Comparison of properties of the high K_m soluble 5'-nucleotidases characterized by (Bontemps, Van den Berghe et al. 1988) and by (Spychala, Madrid-Marina et al. 1988):

Property	(Bontemps, Van den Berghe et al. 1988)	(Spychala, Madrid-Marina et al. 1988)
Assay cond.	37°C, 10mM MgCl$_2$, 50 mM Tris/HCl pH 7.2 or 50 mM Mes pH 6.3	60 mM imidazole/HCl, pH 7.4, 1 mM MgCl2, 150 mM KCl, 0.5 mM dithiothreitol, 1 mg/ml bovine serum albumin
Spec. activity	0.446 µmol/min/mg	25.6 µmol/min/mg
M_r	250 kDa	53 kDa (subunit), 210 kDa (native)
pH optimum	6.3	6.5
$K_a(Mg^{2+})$	1.7 mM (with 1 mM IMP)	~0.2 mM (with 0.1 mM IMP)
Substr. pref. @ 2.5 mM	XMP>IMP>dIMP~GMP>dGMP>UMP>dUMP>AMP (@ pH 6.3)	IMP>dIMP~GMP>dGMP>>XMP>UMP>AMP
Km(IMP)	0.4 mM (in absence of effectors)	0.33 mM
Km(GMP)	0.8 mM (in absence of effectors)	
Activators	2,3-DPG~dATP>ATP>GTP>ADP (@ 0.2 mM IMP, 1 mM activator)	dATP>ATP>2,3-DPG>ADP (@ 0.1 mM IMP, 3 mM activator)
Inhibitors	P_i	P_i
Effect of ATP		3 mM ATP increase V_{max} 12-fold, decrease $S_{0.5}$ to 0.09 mM and decrease nH from 1.3 to 0.9 (with MgCl$_2$ 1.0 mM in excess of ATP concentration)
Effect of 2,3-DPG		Hyperbolic activation w/ $A_{0.5}$=0.31 mM and V_{max}(2,3-DPG)= 0.754×V_{max}(ATP) @ 0.1 mM IMP
Effect of P_i		@ 4 mM has little effect on V_{max} and $S_{0.5}$ for IMP, but increases the Hill coefficient from 1.3 to 1.9. With 0.1 mM IMP and 3 mM MgATP^{2-}, sharply decreases the enzyme activity and reaches a half-maximal effect at 2.3 mM