Table 3. Effect of various nucleotides and Av2 variants on P-cluster maturation

Line	Factors	Activity*				
		C_2H_4 formation under C_2H_2/Ar	H_2 formation under Ar	NH_3 formation under N_2	H_2 formation under N_2	Average, %
	Nucleotides					
1	No nucleotide	520 ± 42 (51)	567 ± 16 (57)	317 ± 52 (50)	113 ± 7 (51)	52
2	ATP	864 ± 33 (85)	888 ± 39 (89)	582 ± 22 (92)	173 ± 7 (78)	86
3	ADP†	505 ± 13 (50)	533 ± 14 (53)	326 ± 59 (52)	104 ± 11 (47)	51
4	AMPPNP†	496 ± 5 (49)	533 ± 6 (53)	345 ± 21 (55)	106 ± 1 (48)	51
5	ATPγS†	491 ± 37 (48)	509 ± 11 (51)	313 ± 14 (49)	102 ± 4 (46)	49
	Av2					
6	No Av2	520 ± 8 (51)	550 ± 21 (55)	325 ± 51 (51)	105 ± 1 (47)	51
7	$Av2^{wt}$	864 ± 33 (85)	888 ± 39 (89)	582 ± 22 (92)	173 ± 7 (78)	86
8	$Av2^{M156C}$‡	572 ± 31 (56)	556 ± 14 (56)	328 ± 23 (52)	103 ± 3 (47)	53
9	$Av2^{E146D}$§	875 ± 22 (86)	837 ± 14 (84)	509 ± 16 (80)	159 ± 15 (71)	80

Activities of C_2H_4 formation under C_2H_2/Ar, H_2 formation under Ar, NH_3 formation under N_2, and H_2 formation under N_2 are expressed as nmol per min per mg of protein. Percentages relative to $Av1^{\Delta nifB}$ (Table 1, line1) are given in parentheses. Average activities are expressed as percentages only.

*The lower detection limits were 0.01, 0.02, 0.001, and 0.02 nmol per min per mg of protein for C_2H_4 formation under C_2H_2/Ar, H_2 formation under Ar, NH_3 formation under N_2, and H_2 formation under N_2, respectively.

†Note that, upon addition of excess MgATP in the subsequent activity assays, these nucleotides do not interfere with substrate reduction. Abbreviations: ATPγS, adenosine 5'-*O*-(3-thiotriphosphate); AMPPNP, 5'-adenylylimido-diphosphate.

‡Unlike $Av2^{wt}$, $Av2^{M156C}$ does not undergo MgATP-induced conformational change.

§$Av2^{E146D}$ is specifically defective in FeMoco assembly but fully active in MgATP hydrolysis.