**: 14533-8 [PMID:18779591]
  8. Bole-Feysot C, Goffin V, Edery M, Binart N and Kelly PA. (1998) Prolactin (PRL) and its receptor: actions, signal transduction pathways and phenotypes observed in PRL receptor knockout mice. *Endocr Rev* **19**: 225-68 [PMID:9626554]
  9. Buneman P, Christie G, Davies JA, Dimitrellou R, Harding SD, Pawson AJ, Sharman JL and Wu Y. (2020) Why data citation isn't working, and what to do about it *Database* **2020** [PMID:32367113]
  10. Champagne D, Beaulieu J and Drolet G. (1998) CRFergic innervation of the paraventricular nucleus of the rat hypothalamus: a tract-tracing study. *J Neuroendocrinol* **10**: 119-31 [PMID:9535058]
  11. Chen WY. (2015) The many faces of prolactin in breast cancer. *Adv Exp Med Biol* **846**: 61-81 [PMID:25472534]
  12. Costanza M, Binart N, Steinman L and Pedotti R. (2015) Prolactin: a versatile regulator of inflammation and autoimmune pathology. *Autoimmun Rev* **14**: 223-30 [PMID:25462579]
  13. Courtillot C, Chakhtoura Z, Bogorad R, Genestie C, Bernichtein S, Badachi Y, Janaud G, Akakpo JP, Bachelot A and Kuttenn F *et al.*. (2010) Characterization of two constitutively active prolactin receptor variants in a cohort of 95 women with multiple breast fibroadenomas. *J Clin Endocrinol Metab* **95**: 271-9 [PMID:19897676]
  14. Curlewis JD, Kusters DH, Barclay JL and Anderson ST. (2002) Prolactin-releasing peptide in the ewe: cDNA cloning, mRNA distribution and effects on prolactin secretion in vitro and in vivo. *J Endocrinol* **174**: 45-53 [PMID:12098662]
  15. Damiano JS, Rendahl KG, Karim C, Embry MG, Ghodducci M, Holash J, Fanidi A, Abrams TJ and Abraham JA. (2013) Neutralization of prolactin receptor function by monoclonal antibody LFA102, a novel potential therapeutic for the treatment of breast cancer. *Mol Cancer Ther* **12**: 295-305 [PMID:23270929]
  16. Damiano JS and Wasserman E. (2013) Molecular pathways: blockade of the PRLR signaling pathway as a novel antihormonal approach for the treatment of breast and prostate cancer. *Clin Cancer Res* **19**: 1644-50 [PMID:23515410]
  17. Davis XS and Grill HJ. (2018) The hindbrain is a site of energy balance action for prolactin-releasing peptide: feeding and thermic effects from GPR10 stimulation of the nucleus tractus solitarius/area postrema. *Psychopharmacology (Berl.)* **235**: 2287-2301 [PMID:29796829]
  18. Ellacott KL, Donald EL, Clarkson P, Morten J, Masters D, Brennand J and Luckman SM. (2005) Characterization of a naturally-occurring polymorphism in the UHR-1 gene encoding the putative rat prolactin-releasing peptide receptor. *Peptides* **26**: 675-81 [PMID:15752583]
  19. Ellacott KL, Lawrence CB, Rothwell NJ and Luckman SM. (2002) PRL-releasing peptide interacts with leptin to reduce food intake and body weight. *Endocrinology* **143**: 368-74 [PMID:11796488]
  20. Engström M, Brandt A, Wurster S, Savola JM and Panula P. (2003) Prolactin releasing peptide has high affinity and efficacy at neuropeptide FF2 receptors. *J Pharmacol Exp Ther* **305**: 825-32 [PMID:12606605]
  21. Fredriksson R, Lagerström MC, Lundin LG and Schiöth HB. (2003) The G-protein-coupled receptors in the human genome form five main families. Phylogenetic analysis, paralogon groups, and fingerprints. *Mol Pharmacol* **63**: 1256-72 [PMID:12761335]
  22. Fujii R, Fukusumi S, Hosoya M, Kawamata Y, Habata Y, Hinuma S, Sekiguchi M, Kitada C, Kurokawa T and Nishimura O *et al.*. (1999) Tissue distribution of prolactin-releasing peptide (PrRP) and its receptor. *Regul Pept* **83**: 1-10 [PMID:10498338]
  23. Grabauskas G, Zhou SY, Das S, Lu Y, Owyang C and Moises HC. (2004) Prolactin-releasing peptide affects gastric motor function in rat by modulating synaptic transmission in the dorsal vagal complex. *J Physiol (Lond.)* **561**: 821-39 [PMID:15486017]
  24. Grattan DR. (2015) 60 YEARS OF NEUROENDOCRINOLOGY: The hypothalamo-prolactin axis. *J*

- Endocrinol* **226**: T101-22 [PMID:26101377]
25. Gu W, Geddes BJ, Zhang C, Foley KP and Stricker-Krongrad A. (2004) The prolactin-releasing peptide receptor (GPR10) regulates body weight homeostasis in mice. *J Mol Neurosci* **22**: 93-103 [PMID:14742914]
  26. Hadley ME and Haskell-Luevano C. (1999) The proopiomelanocortin system. *Ann N Y Acad Sci* **885**: 1-21 [PMID:10816638]
  27. Hanna CW, Bretherick KL, Liu CC, Stephenson MD and Robinson WP. (2010) Genetic variation within the hypothalamus-pituitary-ovarian axis in women with recurrent miscarriage. *Hum Reprod* **25**: 2664-71 [PMID:20716560]
  28. Hartwell HJ, Petrosky KY, Fox JG, Horseman ND and Rogers AB. (2014) Prolactin prevents hepatocellular carcinoma by restricting innate immune activation of c-Myc in mice. *Proc Natl Acad Sci USA* **111**: 11455-60 [PMID:25049387]
  29. Hilfiker-Kleiner D, Kaminski K, Podewski E, Bonda T, Schaefer A, Sliwa K, Forster O, Quint A, Landmesser U and Doerries C *et al.*. (2007) A cathepsin D-cleaved 16 kDa form of prolactin mediates postpartum cardiomyopathy. *Cell* **128**: 589-600 [PMID:17289576]
  30. Hinuma S, Habata Y, Fujii R, Kawamata Y, Hosoya M, Fukusumi S, Kitada C, Masuo Y, Asano T and Matsumoto H *et al.*. (1998) A prolactin-releasing peptide in the brain. *Nature* **393**: 272-6 [PMID:9607765]
  31. Hinuma S, Shintani Y, Fukusumi S, Iijima N, Matsumoto Y, Hosoya M, Fujii R, Watanabe T, Kikuchi K and Terao Y *et al.*. (2000) New neuropeptides containing carboxy-terminal RFamide and their receptor in mammals. *Nat Cell Biol* **2**: 703-8 [PMID:11025660]
  32. Holubová M, Hrubá L, Neprašová B, Majerčíková Z, Lacinová Z, Kuneš J, Maletínská L and Železná B. (2018) Prolactin-releasing peptide improved leptin hypothalamic signaling in obese mice. *J Mol Endocrinol* **60**: 85-94 [PMID:29233862]
  33. Horiuchi J, Saigusa T, Sugiyama N, Kanba S, Nishida Y, Sato Y, Hinuma S and Arita J. (2002) Effects of prolactin-releasing peptide microinjection into the ventrolateral medulla on arterial pressure and sympathetic activity in rats. *Brain Res* **958**: 201-9 [PMID:12468046]
  34. Huang C, Snider F and Cross JC. (2009) Prolactin receptor is required for normal glucose homeostasis and modulation of beta-cell mass during pregnancy. *Endocrinology* **150**: 1618-26 [PMID:19036882]
  35. Iijima N, Matsumoto Y, Yano T, Tanaka M, Yamamoto T, Kakihara K, Kataoka Y, Tamada Y, Matsumoto H and Suzuki N *et al.*. (2001) A novel function of prolactin-releasing peptide in the control of growth hormone via secretion of somatostatin from the hypothalamus. *Endocrinology* **142**: 3239-43 [PMID:11416047]
  36. Kalliomäki ML, Pertovaara A, Brandt A, Wei H, Pietilä P, Kalmari J, Xu M, Kalso E and Panula P. (2004) Prolactin-releasing peptide affects pain, allodynia and autonomic reflexes through medullary mechanisms. *Neuropharmacology* **46**: 412-24 [PMID:14975697]
  37. Lagerström MC, Fredriksson R, Bjarnadóttir TK, Fridmanis D, Holmquist T, Andersson J, Yan YL, Raudsepp T, Zoorob R and Kukkonen JP *et al.*. (2005) Origin of the prolactin-releasing hormone (PRLH) receptors: evidence of coevolution between PRLH and a redundant neuropeptide Y receptor during vertebrate evolution. *Genomics* **85**: 688-703 [PMID:15885496]
  38. Langmead CJ, Szekeres PG, Chambers JK, Ratcliffe SJ, Jones DN, Hirst WD, Price GW and Herdon HJ. (2000) Characterization of the binding of [(125)I]-human prolactin releasing peptide (PrRP) to GPR10, a novel G protein coupled receptor. *Br J Pharmacol* **131**: 683-8 [PMID:11030716]
  39. Laurent P, Becker JA, Valverde O, Ledent C, de Kerchove d'Exaerde A, Schiffmann SN, Maldonado R, Vassart G and Parmentier M. (2005) The prolactin-releasing peptide antagonizes the opioid system through its receptor GPR10. *Nat Neurosci* **8**: 1735-41 [PMID:16299503]
  40. Lawrence CB, Celsi F, Brennand J and Luckman SM. (2000) Alternative role for prolactin-releasing peptide in the regulation of food intake. *Nat Neurosci* **3**: 645-6 [PMID:10862694]
  41. Lawrence CB, Ellacott KL and Luckman SM. (2002) PRL-releasing peptide reduces food intake and may mediate satiety signaling. *Endocrinology* **143**: 360-7 [PMID:11796487]
  42. Lawrence CB, Liu YL, Stock MJ and Luckman SM. (2004) Anorectic actions of prolactin-releasing peptide are mediated by corticotropin-releasing hormone receptors. *Am J Physiol Regul Integr Comp Physiol* **286**: R101-7 [PMID:14512273]
  43. Le TN, Elsea SH, Romero R, Chaiworapongsa T and Francis GL. (2013) Prolactin receptor gene polymorphisms are associated with gestational diabetes. *Genet Test Mol Biomarkers* **17**: 567-71 [PMID:23651351]
  44. Leños-Miranda A, Campos-Galicia I, Ramírez-Valenzuela KL, Chinolla-Arellano ZL and Isordia-Salas I. (2013) Circulating angiogenic factors and urinary prolactin as predictors of adverse outcomes in women with preeclampsia. *Hypertension* **61**: 1118-25 [PMID:23460287]
  45. Lee SA, Haiman CA, Burt NP, Pooler LC, Cheng I, Kolonel LN, Pike MC, Altshuler D, Hirschhorn JN and Henderson BE *et al.*. (2007) A comprehensive analysis of common genetic variation in prolactin (PRL) and PRL receptor (PRLR) genes in relation to plasma prolactin levels and breast cancer risk: the multiethnic cohort. *BMC Med Genet* **8**: 72 [PMID:18053149]

46. Lin SH, Arai AC, España RA, Berridge CW, Leslie FM, Huguenard JR, Vergnes M and Civelli O. (2002) Prolactin-releasing peptide (PrRP) promotes awakening and suppresses absence seizures. *Neuroscience* **114**: 229-38 [PMID:12207968]
47. Lin SH, Leslie FM and Civelli O. (2002) Neurochemical properties of the prolactin releasing peptide (PrRP) receptor expressing neurons: evidence for a role of PrRP as a regulator of stress and nociception. *Brain Res* **952**: 15-30 [PMID:12363400]
48. Marchese A, Heiber M, Nguyen T, Heng HH, Saldivia VR, Cheng R, Murphy PM, Tsui LC, Shi X and Gregor P *et al.*. (1995) Cloning and chromosomal mapping of three novel genes, GPR9, GPR10, and GPR14, encoding receptors related to interleukin 8, neuropeptide Y, and somatostatin receptors. *Genomics* **29**: 335-44 [PMID:8666380]
49. Maruyama M, Matsumoto H, Fujiwara K, Kitada C, Hinuma S, Onda H, Fujino M and Inoue K. (1999) Immunocytochemical localization of prolactin-releasing peptide in the rat brain. *Endocrinology* **140**: 2326-33 [PMID:10218986]
50. Maruyama M, Matsumoto H, Fujiwara K, Noguchi J, Kitada C, Fujino M and Inoue K. (2001) Prolactin-releasing peptide as a novel stress mediator in the central nervous system. *Endocrinology* **142**: 2032-8 [PMID:11316770]
51. Maruyama M, Matsumoto H, Fujiwara K, Noguchi J, Kitada C, Hinuma S, Onda H, Nishimura O, Fujino M and Higuchi T *et al.*. (1999) Central administration of prolactin-releasing peptide stimulates oxytocin release in rats. *Neurosci Lett* **276**: 193-6 [PMID:10612638]
52. Matsumoto H, Maruyama M, Noguchi J, Horikoshi Y, Fujiwara K, Kitada C, Hinuma S, Onda H, Nishimura O and Inoue K *et al.*. (2000) Stimulation of corticotropin-releasing hormone-mediated adrenocorticotropin secretion by central administration of prolactin-releasing peptide in rats. *Neurosci Lett* **285**: 234-8 [PMID:10806329]
53. Matsumoto H, Noguchi J, Horikoshi Y, Kawamata Y, Kitada C, Hinuma S, Onda H, Nishimura O and Fujino M. (1999) Stimulation of prolactin release by prolactin-releasing peptide in rats. *Biochem Biophys Res Commun* **259**: 321-4 [PMID:10362506]
54. Mong FY, Kuo YL, Liu CW, Liu WS and Chang LC. (2011) Association of gene polymorphisms in prolactin and its receptor with breast cancer risk in Taiwanese women. *Mol Biol Rep* **38**: 4629-36 [PMID:21125332]
55. Morales T, Hinuma S and Sawchenko PE. (2000) Prolactin-releasing peptide is expressed in afferents to the endocrine hypothalamus, but not in neurosecretory neurones. *J Neuroendocrinol* **12**: 131-40 [PMID:10718908]
56. Newey PJ, Gorvin CM, Cleland SJ, Willberg CB, Bridge M, Azharuddin M, Drummond RS, van der Merwe PA, Klenerman P and Bountra C *et al.*. (2013) Mutant prolactin receptor and familial hyperprolactinemia. *N Engl J Med* **369**: 2012-20 [PMID:24195502]
57. Nieminen ML, Brandt A, Pietilä P and Panula P. (2000) Expression of mammalian RF-amide peptides neuropeptide FF (NPF), prolactin-releasing peptide (PrRP) and the PrRP receptor in the peripheral tissues of the rat. *Peptides* **21**: 1695-701 [PMID:11090924]
58. Nyante SJ, Faupel-Badger JM, Sherman ME, Pfeiffer RM, Gaudet MM, Falk RT, Andaya AA, Lissowska J, Brinton LA and Peplonska B *et al.*. (2011) Genetic variation in PRL and PRLR, and relationships with serum prolactin levels and breast cancer risk: results from a population-based case-control study in Poland. *Breast Cancer Res* **13**: R42 [PMID:21470416]
59. O'Connor TM, O'Halloran DJ and Shanahan F. (2000) The stress response and the hypothalamic-pituitary-adrenal axis: from molecule to melancholia. *QJM* **93**: 323-33 [PMID:10873181]
60. Pereira Suarez AL, López-Rincón G, Martínez Neri PA and Estrada-Chávez C. (2015) Prolactin in inflammatory response. *Adv Exp Med Biol* **846**: 243-64 [PMID:25472542]
61. Pflimlin E, Lear S, Lee C, Yu S, Zou H, To A, Joseph S, Nguyen-Tran V, Tremblay MS and Shen W. (2019) Design of a Long-Acting and Selective MEG-Fatty Acid Stapled Prolactin-Releasing Peptide Analog. *ACS Med Chem Lett* **10**: 1166-1172 [PMID:31413801]
62. Pirník Z, Kolesárová M, Železná B and Maletínská L. (2018) Repeated peripheral administration of lipidized prolactin-releasing peptide analog induces c-fos and FosB expression in neurons of dorsomedial hypothalamic nucleus in male C57 mice. *Neurochem Int* **116**: 77-84 [PMID:29601847]
63. Reis FM, Viganò P, Arnaboldi E, Spritzer PM, Petraglia F and Di Blasio AM. (2002) Expression of prolactin-releasing peptide and its receptor in the human decidua. *Mol Hum Reprod* **8**: 356-62 [PMID:11912284]
64. Roland BL, Sutton SW, Wilson SJ, Luo L, Pyati J, Huvar R, Erlander MG and Lovenberg TW. (1999) Anatomical distribution of prolactin-releasing peptide and its receptor suggests additional functions in the central nervous system and periphery. *Endocrinology* **140**: 5736-45 [PMID:10579339]
65. Sackmann-Sala L and Goffin V. (2015) Prolactin-induced prostate tumorigenesis. *Adv Exp Med Biol* **846**: 221-42 [PMID:25472541]
66. Salazar-López-Ortiz CG, Hernández-Bueno JA, González-Bárcena D, López-Gamboa M, Ortiz-Plata A, Porias-Cuellar HL, Rembao-Bojórquez JD, Sandoval-Huerta GA, Tapia-Serrano R and Vázquez-Castillo GG *et al.*. (2014) [Clinical practice guideline for the diagnosis and treatment of



- hyperprolactinemia]. *Ginecol Obstet Mex* **82**: 123-42 [PMID:24779268]
67. Samson WK, Keown C, Samson CK, Samson HW, Lane B, Baker JR and Taylor MM. (2003) Prolactin-releasing peptide and its homolog RFRP-1 act in hypothalamus but not in anterior pituitary gland to stimulate stress hormone secretion. *Endocrine* **20**: 59-66 [PMID:12668869]
  68. Samson WK, Resch ZT and Murphy TC. (2000) A novel action of the newly described prolactin-releasing peptides: cardiovascular regulation. *Brain Res* **858**: 19-25 [PMID:10700591]
  69. Samson WK, Resch ZT, Murphy TC and Chang JK. (1998) Gender-biased activity of the novel prolactin releasing peptides: comparison with thyrotropin releasing hormone reveals only pharmacologic effects. *Endocrine* **9**: 289-91 [PMID:10221595]
  70. Satoh F, Smith DM, Gardiner JV, Mahmoodi M, Murphy KG, Ghatei MA and Bloom SR. (2000) Characterization and distribution of prolactin releasing peptide (PrRP) binding sites in the rat--evidence for a novel binding site subtype in cardiac and skeletal muscle. *Br J Pharmacol* **129**: 1787-93 [PMID:10780987]
  71. Seal LJ, Small CJ, Dhillon WS, Kennedy AR, Ghatei MA and Bloom SR. (2002) Prolactin-releasing peptide releases corticotropin-releasing hormone and increases plasma adrenocorticotropin via the paraventricular nucleus of the hypothalamus. *Neuroendocrinology* **76**: 70-8 [PMID:12169768]
  72. Seal LJ, Small CJ, Kim MS, Stanley SA, Taheri S, Ghatei MA and Bloom SR. (2000) Prolactin releasing peptide (PrRP) stimulates luteinizing hormone (LH) and follicle stimulating hormone (FSH) via a hypothalamic mechanism in male rats. *Endocrinology* **141**: 1909-12 [PMID:10803604]
  73. Tachibana T and Sakamoto T. (2014) Functions of two distinct "prolactin-releasing peptides" evolved from a common ancestral gene. *Front Endocrinol (Lausanne)* **5**: 170 [PMID:25426099]
  74. Takahashi K, Totsune K, Murakami O, Sone M, Noshiro T, Hayashi Y, Sasano H and Shibahara S. (2002) Expression of prolactin-releasing peptide and its receptor in the human adrenal glands and tumor tissues of adrenocortical tumors, pheochromocytomas and neuroblastomas. *Peptides* **23**: 1135-40 [PMID:12126742]
  75. Tworoger SS, Eliassen AH, Zhang X, Qian J, Sluss PM, Rosner BA and Hankinson SE. (2013) A 20-year prospective study of plasma prolactin as a risk marker of breast cancer development. *Cancer Res* **73**: 4810-9 [PMID:23783576]
  76. Vaclavicek A, Hemminki K, Bartram CR, Wagner K, Wappenschmidt B, Meindl A, Schmutzler RK, Klaes R, Untch M and Burwinkel B *et al.*. (2006) Association of prolactin and its receptor gene regions with familial breast cancer. *J Clin Endocrinol Metab* **91**: 1513-9 [PMID:16434456]
  77. Vergoni AV, Watanobe H, Guidetti G, Savino G, Bertolini A and Schiöth HB. (2002) Effect of repeated administration of prolactin releasing peptide on feeding behavior in rats. *Brain Res* **955**: 207-13 [PMID:12419538]
  78. Watanabe TK, Suzuki M, Yamasaki Y, Okuno S, Hishigaki H, Ono T, Oga K, Mizoguchi-Miyakita A, Tsuji A and Kanemoto N *et al.*. (2005) Mutated G-protein-coupled receptor GPR10 is responsible for the hyperphagia/dyslipidaemia/obesity locus of Dmo1 in the OLETF rat. *Clin Exp Pharmacol Physiol* **32**: 355-66 [PMID:15854142]
  79. Welch SK, O'Hara BF, Kilduff TS and Heller HC. (1995) Sequence and tissue distribution of a candidate G-coupled receptor cloned from rat hypothalamus. *Biochem Biophys Res Commun* **209**: 606-13 [PMID:7733930]
  80. Yonezawa T, Chen KH, Ghosh MK, Rivera L, Dill R, Ma L, Villa PA, Kawaminami M and Walker AM. (2015) Anti-metastatic outcome of isoform-specific prolactin receptor targeting in breast cancer. *Cancer Lett* **366**: 84-92 [PMID:26095602]
  81. Zhang SQ, Kimura M and Inoué S. (2000) Effects of prolactin-releasing peptide (PrRP) on sleep regulation in rats. *Psychiatry Clin Neurosci* **54**: 262-4 [PMID:11186069]
  82. Zhang X, Danila DC, Katai M, Swearingen B and Klibanski A. (1999) Expression of prolactin-releasing peptide and its receptor messenger ribonucleic acid in normal human pituitary and pituitary adenomas. *J Clin Endocrinol Metab* **84**: 4652-5 [PMID:10599733]