# Methods of Early Malignancy Diagnosis in Clinical Pathology Laboratories

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**Abstract**

Erythrocytes Dynamic Antigens Store (EDAS) is a discovery. EDAS consists of self-antigens and foreign (non-self) antigens (Rafea et al, 2019). This discovery enables the development of many products. The present methods relate to early diagnosis of malignancy by determining the concentration of tumor markers (antigens) in EDAS and cytoplasm of blood erythrocytes hemolysate (Rafea, WO/2012/059112). The present methods will be referenced as Marker-KIT.

Marker-KIT is an affinity column chromatography for separation of a biomarker protein for diagnosis of malignancy conditions in humans whatever the type of the tumor or the affected organ or part of the body, using the organ erythrocytes hemolysate as the sample. The primary antibodies used are those known and used in immunohistochemistry for the diagnosis of malignancies. After adding the sample to the affinity column (GE Healthcare, 2007) of the Marker-KIT, the marker-analyte is bound to the primary antibodies forming a complex while other markers and content pass through. Consequently, this output can be applied to another type of Marker-KIT, sequentially. This makes screening for many markers simple and efficient.

Based on the concentration of markers analytes in the sample, one can diagnose all malignancies and differentiate between their types. Considering the normal concentration of analytes in normal, disease values are determined for all malignancies. Consequently, Liquid Chromatography (Marrugo-Ramírez J, et al, 2018) and Mass Spectrometry (LC/MS/MS) can be used to separate, identify, and quantify a biomarker protein which is more sensitive and accurate but more expensive. In effect, the diagnosis is based on having a Marker Index which is calculated using the marker protein quantity in a sample volume divided by erythrocytes count of the same sample volume.



**Biography**

Mahmoud Rafea. Erythra Chief Scientist, Professor Emeritus in AI. Also act as CEO & Chief Scientist in Conduct R&D Senior professor in Cairo University.