6 Literaturverzeichnis

1. (1996). Selected papers from the 1st International Consultation on Prostate Cancer. Monte Carlo, Monaco, June 20-22, 1996. *Prostate Suppl,* **7,** 1-78.

2. Acconcia,F., Ascenzi,P., Bocedi,A., Spisni,E., Tomasi,V., Trentalance,A., Visca,P., and Marino,M. (2005). Palmitoylation-dependent estrogen receptor alpha membrane localization: regulation by 17beta-estradiol. *Mol. Biol. Cell,* **16,** 231-237.

3. Acconcia,F., Ascenzi,P., Fabozzi,G., Visca,P., and Marino,M. (2004). S-palmitoylation modulates human estrogen receptor-alpha functions. *Biochem. Biophys. Res. Commun.,* **316,** 878-883.

4. Alto,N., Carlisle Michel,J.J., Dodge,K.L., Langeberg,L.K., and Scott,J.D. (2002). Intracellular targeting of protein kinases and phosphatases. *Diabetes,* **51 Suppl 3,** S385-S388.

5. Amieux,P.S., Cummings,D.E., Motamed,K., Brandon,E.P., Wailes,L.A., Le,K., Idzerda,R.L., and McKnight,G.S. (1997). Compensatory regulation of RIalpha protein levels in protein kinase A mutant mice. *J. Biol. Chem.,* **272,** 3993-3998.

6. Aronica,S.M. and Katzenellenbogen,B.S. (1993). Stimulation of estrogen receptor-mediated transcription and alteration in the phosphorylation state of the rat uterine estrogen receptor by estrogen, cyclic adenosine monophosphate, and insulin-like growth factor-I. *Mol. Endocrinol.,* **7,** 743-752.

7. Aspenstrom,P. (1999). Effectors for the Rho GTPases. *Curr. Opin. Cell Biol.,* **11,** 95-102.

8. Banky,P., Huang,L.J., and Taylor,S.S. (1998). Dimerization/docking domain of the type Ialpha regulatory subunit of cAMP-dependent protein kinase. Requirements for dimerization and docking are distinct but overlapping. *J. Biol. Chem.,* **273,** 35048-35055.

9. Banky,P., Newlon,M.G., Roy,M., Garrod,S., Taylor,S.S., and Jennings,P.A. (2000). Isoform-specific differences between the type Ialpha and IIalpha cyclic AMP-dependent protein kinase anchoring domains revealed by solution NMR. *J. Biol. Chem.,* **275,** 35146-35152.

10. Bannister,A.J. and Kouzarides,T. (1996). The CBP co-activator is a histone acetyltransferase. *Nature,* **384,** 641-643.

11. Barford,D. (1991). Molecular mechanisms for the control of enzymic activity by protein phosphorylation. *Biochim. Biophys. Acta,* **1133,** 55-62.

12. Beato,M. and Klug,J. (2000). Steroid hormone receptors: an update. *Hum. Reprod. Update.,* **6,** 225-236.

13. Beato,M. and Sanchez-Pacheco,A. (1996). Interaction of steroid hormone receptors with the transcription initiation complex. *Endocr. Rev.,* **17,** 587-609.

14. Beavo,J.A., Conti,M., and Heaslip,R.J. (1994). Multiple cyclic nucleotide phosphodiesterases. *Mol. Pharmacol.,* **46,** 399-405.

15. Beebe,S.J., Oyen,O., Sandberg,M., Froysa,A., Hansson,V., and Jahnsen,T. (1990). Molecular cloning of a tissue-specific protein kinase (C gamma) from human testis--representing a third isoform for the catalytic subunit of cAMP-dependent protein kinase. *Mol. Endocrinol.,* **4,** 465-475.

16. Beebe,S.J., Redmon,J.B., Blackmore,P.F., and Corbin,J.D. (1985). Discriminative insulin antagonism of stimulatory effects of various cAMP analogs on adipocyte lipolysis and hepatocyte glycogenolysis. *J. Biol. Chem.,* **260,** 15781-15788.

17. Bregman,D.B., Bhattacharyya,N., and Rubin,C.S. (1989). High affinity binding protein for the regulatory subunit of cAMP-dependent protein kinase II-B. Cloning, characterization, and expression of cDNAs for rat brain P150. *J. Biol. Chem.,* **264,** 4648-4656.

18. Budillon,A., Cereseto,A., Kondrashin,A., Nesterova,M., Merlo,G., Clair,T., and Cho-Chung,Y.S. (1995). Point mutation of the autophosphorylation site or in the nuclear location signal causes protein kinase A RII beta regulatory subunit to lose its ability to revert transformed fibroblasts. *Proc. Natl. Acad. Sci. U. S. A,* **92,** 10634-10638.

19. Buhl,A.M., Johnson,N.L., Dhanasekaran,N., and Johnson,G.L. (1995). G alpha 12 and G alpha 13 stimulate Rho-dependent stress fiber formation and focal adhesion assembly. *J. Biol. Chem.,* **270,** 24631-24634.

20. Bunone,G., Briand,P.A., Miksicek,R.J., and Picard,D. (1996). Activation of the unliganded estrogen receptor by EGF involves the MAP kinase pathway and direct phosphorylation. *EMBO J.,* **15,** 2174-2183.

21. Burton,K.A., Johnson,B.D., Hausken,Z.E., Westenbroek,R.E., Idzerda,R.L., Scheuer,T., Scott,J.D., Catterall,W.A., and McKnight,G.S. (1997). Type II regulatory subunits are not required for the anchoring-dependent modulation of Ca2+ channel activity by cAMP-dependent protein kinase. *Proc. Natl. Acad. Sci. U. S. A,* **94,** 11067-11072.

22. Calaf,G. and Russo,J. (1993). Transformation of human breast epithelial cells by chemical carcinogens. *Carcinogenesis,* **14,** 483-492.

23. Calaf,G., Tahin,Q., Alvarado,M.E., Estrada,S., Cox,T., and Russo,J. (1994). Hormone receptors and cathepsin D levels in human breast epithelial cells transformed by chemical carcinogens and c-Ha-ras transfection. *Breast Cancer Res. Treat.,* **29,** 169-177.

24. Campbell,R.A., Bhat-Nakshatri,P., Patel,N.M., Constantinidou,D., Ali,S., and Nakshatri,H. (2001). Phosphatidylinositol 3-kinase/AKT-mediated activation of estrogen receptor alpha: a new model for anti-estrogen resistance. *J. Biol. Chem.,* **276,** 9817-9824.

25. Carnegie,G.K., Smith,F.D., McConnachie,G., Langeberg,L.K., and Scott,J.D. (2004). AKAP-Lbc nucleates a protein kinase D activation scaffold. *Mol. Cell,* **15,** 889-899.

26. Carr,D.W., DeManno,D.A., Atwood,A., Hunzicker-Dunn,M., and Scott,J.D. (1993). Follicle-stimulating hormone regulation of A-kinase anchoring proteins in granulosa cells. *J. Biol. Chem.,* **268,** 20729-20732.

27. Carr,D.W., Hausken,Z.E., Fraser,I.D., Stofko-Hahn,R.E., and Scott,J.D. (1992). Association of the type II cAMP-dependent protein kinase with a human thyroid RII-anchoring protein. Cloning and characterization of the RII-binding domain. *J. Biol. Chem.,* **267,** 13376-13382.

28. Carr,D.W., Stofko-Hahn,R.E., Fraser,I.D., Bishop,S.M., Acott,T.S., Brennan,R.G., and Scott,J.D. (1991). Interaction of the regulatory subunit (RII) of cAMP-dependent protein kinase with RII-anchoring proteins occurs through an amphipathic helix binding motif. *J. Biol. Chem.,* **266,** 14188-14192.

29. Catalano,S., Mauro,L., Marsico,S., Giordano,C., Rizza,P., Rago,V., Montanaro,D., Maggiolini,M., Panno,M.L., and Ando,S. (2004). Leptin induces, via ERK1/ERK2 signal, functional activation of estrogen receptor alpha in MCF-7 cells. *J. Biol. Chem.,* **279,** 19908-19915.

30. Cenni,B. and Picard,D. (1999). Two compounds commonly used for phospholipase C inhibition activate the nuclear estrogen receptors. *Biochem. Biophys. Res. Commun.,* **261,** 340-344.

31. Cerione,R.A. and Zheng,Y. (1996). The Dbl family of oncogenes. *Curr. Opin. Cell Biol.,* **8,** 216-222.

32. Chen,Z.G., Yu,K.L., Zheng,H.M., and Dong,K.W. (1999). Estrogen receptor-mediated repression of gonadotropin-releasing hormone (gnRH) promoter activity in transfected CHO-K1 cells. *Mol. Cell Endocrinol.,* **158,** 131-142.

33. Cho,H. and Katzenellenbogen,B.S. (1993). Synergistic activation of estrogen receptor-mediated transcription by estradiol and protein kinase activators. *Mol. Endocrinol.,* **7,** 441-452.

34. Cho-Chung,Y.S. (1990). Role of cyclic AMP receptor proteins in growth, differentiation, and suppression of malignancy: new approaches to therapy. *Cancer Res.,* **50,** 7093-7100.

35. Chrivia,J.C., Uhler,M.D., and McKnight,G.S. (1988). Characterization of genomic clones coding for the C alpha and C beta subunits of mouse cAMP-dependent protein kinase. *J. Biol. Chem.,* **263,** 5739-5744.

36. Coghlan,V.M., Hausken,Z.E., and Scott,J.D. (1995). Subcellular targeting of kinases and phosphatases by association with bifunctional anchoring proteins. *Biochem. Soc. Trans.,* **23,** 592-596.

37. Coghlan,V.M., Langeberg,L.K., Fernandez,A., Lamb,N.J., and Scott,J.D. (1994). Cloning and characterization of AKAP 95, a nuclear protein that associates with the regulatory subunit of type II cAMP-dependent protein kinase. *J. Biol. Chem.,* **269,** 7658-7665.

38. Coleman,K.M., Dutertre,M., El Gharbawy,A., Rowan,B.G., Weigel,N.L., and Smith,C.L. (2003). Mechanistic differences in the activation of estrogen receptor-

alpha (ER alpha)- and ER beta-dependent gene expression by cAMP signaling pathway(s). *J. Biol. Chem.,* **278,** 12834-12845.

39. Colledge,M. and Scott,J.D. (1999). AKAPs: from structure to function. *Trends Cell Biol.,* **9,** 216-221.

40. Constantinescu,A., Diamond,I., and Gordon,A.S. (1999). Ethanol-induced translocation of cAMP-dependent protein kinase to the nucleus. Mechanism and functional consequences. *J. Biol. Chem.,* **274,** 26985-26991.

41. Corbin,J.D., Keely,S.L., and Park,C.R. (1975). The distribution and dissociation of cyclic adenosine 3':5'-monophosphate-dependent protein kinases in adipose, cardiac, and other tissues. *J. Biol. Chem.,* **250,** 218-225.

42. Corbin,J.D., Soderling,T.R., and Park,C.R. (1973). Regulation of adenosine 3',5'-monophosphate-dependent protein kinase. I. Preliminary characterization of the adipose tissue enzyme in crude extracts. *J. Biol. Chem.,* **248,** 1813-1821.

43. Corbin,J.D., Sugden,P.H., Lincoln,T.M., and Keely,S.L. (1977). Compartmentalization of adenosine 3':5'-monophosphate and adenosine 3':5'-monophosphate-dependent protein kinase in heart tissue. *J. Biol. Chem.,* **252,** 3854-3861.

44. Couse,J.F., Lindzey,J., Grandien,K., Gustafsson,J.A., and Korach,K.S. (1997). Tissue distribution and quantitative analysis of estrogen receptor-alpha (ERalpha) and estrogen receptor-beta (ERbeta) messenger ribonucleic acid in the wild-type and ERalpha-knockout mouse. *Endocrinology,* **138,** 4613-4621.

45. Cowley,S.M., Hoare,S., Mosselman,S., and Parker,M.G. (1997). Estrogen receptors alpha and beta form heterodimers on DNA. *J. Biol. Chem.,* **272,** 19858-19862.

46. Daniel,P.B., Walker,W.H., and Habener,J.F. (1998). Cyclic AMP signaling and gene regulation. *Annu. Rev. Nutr.,* **18,** 353-383.

47. Dell'Acqua,M.L. and Scott,J.D. (1997). Protein kinase A anchoring. *J. Biol. Chem.,* **272,** 12881-12884.

48. DIDOMENICO,G. (1963). [PHILOSOPHY OF SCIENCE AND ONCOLOGY.]. *Gazz. Int. Med. Chir,* **68,** 1407-1420.

49. Diviani,D., Abuin,L., Cotecchia,S., and Pansier,L. (2004). Anchoring of both PKA and 14-3-3 inhibits the Rho-GEF activity of the AKAP-Lbc signaling complex. *EMBO J.,* **23,** 2811-2820.

50. Diviani,D., Soderling,J., and Scott,J.D. (2001). AKAP-Lbc anchors protein kinase A and nucleates Galpha 12-selective Rho-mediated stress fiber formation. *J. Biol. Chem.,* **276,** 44247-44257.

51. Dodge,K.L., Khouangsathiene,S., Kapiloff,M.S., Mouton,R., Hill,E.V., Houslay,M.D., Langeberg,L.K., and Scott,J.D. (2001). mAKAP assembles a protein kinase A/PDE4 phosphodiesterase cAMP signaling module. *EMBO J.,* **20,** 1921-1930.

52. Dransfield,D.T., Bradford,A.J., Smith,J., Martin,M., Roy,C., Mangeat,P.H., and Goldenring,J.R. (1997). Ezrin is a cyclic AMP-dependent protein kinase anchoring protein. *EMBO J.,* **16,** 35-43.

53. Driggers,P.H., Segars,J.H., and Rubino,D.M. (2001). The proto-oncoprotein Brx activates estrogen receptor beta by a p38 mitogen-activated protein kinase pathway. *J. Biol. Chem.,* **276,** 46792-46797.

54. Du,K. and Montminy,M. (1998). CREB is a regulatory target for the protein kinase Akt/PKB. *J. Biol. Chem.,* **273,** 32377-32379.

55. Dutt,P., Nguyen,N., and Toksoz,D. (2004). Role of Lbc RhoGEF in Galpha12/13-induced signals to Rho GTPase. *Cell Signal.,* **16,** 201-209.

56. Edelman,A.M., Blumenthal,D.K., and Krebs,E.G. (1987). Protein serine/threonine kinases. *Annu. Rev. Biochem.,* **56,** 567-613.

57. Edwards,A.S. and Scott,J.D. (2000). A-kinase anchoring proteins: protein kinase A and beyond. *Curr. Opin. Cell Biol.,* **12,** 217-221.

58. El Tanani,M.K. and Green,C.D. (1997). Two separate mechanisms for ligand-independent activation of the estrogen receptor. *Mol. Endocrinol.,* **11,** 928-937.

59. Ellerbroek,S.M., Wennerberg,K., and Burridge,K. (2003). Serine phosphorylation negatively regulates RhoA in vivo. *J. Biol. Chem.,* **278,** 19023-19031.

60. Elliott,M.R., Tolnay,M., Tsokos,G.C., and Kammer,G.M. (2003). Protein kinase A regulatory subunit type II beta directly interacts with and suppresses CREB transcriptional activity in activated T cells. *J. Immunol.,* **171,** 3636-3644.

61. Endoh,H., Sasaki,H., Maruyama,K., Takeyama,K., Waga,I., Shimizu,T., Kato,S., and Kawashima,H. (1997). Rapid activation of MAP kinase by estrogen in the bone cell line. *Biochem. Biophys. Res. Commun.,* **235,** 99-102.

62. Etienne-Manneville,S. and Hall,A. (2002). Rho GTPases in cell biology. *Nature,* **420,** 629-635.

63. Fantozzi,D.A., Harootunian,A.T., Wen,W., Taylor,S.S., Feramisco,J.R., Tsien,R.Y., and Meinkoth,J.L. (1994). Thermostable inhibitor of cAMP-dependent protein kinase enhances the rate of export of the kinase catalytic subunit from the nucleus. *J. Biol. Chem.,* **269,** 2676-2686.

64. Faux,M.C., Rollins,E.N., Edwards,A.S., Langeberg,L.K., Newton,A.C., and Scott,J.D. (1999). Mechanism of A-kinase-anchoring protein 79 (AKAP79) and protein kinase C interaction. *Biochem. J.,* **343 Pt 2,** 443-452.

65. Fax,P., Lehmkuhler,O., Kuhn,C., Esche,H., and Brockmann,D. (2000). E1A12S-mediated activation of the adenovirus type 12 E2 promoter depends on the histone acetyltransferase activity of p300/CBP. *J. Biol. Chem.,* **275,** 40554-40560.

66. Feliciello,A., Gottesman,M.E., and Avvedimento,E.V. (2001). The biological functions of A-kinase anchor proteins. *J. Mol. Biol.,* **308,** 99-114.

67. Francis,S.H., Colbran,J.L., McAllister-Lucas,L.M., and Corbin,J.D. (1994). Zinc interactions and conserved motifs of the cGMP-binding cGMP-specific phosphodiesterase suggest that it is a zinc hydrolase. *J. Biol. Chem.,* **269,** 22477-22480.

68. Fraser,I.D., Tavalin,S.J., Lester,L.B., Langeberg,L.K., Westphal,A.M., Dean,R.A., Marrion,N.V., and Scott,J.D. (1998). A novel lipid-anchored A-kinase Anchoring Protein facilitates cAMP-responsive membrane events. *EMBO J.,* **17,** 2261-2272.

69. Gibbs,C.S., Knighton,D.R., Sowadski,J.M., Taylor,S.S., and Zoller,M.J. (1992). Systematic mutational analysis of cAMP-dependent protein kinase identifies unregulated catalytic subunits and defines regions important for the recognition of the regulatory subunit. *J. Biol. Chem.,* **267,** 4806-4814.

70. Giguere,J.K. (1998). Advances in diagnosis and therapies for breast cancer. *J. S. C. Med. Assoc.,* **94,** 254-256.

71. Glantz,S.B., Li,Y., and Rubin,C.S. (1993). Characterization of distinct tethering and intracellular targeting domains in AKAP75, a protein that links cAMP-dependent protein kinase II beta to the cytoskeleton. *J. Biol. Chem.,* **268,** 12796-12804.

72. Glass,D.B. and Krebs,E.G. (1979). Comparison of the substrate specificity of adenosine 3':5'-monophosphate- and guanosine 3':5'-monophosphate-dependent protein kinases. Kinetic studies using synthetic peptides corresponding to phosphorylation sites in histone H2B. *J. Biol. Chem.,* **254,** 9728-9738.

73. Glass,D.B. and Krebs,E.G. (1982). Phosphorylation by guanosine 3':5'-monophosphate-dependent protein kinase of synthetic peptide analogs of a site phosphorylated in histone H2B. *J. Biol. Chem.,* **257,** 1196-1200.

74. Gonzalez,G.A. and Montminy,M.R. (1989). Cyclic AMP stimulates somatostatin gene transcription by phosphorylation of CREB at serine 133. *Cell,* **59,** 675-680.

75. Gonzalez,G.A., Yamamoto,K.K., Fischer,W.H., Karr,D., Menzel,P., Biggs,W., III, Vale,W.W., and Montminy,M.R. (1989). A cluster of phosphorylation sites on the cyclic AMP-regulated nuclear factor CREB predicted by its sequence. *Nature,* **337,** 749-752.

76. Gray,P.C., Scott,J.D., and Catterall,W.A. (1998). Regulation of ion channels by cAMP-dependent protein kinase and A-kinase anchoring proteins. *Curr. Opin. Neurobiol.,* **8,** 330-334.

77. Greendale,G.A., Reboussin,B.A., Sie,A., Singh,H.R., Olson,L.K., Gatewood,O., Bassett,L.W., Wasilauskas,C., Bush,T., and Barrett-Connor,E. (1999). Effects of estrogen and estrogen-progestin on mammographic parenchymal density. Postmenopausal Estrogen/Progestin Interventions (PEPI) Investigators. *Ann. Intern. Med.,* **130,** 262-269.

78. Hager,G.L., Lim,C.S., Elbi,C., and Baumann,C.T. (2000). Trafficking of nuclear receptors in living cells. *J. Steroid Biochem. Mol. Biol.,* **74,** 249-254.

79. Hall,A. (1998). Rho GTPases and the actin cytoskeleton. *Science,* **279,** 509-514.

80. Hall,J.M., Couse,J.F., and Korach,K.S. (2001). The multifaceted mechanisms of estradiol and estrogen receptor signaling. *J. Biol. Chem.,* **276,** 36869-36872.

81. Han,J.D., Baker,N.E., and Rubin,C.S. (1997). Molecular characterization of a novel A kinase anchor protein from Drosophila melanogaster. *J. Biol. Chem.,* **272,** 26611-26619.

82. Harootunian,A.T., Adams,S.R., Wen,W., Meinkoth,J.L., Taylor,S.S., and Tsien,R.Y. (1993). Movement of the free catalytic subunit of cAMP-dependent protein kinase into and out of the nucleus can be explained by diffusion. *Mol. Biol. Cell,* **4,** 993-1002.

83. Hausken,Z.E., Coghlan,V.M., Hastings,C.A., Reimann,E.M., and Scott,J.D. (1994). Type II regulatory subunit (RII) of the cAMP-dependent protein kinase interaction with A-kinase anchor proteins requires isoleucines 3 and 5. *J. Biol. Chem.,* **269,** 24245-24251.

84. Hausken,Z.E., Dell'Acqua,M.L., Coghlan,V.M., and Scott,J.D. (1996). Mutational analysis of the A-kinase anchoring protein (AKAP)-binding site on RII. Classification Of side chain determinants for anchoring and isoform selective association with AKAPs. *J. Biol. Chem.,* **271,** 29016-29022.

85. Hausken,Z.E. and Scott,J.D. (1996). Properties of A-kinase anchoring proteins. *Biochem. Soc. Trans.,* **24,** 986-991.

86. Henn,V., Edemir,B., Stefan,E., Wiesner,B., Lorenz,D., Theilig,F., Schmitt,R., Vossebein,L., Tamma,G., Beyermann,M., Krause,E., Herberg,F.W., Valenti,G., Bachmann,S., Rosenthal,W., and Klussmann,E. (2004). Identification of a novel A-kinase anchoring protein 18 isoform and evidence for its role in the vasopressin-induced aquaporin-2 shuttle in renal principal cells. *J. Biol. Chem.,* **279,** 26654-26665.

87. Herberg,F.W., Maleszka,A., Eide,T., Vossebein,L., and Tasken,K. (2000). Analysis of A-kinase anchoring protein (AKAP) interaction with protein kinase A (PKA) regulatory subunits: PKA isoform specificity in AKAP binding. *J. Mol. Biol.,* **298,** 329-339.

88. Hirsch,A.H., Glantz,S.B., Li,Y., You,Y., and Rubin,C.S. (1992). Cloning and expression of an intron-less gene for AKAP 75, an anchor protein for the regulatory subunit of cAMP-dependent protein kinase II beta. *J. Biol. Chem.,* **267,** 2131-2134.

89. Hu,S. and Kim,H.S. (1993). Activation of K+ channel in vascular smooth muscles by cytochrome P450 metabolites of arachidonic acid. *Eur. J. Pharmacol.,* **230,** 215-221.

90. Huang,L.J., Durick,K., Weiner,J.A., Chun,J., and Taylor,S.S. (1997). D-AKAP2, a novel protein kinase A anchoring protein with a putative RGS domain. *Proc. Natl. Acad. Sci. U. S. A,* **94,** 11184-11189.

91. Huang,L.J., Wang,L., Ma,Y., Durick,K., Perkins,G., Deerinck,T.J., Ellisman,M.H., and Taylor,S.S. (1999). NH2-Terminal targeting motifs direct dual specificity A-kinase-anchoring protein 1 (D-AKAP1) to either mitochondria or endoplasmic reticulum. *J. Cell Biol.,* **145,** 951-959.

92. Ince,B.A., Montano,M.M., and Katzenellenbogen,B.S. (1994). Activation of transcriptionally inactive human estrogen receptors by cyclic adenosine 3',5'-monophosphate and ligands including antiestrogens. *Mol. Endocrinol.,* **8,** 1397-1406.

93. Jahnsen,T., Hedin,L., Kidd,V.J., Beattie,W.G., Lohmann,S.M., Walter,U., Durica,J., Schulz,T.Z., Schiltz,E., Browner,M., and . (1986). Molecular cloning, cDNA structure, and regulation of the regulatory subunit of type II cAMP-dependent protein kinase from rat ovarian granulosa cells. *J. Biol. Chem.,* **261,** 12352-12361.

94. Jin,S.L., Richard,F.J., Kuo,W.P., D'Ercole,A.J., and Conti,M. (1999). Impaired growth and fertility of cAMP-specific phosphodiesterase PDE4D-deficient mice. *Proc. Natl. Acad. Sci. U. S. A,* **96,** 11998-12003.

95. Johnson,L.N. and Barford,D. (1990). Glycogen phosphorylase. The structural basis of the allosteric response and comparison with other allosteric proteins. *J. Biol. Chem.,* **265,** 2409-2412.

96. Johnson,L.N. and O'Reilly,M. (1996). Control by phosphorylation. *Curr. Opin. Struct. Biol.,* **6,** 762-769.

97. Kapiloff,M.S., Schillace,R.V., Westphal,A.M., and Scott,J.D. (1999). mAKAP: an A-kinase anchoring protein targeted to the nuclear membrane of differentiated myocytes. *J. Cell Sci.,* **112 (Pt 16),** 2725-2736.

98. Karas,R.H., Gauer,E.A., Bieber,H.E., Baur,W.E., and Mendelsohn,M.E. (1998). Growth factor activation of the estrogen receptor in vascular cells occurs via a mitogen-activated protein kinase-independent pathway. *J. Clin. Invest,* **101,** 2851-2861.

99. Karthikeyan,N. and Thampan,R.V. (1996). Plasma membrane is the primary site of localization of the nonactivated estrogen receptor in the goat uterus: hormone binding causes receptor internalization. *Arch. Biochem. Biophys.,* **325,** 47-57.

100. Kashishian,A., Howard,M., Loh,C., Gallatin,W.M., Hoekstra,M.F., and Lai,Y. (1998). AKAP79 inhibits calcineurin through a site distinct from the immunophilin-binding region. *J. Biol. Chem.,* **273,** 27412-27419.

101. Kato,S. (2001). Estrogen receptor-mediated cross-talk with growth factor signaling pathways. *Breast Cancer,* **8,** 3-9.

102. Kaupp,U.B. and Seifert,R. (2002). Cyclic nucleotide-gated ion channels. *Physiol Rev.,* **82,** 769-824.

103. Kennelly,P.J. and Krebs,E.G. (1991). Consensus sequences as substrate specificity determinants for protein kinases and protein phosphatases. *J. Biol. Chem.,* **266,** 15555-15558.

104. Klussmann,E., Edemir,B., Pepperle,B., Tamma,G., Henn,V., Klauschenz,E., Hundsrucker,C., Maric,K., and Rosenthal,W. (2001a). Ht31: the first protein kinase A anchoring protein to integrate protein kinase A and Rho signaling. *FEBS Lett.,* **507,** 264-268.

105. Klussmann,E., Maric,K., Wiesner,B., Beyermann,M., and Rosenthal,W. (1999). Protein kinase A anchoring proteins are required for vasopressin-mediated translocation of aquaporin-2 into cell membranes of renal principal cells. *J. Biol. Chem.,* **274,** 4934-4938.

106. Klussmann,E. and Rosenthal,W. (2001). Role and identification of protein kinase A anchoring proteins in vasopressin-mediated aquaporin-2 translocation. *Kidney Int.,* **60,** 446-449.

107. Klussmann,E., Tamma,G., Lorenz,D., Wiesner,B., Maric,K., Hofmann,F., Aktories,K., Valenti,G., and Rosenthal,W. (2001b). An inhibitory role of Rho in the vasopressin-mediated translocation of aquaporin-2 into cell membranes of renal principal cells. *J. Biol. Chem.,* **276,** 20451-20457.

108. Kopperud,R., Christensen,A.E., Kjarland,E., Viste,K., Kleivdal,H., and Doskeland,S.O. (2002). Formation of inactive cAMP-saturated holoenzyme of cAMP-dependent protein kinase under physiological conditions. *J. Biol. Chem.,* **277,** 13443-13448.

109. Krust,A., Green,S., Argos,P., Kumar,V., Walter,P., Bornert,J.M., and Chambon,P. (1986). The chicken oestrogen receptor sequence: homology with v-erbA and the human oestrogen and glucocorticoid receptors. *EMBO J.,* **5,** 891-897.

110. Kuiper,G.G. and Gustafsson,J.A. (1997). The novel estrogen receptor-beta subtype: potential role in the cell- and promoter-specific actions of estrogens and anti-estrogens. *FEBS Lett.,* **410,** 87-90.

111. Kumar,V., Green,S., Staub,A., and Chambon,P. (1986). Localisation of the oestradiol-binding and putative DNA-binding domains of the human oestrogen receptor. *EMBO J.,* **5,** 2231-2236.

112. Kushner,P.J., Agard,D.A., Greene,G.L., Scanlan,T.S., Shiau,A.K., Uht,R.M., and Webb,P. (2000). Estrogen receptor pathways to AP-1. *J. Steroid Biochem. Mol. Biol.,* **74,** 311-317.

113. Kussel-Andermann,P., El Amraoui,A., Safieddine,S., Hardelin,J.P., Nouaille,S., Camonis,J., and Petit,C. (2000). Unconventional myosin VIIA is a novel A-kinase-anchoring protein. *J. Biol. Chem.,* **275,** 29654-29659.

114. Kwong,J., Roundabush,F.L., Hutton,M.P., Montague,M., Oldham,W., Li,Y., Chin,L.S., and Li,L. (2000). Hrs interacts with SNAP-25 and regulates Ca(2+)-dependent exocytosis. *J. Cell Sci.,* **113 (Pt 12),** 2273-2284.

115. Lang,P., Gesbert,F., Delespine-Carmagnat,M., Stancou,R., Pouchelet,M., and Bertoglio,J. (1996). Protein kinase A phosphorylation of RhoA mediates the morphological and functional effects of cyclic AMP in cytotoxic lymphocytes. *EMBO J.,* **15,** 510-519.

116. Le Goff,P., Montano,M.M., Schodin,D.J., and Katzenellenbogen,B.S. (1994). Phosphorylation of the human estrogen receptor. Identification of hormone-regulated sites and examination of their influence on transcriptional activity. *J. Biol. Chem.,* **269,** 4458-4466.

117. Lees,J.A., Fawell,S.E., and Parker,M.G. (1989). Identification of two transactivation domains in the mouse oestrogen receptor. *Nucleic Acids Res.,* **17,** 5477-5488.

118. Leon,D.A., Herberg,F.W., Banky,P., and Taylor,S.S. (1997). A stable alpha-helical domain at the N terminus of the RIalpha subunits of cAMP-dependent protein kinase is a novel dimerization/docking motif. *J. Biol. Chem.,* **272,** 28431-28437.

119. Leon,O. and Roth,M. (2000). Zinc fingers: DNA binding and protein-protein interactions. *Biol. Res.,* **33,** 21-30.

120. Lester,L.B., Coghlan,V.M., Nauert,B., and Scott,J.D. (1996). Cloning and characterization of a novel A-kinase anchoring protein. AKAP 220, association with testicular peroxisomes. *J. Biol. Chem.,* **271,** 9460-9465.

121. Lester,L.B. and Scott,J.D. (1997). Anchoring and scaffold proteins for kinases and phosphatases. *Recent Prog. Horm. Res.,* **52,** 409-429.

122. Lin,J.W., Wyszynski,M., Madhavan,R., Sealock,R., Kim,J.U., and Sheng,M. (1998). Yotiao, a novel protein of neuromuscular junction and brain that interacts with specific splice variants of NMDA receptor subunit NR1. *J. Neurosci.,* **18,** 2017-2027.

123. Lin,R.Y., Moss,S.B., and Rubin,C.S. (1995). Characterization of S-AKAP84, a novel developmentally regulated A kinase anchor protein of male germ cells. *J. Biol. Chem.,* **270,** 27804.

124. Lobenhofer,E.K. and Marks,J.R. (2000). Estrogen-induced mitogenesis of MCF-7 cells does not require the induction of mitogen-activated protein kinase activity. *J. Steroid Biochem. Mol. Biol.,* **75,** 11-20.

125. Lohmann,S.M., DeCamilli,P., Einig,I., and Walter,U. (1984). High-affinity binding of the regulatory subunit (RII) of cAMP-dependent protein kinase to microtubule-associated and other cellular proteins. *Proc. Natl. Acad. Sci. U. S. A,* **81,** 6723-6727.

126. Mahadevan,M.S., Baird,S., Bailly,J.E., Shutler,G.G., Sabourin,L.A., Tsilfidis,C., Neville,C.E., Narang,M., and Korneluk,R.G. (1995). Isolation of a novel G protein-coupled receptor (GPR4) localized to chromosome 19q13.3. *Genomics,* **30,** 84-88.

127. Mangelsdorf,D.J. and Evans,R.M. (1995). The RXR heterodimers and orphan receptors. *Cell,* **83,** 841-850.

128. Mangelsdorf,D.J., Thummel,C., Beato,M., Herrlich,P., Schutz,G., Umesono,K., Blumberg,B., Kastner,P., Mark,M., Chambon,P., and . (1995). The nuclear receptor superfamily: the second decade. *Cell,* **83,** 835-839.

129. Mann,S.K., Yonemoto,W.M., Taylor,S.S., and Firtel,R.A. (1992). DdPK3, which plays essential roles during Dictyostelium development, encodes the catalytic subunit of cAMP-dependent protein kinase. *Proc. Natl. Acad. Sci. U. S. A,* **89,** 10701-10705.

130. Mayr,B. and Montminy,M. (2001). Transcriptional regulation by the phosphorylation-dependent factor CREB. *Nat. Rev. Mol. Cell Biol.,* **2,** 599-609.

131. McAfee,J.G. and Neumann,R.D. (1996). Radiolabeled peptides and other ligands for receptors overexpressed in tumor cells for imaging neoplasms. *Nucl. Med. Biol.,* **23,** 673-676.

132. McCarthy,T.L., Thomas,M.J., Centrella,M., and Rotwein,P. (1995). Regulation of insulin-like growth factor I transcription by cyclic adenosine 3',5'-monophosphate (cAMP) in fetal rat bone cells through an element within exon 1: protein kinase A-dependent control without a consensus AMP response element. *Endocrinology,* **136,** 3901-3908.

133. McDonnell,D.P., Dana,S.L., Hoener,P.A., Lieberman,B.A., Imhof,M.O., and Stein,R.B. (1995). Cellular mechanisms which distinguish between hormone- and antihormone-activated estrogen receptor. *Ann. N. Y. Acad. Sci.,* **761,** 121-137.

134. McInerney,E.M. and Katzenellenbogen,B.S. (1996). Different regions in activation function-1 of the human estrogen receptor required for antiestrogen- and estradiol-dependent transcription activation. *J. Biol. Chem.,* **271,** 24172-24178.

135. McKenna,N.J., Xu,J., Nawaz,Z., Tsai,S.Y., Tsai,M.J., and O'Malley,B.W. (1999). Nuclear receptor coactivators: multiple enzymes, multiple complexes, multiple functions. *J. Steroid Biochem. Mol. Biol.,* **69,** 3-12.

136. Meinkoth,J.L., Ji,Y., Taylor,S.S., and Feramisco,J.R. (1990). Dynamics of the distribution of cyclic AMP-dependent protein kinase in living cells. *Proc. Natl. Acad. Sci. U. S. A,* **87,** 9595-9599.

137. Mendelsohn,M.E. (2000). Nongenomic, ER-mediated activation of endothelial nitric oxide synthase: how does it work? What does it mean? *Circ. Res.,* **87,** 956-960.

138. Michel,J.J. and Scott,J.D. (2002). AKAP mediated signal transduction. *Annu. Rev. Pharmacol. Toxicol.,* **42,** 235-257.

139. Migliaccio,A., Di Domenico,M., Castoria,G., de Falco,A., Bontempo,P., Nola,E., and Auricchio,F. (1996). Tyrosine kinase/p21ras/MAP-kinase pathway activation by estradiol-receptor complex in MCF-7 cells. *EMBO J.,* **15,** 1292-1300.

140. Miki,K. and Eddy,E.M. (1998). Identification of tethering domains for protein kinase A type Ialpha regulatory subunits on sperm fibrous sheath protein FSC1. *J. Biol. Chem.,* **273,** 34384-34390.

141. Miki,K. and Eddy,E.M. (1999). Single amino acids determine specificity of binding of protein kinase A regulatory subunits by protein kinase A anchoring proteins. *J. Biol. Chem.,* **274,** 29057-29062.

142. Mons,N. and Cooper,D.M. (1995). Adenylate cyclases: critical foci in neuronal signaling. *Trends Neurosci.,* **18,** 536-542.

143. Nadal,A., Rovira,J.M., Laribi,O., Leon-quinto,T., Andreu,E., Ripoll,C., and Soria,B. (1998). Rapid insulinotropic effect of 17beta-estradiol via a plasma membrane receptor. *FASEB J.,* **12,** 1341-1348.

144. Nakajima,T., Uchida,C., Anderson,S.F., Parvin,J.D., and Montminy,M. (1997). Analysis of a cAMP-responsive activator reveals a two-component mechanism for transcriptional induction via signal-dependent factors. *Genes Dev.,* **11,** 738-747.

145. Nauert,J.B., Klauck,T.M., Langeberg,L.K., and Scott,J.D. (1997). Gravin, an autoantigen recognized by serum from myasthenia gravis patients, is a kinase scaffold protein. *Curr. Biol.,* **7,** 52-62.

146. Ndubuka,C., Li,Y., and Rubin,C.S. (1993). Expression of a kinase anchor protein 75 depletes type II cAMP-dependent protein kinases from the cytoplasm and sequesters the kinases in a particulate pool. *J. Biol. Chem.,* **268,** 7621-7624.

147. Nesterova,M., Noguchi,K., Park,Y.G., Lee,Y.N., and Cho-Chung,Y.S. (2000). Compensatory stabilization of RIIbeta protein, cell cycle deregulation, and growth arrest in colon and prostate carcinoma cells by antisense-directed down-regulation of protein kinase A RIalpha protein. *Clin. Cancer Res.,* **6,** 3434-3441.

148. Newlon,M.G., Roy,M., Hausken,Z.E., Scott,J.D., and Jennings,P.A. (1997). The A-kinase anchoring domain of type IIalpha cAMP-dependent protein kinase is highly helical. *J. Biol. Chem.,* **272,** 23637-23644.

149. Newlon,M.G., Roy,M., Morikis,D., Carr,D.W., Westphal,R., Scott,J.D., and Jennings,P.A. (2001). A novel mechanism of PKA anchoring revealed by solution structures of anchoring complexes. *EMBO J.,* **20,** 1651-1662.

150. Newlon,M.G., Roy,M., Morikis,D., Hausken,Z.E., Coghlan,V., Scott,J.D., and Jennings,P.A. (1999). The molecular basis for protein kinase A anchoring revealed by solution NMR. *Nat. Struct. Biol.,* **6,** 222-227.

151. Ogawa,S., Inoue,S., Orimo,A., Hosoi,T., Ouchi,Y., and Muramatsu,M. (1998). Cross-inhibition of both estrogen receptor alpha and beta pathways by each dominant negative mutant. *FEBS Lett.,* **423,** 129-132.

152. Ogryzko,V.V., Schiltz,R.L., Russanova,V., Howard,B.H., and Nakatani,Y. (1996). The transcriptional coactivators p300 and CBP are histone acetyltransferases. *Cell,* **87,** 953-959.

153. Olson,M.F., Sterpetti,P., Nagata,K., Toksoz,D., and Hall,A. (1997). Distinct roles for DH and PH domains in the Lbc oncogene. *Oncogene,* **15,** 2827-2831.

154. Osborne,M.P., Bradlow,H.L., Wong,G.Y., and Telang,N.T. (1993). Upregulation of estradiol C16 alpha-hydroxylation in human breast tissue: a potential biomarker of breast cancer risk. *J. Natl. Cancer Inst.,* **85,** 1917-1920.

155. Paolillo,M., Montecucco,A., Zanassi,P., and Schinelli,S. (1998). Potentiation of dopamine-induced cAMP formation by group I metabotropic glutamate receptors via protein kinase C in cultured striatal neurons. *Eur. J. Neurosci.,* **10,** 1937-1945.

156. Pawson,T. and Saxton,T.M. (1999). Signaling networks--do all roads lead to the same genes? *Cell,* **97,** 675-678.

157. Pierce,K.L., Maudsley,S., Daaka,Y., Luttrell,L.M., and Lefkowitz,R.J. (2000). Role of endocytosis in the activation of the extracellular signal-regulated kinase cascade by

sequestering and nonsequestering G protein-coupled receptors. *Proc. Natl. Acad. Sci. U. S. A,* **97,** 1489-1494.

158. Potter,R.L., Stafford,P.H., and Taylor,S. (1978). Regulatory subunit of cyclic AMP-dependent protein kinase I from porcine skeletal muscle: purification and proteolysis. *Arch. Biochem. Biophys.,* **190,** 174-180.

159. Potter,R.L. and Taylor,S.S. (1979). Correlation of the cAMP binding domain with a site of autophosphorylation on the regulatory subunit of cAMP-dependent protein kinase II from porcine skeletal muscle. *J. Biol. Chem.,* **254,** 9000-9005.

160. Power,R.F., Mani,S.K., Codina,J., Conneely,O.M., and O'Malley,B.W. (1991). Dopaminergic and ligand-independent activation of steroid hormone receptors. *Science,* **254,** 1636-1639.

161. Razandi,M., Pedram,A., Greene,G.L., and Levin,E.R. (1999). Cell membrane and nuclear estrogen receptors (ERs) originate from a single transcript: studies of ERalpha and ERbeta expressed in Chinese hamster ovary cells. *Mol. Endocrinol.,* **13,** 307-319.

162. Reinton,N., Collas,P., Haugen,T.B., Skalhegg,B.S., Hansson,V., Jahnsen,T., and Tasken,K. (2000). Localization of a novel human A-kinase-anchoring protein, hAKAP220, during spermatogenesis. *Dev. Biol.,* **223,** 194-204.

163. Riabowol,K.T., Fink,J.S., Gilman,M.Z., Walsh,D.A., Goodman,R.H., and Feramisco,J.R. (1988). The catalytic subunit of cAMP-dependent protein kinase induces expression of genes containing cAMP-responsive enhancer elements. *Nature,* **336,** 83-86.

164. Ross,J.L., Scott,C., Jr., Marttila,P., Kowal,K., Nass,A., Papenhausen,P., Abboudi,J., Osterman,L., Kushner,H., Carter,P., Ezaki,M., Elder,F., Wei,F., Chen,H., and Zinn,A.R. (2001). Phenotypes Associated with SHOX Deficiency. *J. Clin. Endocrinol. Metab,* **86,** 5674-5680.

165. Rubino,D., Driggers,P., Arbit,D., Kemp,L., Miller,B., Coso,O., Pagliai,K., Gray,K., Gutkind,S., and Segars,J. (1998). Characterization of Brx, a novel Dbl family member that modulates estrogen receptor action. *Oncogene,* **16,** 2513-2526.

166. Russo,J., Calaf,G., Sohi,N., Tahin,Q., Zhang,P.L., Alvarado,M.E., Estrada,S., and Russo,I.H. (1993). Critical steps in breast carcinogenesis. *Ann. N. Y. Acad. Sci.,* **698,** 1-20.

167. Russo,J., Hasan,L.M., Balogh,G., Guo,S., and Russo,I.H. (2003). Estrogen and its metabolites are carcinogenic agents in human breast epithelial cells. *J. Steroid Biochem. Mol. Biol.,* **87,** 1-25.

168. Sarkar,D., Erlichman,J., and Rubin,C.S. (1984). Identification of a calmodulin-binding protein that co-purifies with the regulatory subunit of brain protein kinase II. *J. Biol. Chem.,* **259,** 9840-9846.

169. Schairer,C., Lubin,J., Troisi,R., Sturgeon,S., Brinton,L., and Hoover,R. (2000). Menopausal estrogen and estrogen-progestin replacement therapy and breast cancer risk. *JAMA,* **283,** 485-491.

170. Schillace,R.V. and Scott,J.D. (1999). Organization of kinases, phosphatases, and receptor signaling complexes. *J. Clin. Invest,* **103,** 761-765.

171. Schlegel,A., Wang,C., Pestell,R.G., and Lisanti,M.P. (2001). Ligand-independent activation of oestrogen receptor alpha by caveolin-1. *Biochem. J.,* **359,** 203-210.

172. Scott,J.D. (1991). Cyclic nucleotide-dependent protein kinases. *Pharmacol. Ther.,* **50,** 123-145.

173. Scott,J.D. (1997). Dissection of protein kinase and phosphatase targeting interactions. *Soc. Gen. Physiol Ser.,* **52,** 227-239.

174. Scott,J.D., Glaccum,M.B., Zoller,M.J., Uhler,M.D., Helfman,D.M., McKnight,G.S., and Krebs,E.G. (1987). The molecular cloning of a type II regulatory subunit of the cAMP-dependent protein kinase from rat skeletal muscle and mouse brain. *Proc. Natl. Acad. Sci. U. S. A,* **84,** 5192-5196.

175. Scott,J.D., Stofko,R.E., McDonald,J.R., Comer,J.D., Vitalis,E.A., and Mangili,J.A. (1990). Type II regulatory subunit dimerization determines the subcellular localization of the cAMP-dependent protein kinase. *J. Biol. Chem.,* **265,** 21561-21566.

176. Shabb,J.B. (2001). Physiological substrates of cAMP-dependent protein kinase. *Chem. Rev.,* **101,** 2381-2411.

177. Shang,Y., Hu,X., DiRenzo,J., Lazar,M.A., and Brown,M. (2000). Cofactor dynamics and sufficiency in estrogen receptor-regulated transcription. *Cell,* **103,** 843-852.

178. Simoncini,T. and Genazzani,A.R. (2000). Raloxifene acutely stimulates nitric oxide release from human endothelial cells via an activation of endothelial nitric oxide synthase. *J. Clin. Endocrinol. Metab,* **85,** 2966-2969.

179. Singh,M., Setalo,G., Jr., Guan,X., Warren,M., and Toran-Allerand,C.D. (1999). Estrogen-induced activation of mitogen-activated protein kinase in cerebral cortical explants: convergence of estrogen and neurotrophin signaling pathways. *J. Neurosci.,* **19,** 1179-1188.

180. Skalhegg,B.S. and Tasken,K. (2000). Specificity in the cAMP/PKA signaling pathway. Differential expression,regulation, and subcellular localization of subunits of PKA. *Front Biosci.,* **5,** D678-D693.

181. Smith,C.L. (1998). Cross-talk between peptide growth factor and estrogen receptor signaling pathways. *Biol. Reprod.,* **58,** 627-632.

182. Smith,F.D. and Scott,J.D. (2002). Signaling complexes: junctions on the intracellular information super highway. *Curr. Biol.,* **12,** R32-R40.

183. Solberg,R., Tasken,K., Keiserud,A., and Jahnsen,T. (1991). Molecular cloning, cDNA structure and tissue-specific expression of the human regulatory subunit RI beta of cAMP-dependent protein kinases. *Biochem. Biophys. Res. Commun.,* **176,** 166-172.

184. Solberg,R., Tasken,K., Wen,W., Coghlan,V.M., Meinkoth,J.L., Scott,J.D., Jahnsen,T., and Taylor,S.S. (1994). Human regulatory subunit RI beta of cAMP-dependent protein

kinases: expression, holoenzyme formation and microinjection into living cells. *Exp. Cell Res.,* **214,** 595-605.

185. Stein,R.L., Strimpler,A.M., Edwards,P.D., Lewis,J.J., Mauger,R.C., Schwartz,J.A., Stein,M.M., Trainor,D.A., Wildonger,R.A., and Zottola,M.A. (1987). Mechanism of slow-binding inhibition of human leukocyte elastase by trifluoromethyl ketones. *Biochemistry,* **26,** 2682-2689.

186. Sterpetti,P., Hack,A.A., Bashar,M.P., Park,B., Cheng,S.D., Knoll,J.H., Urano,T., Feig,L.A., and Toksoz,D. (1999). Activation of the Lbc Rho exchange factor proto-oncogene by truncation of an extended C terminus that regulates transformation and targeting. *Mol. Cell Biol.,* **19,** 1334-1345.

187. Strathmann,M. and Simon,M.I. (1990). G protein diversity: a distinct class of alpha subunits is present in vertebrates and invertebrates. *Proc. Natl. Acad. Sci. U. S. A,* **87,** 9113-9117.

188. Tamma,G., Klussmann,E., Maric,K., Aktories,K., Svelto,M., Rosenthal,W., and Valenti,G. (2001). Rho inhibits cAMP-induced translocation of aquaporin-2 into the apical membrane of renal cells. *Am. J. Physiol Renal Physiol,* **281,** F1092-F1101.

189. Tang,W.J. and Gilman,A.G. (1992). Adenylyl cyclases. *Cell,* **70,** 869-872.

190. Tapon,N. and Hall,A. (1997). Rho, Rac and Cdc42 GTPases regulate the organization of the actin cytoskeleton. *Curr. Opin. Cell Biol.,* **9,** 86-92.

191. Tasken,K. and Aandahl,E.M. (2004). Localized effects of cAMP mediated by distinct routes of protein kinase A. *Physiol Rev.,* **84,** 137-167.

192. Tasken,K., Skalhegg,B.S., Tasken,K.A., Solberg,R., Knutsen,H.K., Levy,F.O., Sandberg,M., Orstavik,S., Larsen,T., Johansen,A.K., Vang,T., Schrader,H.P., Reinton,N.T., Torgersen,K.M., Hansson,V., and Jahnsen,T. (1997). Structure, function, and regulation of human cAMP-dependent protein kinases. *Adv. Second Messenger Phosphoprotein Res.,* **31,** 191-204.

193. Tasken,K.A., Collas,P., Kemmner,W.A., Witczak,O., Conti,M., and Tasken,K. (2001). Phosphodiesterase 4D and protein kinase a type II constitute a signaling unit in the centrosomal area. *J. Biol. Chem.,* **276,** 21999-22002.

194. Taylor,S.S., Buechler,J.A., and Yonemoto,W. (1990). cAMP-dependent protein kinase: framework for a diverse family of regulatory enzymes. *Annu. Rev. Biochem.,* **59,** 971-1005.

195. Taylor,S.S., Knighton,D.R., Zheng,J., Ten Eyck,L.F., and Sowadski,J.M. (1992). Structural framework for the protein kinase family. *Annu. Rev. Cell Biol.,* **8,** 429-462.

196. Theurkauf,W.E. and Vallee,R.B. (1982). Molecular characterization of the cAMP-dependent protein kinase bound to microtubule-associated protein 2. *J. Biol. Chem.,* **257,** 3284-3290.

197. Toksoz,D. and Williams,D.A. (1994). Novel human oncogene lbc detected by transfection with distinct homology regions to signal transduction products. *Oncogene,* **9,** 621-628.

198. Tora,L., White,J., Brou,C., Tasset,D., Webster,N., Scheer,E., and Chambon,P. (1989). The human estrogen receptor has two independent nonacidic transcriptional activation functions. *Cell,* **59,** 477-487.

199. Trotter,K.W., Fraser,I.D., Scott,G.K., Stutts,M.J., Scott,J.D., and Milgram,S.L. (1999). Alternative splicing regulates the subcellular localization of A-kinase anchoring protein 18 isoforms. *J. Cell Biol.,* **147,** 1481-1492.

200. Trowbridge,J.M., Rogatsky,I., and Garabedian,M.J. (1997). Regulation of estrogen receptor transcriptional enhancement by the cyclin A/Cdk2 complex. *Proc. Natl. Acad. Sci. U. S. A,* **94,** 10132-10137.

201. Tsai,M.J. and O'Malley,B.W. (1994). Molecular mechanisms of action of steroid/thyroid receptor superfamily members. *Annu. Rev. Biochem.,* **63,** 451-486.

202. Van Aelst,L. and D'Souza-Schorey,C. (1997). Rho GTPases and signaling networks. *Genes Dev.,* **11,** 2295-2322.

203. Vijayaraghavan,S., Goueli,S.A., Davey,M.P., and Carr,D.W. (1997). Protein kinase A-anchoring inhibitor peptides arrest mammalian sperm motility. *J. Biol. Chem.,* **272,** 4747-4752.

204. Waldron,R.T., Iglesias,T., and Rozengurt,E. (1999). Phosphorylation-dependent protein kinase D activation. *Electrophoresis,* **20,** 382-390.

205. Wang,L.Y., Salter,M.W., and MacDonald,J.F. (1991). Regulation of kainate receptors by cAMP-dependent protein kinase and phosphatases. *Science,* **253,** 1132-1135.

206. Watters,J.J., Campbell,J.S., Cunningham,M.J., Krebs,E.G., and Dorsa,D.M. (1997). Rapid membrane effects of steroids in neuroblastoma cells: effects of estrogen on mitogen activated protein kinase signalling cascade and c-fos immediate early gene transcription. *Endocrinology,* **138,** 4030-4033.

207. Wen,W., Harootunian,A.T., Adams,S.R., Feramisco,J., Tsien,R.Y., Meinkoth,J.L., and Taylor,S.S. (1994). Heat-stable inhibitors of cAMP-dependent protein kinase carry a nuclear export signal. *J. Biol. Chem.,* **269,** 32214-32220.

208. Wen,W., Meinkoth,J.L., Tsien,R.Y., and Taylor,S.S. (1995a). Identification of a signal for rapid export of proteins from the nucleus. *Cell,* **82,** 463-473.

209. Wen,W., Taylor,S.S., and Meinkoth,J.L. (1995b). The expression and intracellular distribution of the heat-stable protein kinase inhibitor is cell cycle regulated. *J. Biol. Chem.,* **270,** 2041-2046.

210. Whitehead,C.M., Winkfein,R.J., and Rattner,J.B. (1996). The relationship of HsEg5 and the actin cytoskeleton to centrosome separation. *Cell Motil. Cytoskeleton,* **35,** 298-308.

211. Wong,W. and Scott,J.D. (2004). AKAP signalling complexes: focal points in space and time. *Nat. Rev. Mol. Cell Biol.,* **5,** 959-970.

212. Zaccolo,M., De Giorgi,F., Cho,C.Y., Feng,L., Knapp,T., Negulescu,P.A., Taylor,S.S., Tsien,R.Y., and Pozzan,T. (2000). A genetically encoded, fluorescent indicator for cyclic AMP in living cells. *Nat. Cell Biol.,* **2,** 25-29.

213. Zaccolo,M. and Pozzan,T. (2002). Discrete microdomains with high concentration of cAMP in stimulated rat neonatal cardiac myocytes. *Science,* **295,** 1711-1715.

214. Zheng,Y., Olson,M.F., Hall,A., Cerione,R.A., and Toksoz,D. (1995). Direct involvement of the small GTP-binding protein Rho in lbc oncogene function. *J. Biol. Chem.,* **270,** 9031-9034.

215. Zheng,Y., Zangrilli,D., Cerione,R.A., and Eva,A. (1996). The pleckstrin homology domain mediates transformation by oncogenic dbl through specific intracellular targeting. *J. Biol. Chem.,* **271,** 19017-19020.

216. Zimmermann,B., Chiorini,J.A., Ma,Y., Kotin,R.M., and Herberg,F.W. (1999). PrKX is a novel catalytic subunit of the cAMP-dependent protein kinase regulated by the regulatory subunit type I. *J. Biol. Chem.,* **274,** 5370-5378.

217. Zugaza,J.L., Sinnett-Smith,J., Van Lint,J., and Rozengurt,E. (1996). Protein kinase D (PKD) activation in intact cells through a protein kinase C-dependent signal transduction pathway. *EMBO J.,* **15,** 6220-6230.