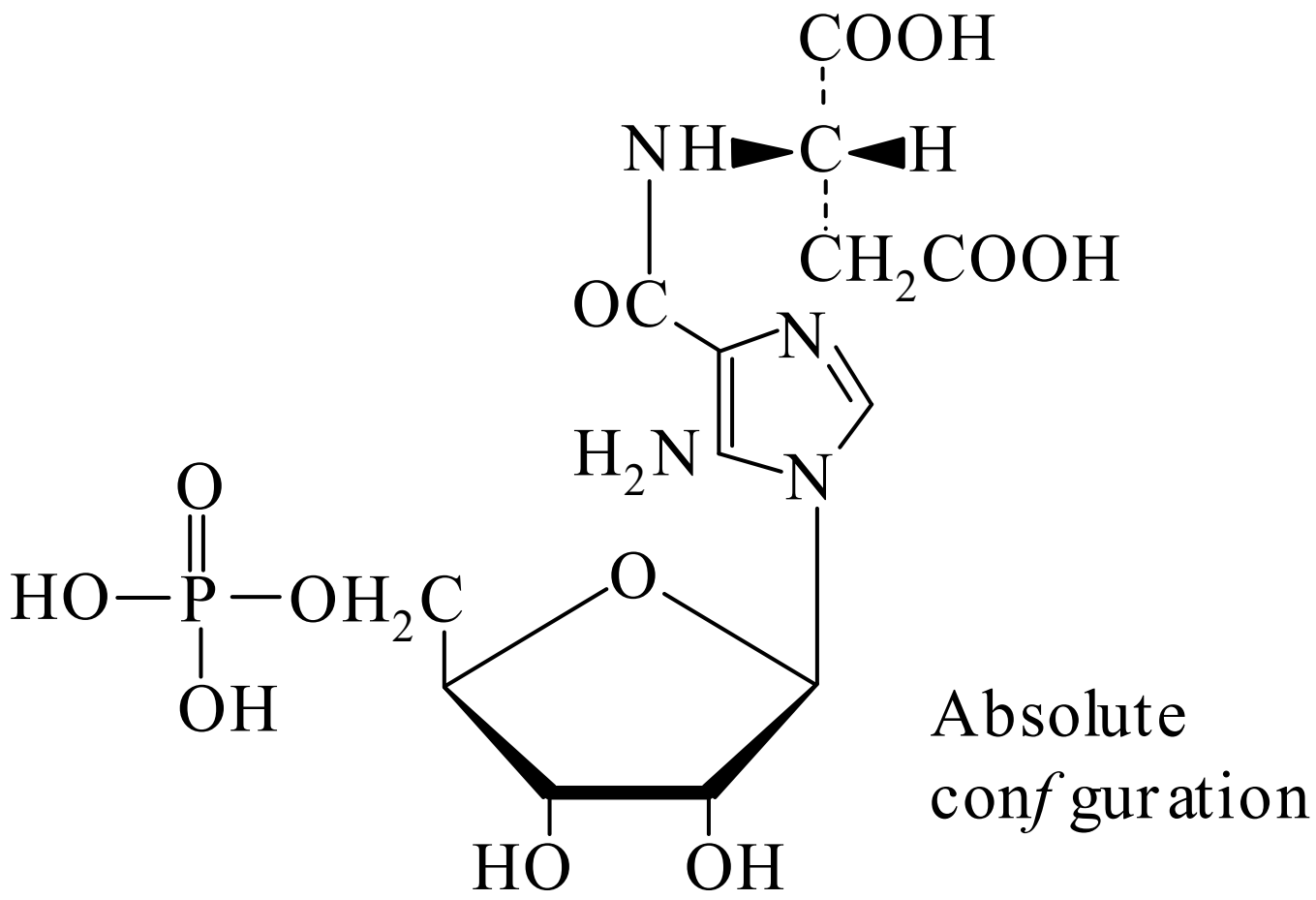
>>**Entry Name:** ***N*-(5-Amino-1-β-D-ribofuranosylimidazole-4-carbonyl)-L-aspartic acid 5'-phosphate**

**Synonym(s):** *N*-[[5-Amino-1-(5-*O*-phosphono-β-D-ribofuranosyl)-1*H*-imidazol-4-yl]carbonyl]aspartic acid, 9CI. *N*-[(5-Amino-1-β-D-ribofuranosylimidazol-4-yl)carbonyl]-5'-(dihydrogen phosphate)-L-aspartic acid, 8CI




**CAS Registry Number:** 3031-95-6

**Molecular Formula:** $C_{13}H_{19}N_4O_{12}P$
**Molecular Weight:** 454.286
**Accurate Mass:** 454.073713
**Percentage Composition:** C 34.37%; H 4.22%; N 12.33%; O 42.26%; P 6.82%
**Biological Source:** Nucleotide accumulated in mutants of *E. coli* and *Salmonella typhimurium*
**Use/Importance:** Important purine precursor
**Other Data:** $\lambda_{max}$ 269 (ε 11 850), 244 nm (9 580) ($H_2O$). Undergoes the enzyme-catalysed interconversion SAICAR << >> AICAR + Fumarate. In the presence of the Bratton-Marshall reagents and on cooling produces a purple chromophore with $\lambda_{max}$ 550 nm

>>**Derivative:** Di-Ba salt

**Optical Rotation:** $[\alpha]_D^{21}$ –26.1 (c, 1.5 in 0.1N HCl)

**References:**

Bratton, A.C. *et al.*, *J. Biol. Chem.*, 1939, **128**, 537
Lukens, L.N. *et al.*, *J. Biol. Chem.*, 1959, **234**, 1806
Burrows, I.E. *et al.*, *J.C.S.(C)*, 1968, 40, *(synth)*
Brox, L.W., *Can. J. Biochem.*, 1973, **51**, 1072