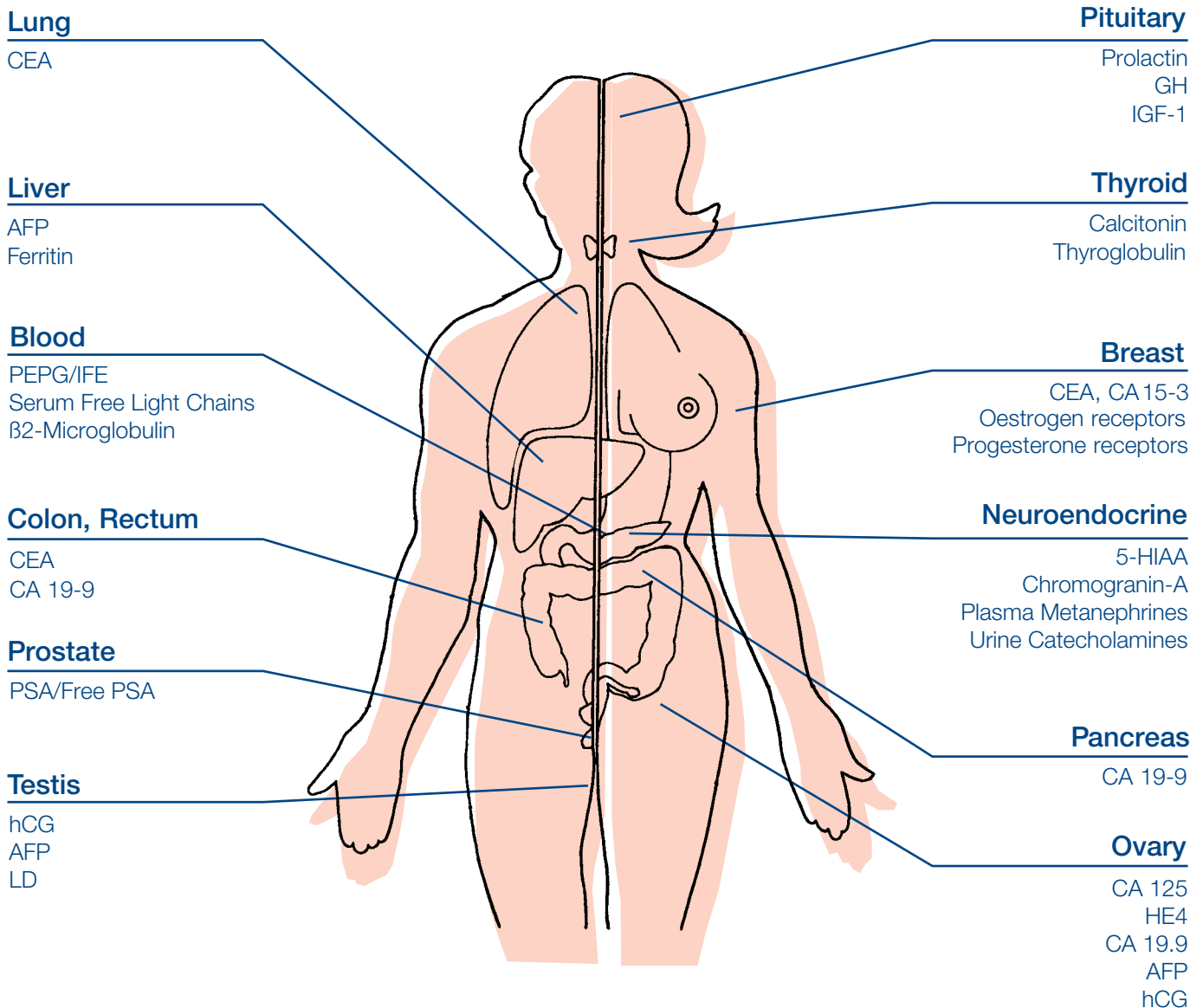


# Review of established tumour markers



# Guide to markers by site of tumour

		Oesophagus	Stomach	Pancreas	Colon	Liver (HCC)	Bile Ducts	Breast	Ovary (epithelial)	Cervix	Trophoblast	Germ-cell	Prostate	Thyroid	Medullary Ca Thyroid
<b>AFP</b>	Foetal yolk-sac protein. Hepatocellular Carcinoma >90% positive; Germ cell tumours:-positive in pure yolk sac tumours, negative in seminomas and dysgerminomas.					●						●			
<b>CEA</b>	Oncofetal antigen. Colorectal Ca 25-75% (depending on the stage); Pancreatic Ca 90%; Lung Cancer 70%; Breast Ca 50% and Gastric 50%. Moderate elevation in benign disease and smokers.	●	●	●	●			●		●				●	●
<b>CA 19.9</b>	Sialated molecule related to Lewis blood group antigen (negative in 5% population). Pancreatic Ca 80%; Gastric Ca 40-60%; Colorectal Ca 20-30%. Less affected by benign disease than CEA	●	●	●	●	●	●								
<b>CA 15.3</b>	Carbohydrate antigen related to milk fat globulin. Breast Ca>70% positive in metastatic disease, rarely in localised disease.							●	●						
<b>CA 125</b>	Derived from ovarian cancer cell line. In ovarian Ca up to 96% eventually positive although usually negative in early disease. Also increased in some non-ovarian gynaecological Ca and some elevation in benign gynaecological conditions.								●						
<b>HE4</b>	Human epididymis protein 4. When combined with CA 125 offers improved sensitivity and specificity for ovarian carcinoma. Also increased in endometrial carcinoma.								●						
<b>HCG</b>	Glycoprotein hormone produced by normal placenta. Trophoblastic tumours 100%, Non-seminomatous testicular tumours 70%, seminomas 10%.										●	●			
<b>Calcitonin</b>	Polypeptide hormone from C cells of the thyroid. Used for diagnosis & monitoring of medullary carcinoma of the thyroid.														●
<b>Thyroglobulin</b>	Large glycoprotein involved in storage of thyroid hormone precursors in thyroid follicles. Elevated levels indicate release from damaged follicles due to inflammation or tumour. Most useful after total thyroidectomy for monitoring thyroid Ca.													●	
<b>PSA</b>	Glycoprotein enzyme present in normal prostatic tissue. Elevated levels in benign hypertrophy, prostatitis and prostatic cancer.												●		
<b>KEY:</b>		Major Marker ● Minor Marker ●													

## REFERENCES:

Fetah-Moghadam A & Stieber P. *Inst. Of Clin Chem., Klinikum Großhadern, Munich, Germany. Tumormarken und ihr sinnvoller Einsatz (Sensible Use of Tumour Markers).* J.Hartmann Verlag (1991)

Beastall GH et al. *A review of the role of established tumour markers.* Ann Clin Biochem 1991; 28:5-18.

Duffy MJ. *New Cancer Markers.* Ann Clin Biochem 1989;26:379-387.

Cohn SL et al. *Present status of serum tumour markers in diagnosis, prognosis and evaluation of therapy.* Cancer Invest 1986; 4(4):305-327