

Research Projects

Principle investigator

1. p53 mutations and protein expression in malignant pediatric renal tumors (1995~1996), Ministry of Science and Technology (NSC85-2331-B-182A-016, NMRP685-H).
2. The prognostic significance of apoptosis and expression of PCNA, bcl-2 and p53 in neuroblastoma (1996~1997), Ministry of Science and Technology (NSC86-2314-B-182A-067, NMRP842-H).
3. The expression of ICAM-1, LFA-3 and CD44 in neuroblastoma and their clinical implication (1997-8~1998), Ministry of Science and Technology (NSC87-2314-B-182A-079, NMRP116-H).
4. Papillary thyroid carcinoma: a clinical, pathologic and immunohistochemical study of 62cases with a minimum follow up of 10 years (1997/1~1997/12), (CMRP679).
5. Molecular characterization and immunohistochemical study of Ewing sarcoma and PNET in children (2001~2002), Ministry of Science and Technology (NSC90-2314-B-182A-058, NMRPG0014).
6. Detection of PAX8-PPAR gamma and angiogenic factors in follicular thyroid carcinoma (2003~2004), Ministry of Science and Technology (NSC92-2320-B182A-006, NMRPG2140).
7. Detection of PAX3-FKHR and PAX7-FKHR genes and protein expression in childhood rhabdomyosarcoma (2003~2004), Chang Gung University (CMRPG32071).
8. The correlation of clinical presentation and expression of LMP1, COX-2 and VEGF in nasopharyngeal carcinoma (2004~2005), Chang Gung University (CMRPG33027).
9. The expression of E-cadherin, matrix metalloproteinase-9 and epidermal growth factor in nasopharyngeal carcinoma (2005~2006), Chang Gung University (CMRPG340131).
10. Immunohistochemical, clinical, pathologic and molecular characterization of the basal-like breast carcinoma in Taiwan. (2007~2010), Ministry of Education (EMRPD170151, EMRPD180081).
11. The Aim For The Top University Project: Genetic and proteomic analysis of papillary thyroid carcinoma in Taiwan (2011~2015), Ministry of Education (EMRPD1A0391, EMRPD1B0041, EMRPD1C0011, EMRPD1D0011, EMRPD1D0611, EMRPD1E1391).
12. Identification and characterization of cancer stem-cell like phenotype in triple negative breast cancer for early diagnosis, prognosis, and potential targeted

- therapy. (2014/01~2015/06), Chang Gung University (CMRPG3D0011).
13. SOX2 in esophageal squamous cell carcinoma: correlation with clinicopathologic features, PI3K/PTEN/AKT/mTOR signaling pathway, PD-1 ligands, and podoplanin expression (2015/01~2016/12), Chang Gung University (CMRPG3E0341, CMRPG3E0342).
 14. The Aim For The Top University Project: Genetic and Proteomic Analysis of Papillary Thyroid Carcinoma in Taiwan (105/1~106/12), Ministry of Education (EMRPD1F0021, EMRPD1G0011)