hypoalbuminemia which will affect protein binding (Bushinsky & Monk, 1998;Lobo, 2004; Moon *et al*., 2011 and Wang *et al*., 2013).

1.1.4 Magnesium

Magnesium is the second most abundant intracellular cation after potassium and it is the fourth most abundant cation in human body. Normal magnesium levels lie between 1.5 and 2.4 mg/dL , with no correlation with weight (Wester, 1987 ; Rude, 1998; Ford & Mokdad, 2003 and Jahnen-Dechent & Ketteler, 2012). Thirty percent of magnesium in serum is bound to protein while 70% exists in the free form and therefore, can be excreted by kidney (Ford & Mokdad, 2003; Jahnen-Dechent & Ketteler, 2012).

Having two major unique characteristics; the ability to form chelates with major intracellular anions including ATP and the ability to compete with calcium on its binding sites, magnesium plays a major role in many physiological reactions (Table1). (Wester, 1987; Swaminathan, 2003; Jahnen-Dechent & Ketteler, 2012).

Furthermore, magnesium plays an important role in nucleic acids and proteins synthesis, and as a facilitator of more than 300 enzymes functions (Pasternak *et al.*, 2010; Jahnen-Dechent & Ketteler, 2012).

Magnesium influences enzymes activity by Ligand binding , Cofactor for the active site if enzyme, Causing conformational change during catalytic processes.