

Influenza A(H3N2) genotypic drug resistance interpretation's algorithm

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Souche	Protein	Mutation	N2 numbering*	Comments	Neuraminidase inhibitors (NAIs)				PA inhibitors		References
					Osetamivir	FC.IC50.oseltamivir	Zanamivir	FC.IC50.zanamivir	Baloxavir	FC.IC50.Baloxavir	
A(H3N2)	NA	E119D	119		NI	2	RI	32			(54)
A(H3N2)	NA	E119I	119		HRI	208	RI	17			(55)
A(H3N2)	NA	E119V	119		RI/HRI	18–2057	NI	1–7			(36, 42, 54-59)
A(H3N2)	NA	Q136K	136		NI	1–7	RI/HRI	11–132			(31, 60, 61)
A(H3N2)	NA	D151A	151		NI	2-3	RI	29-43			(41, 60)
A(H3N2)	NA	D151E	151		RI	11	NI	2			(62)
A(H3N2)	NA	D151G	151		NI	1	HRI	>1500			(63)
A(H3N2)	NA	R224K	224		HRI	>4000	RI	>50			(62)
A(H3N2)	NA	N245Y	245		RI	15	NI	5			(17)
A(H3N2)	NA	Del 245–248f	245–248		HRI	157–222	NI/RI	3-21			(65, 66)
A(H3N2)	NA	Del 247-250f	247-250		HRI	235	RI	17			(66)
A(H3N2)	NA	K249E	249		RI	42278	NI	4-6			(3)
A(H3N2)	NA	E276D	276		RI	15	HRI	160			(62)
A(H3N2)	NA	R292K	292		HRI	>10000	NI/RI/HRI	3–134			(12, 36, 41, 54, 56, 62, 67-69)
A(H3N2)	NA	N294S	294		HRI	300–1879	NI	8			(36, 69)
A(H3N2)	NA	N329K	329		NI/RI	5-21	NI/RI	3-12			(13, 70, 71)
A(H3N2)	NA	N329R	329		RI	13	NI	8			(71)
A(H3N2)	NA	S331R	331		NI/RI	5-77	NI/RI	3-30			(13, 70, 71)
A(H3N2)	NA	R371K	371		RI	45	RI	15			(62)
A(H3N2)	NA	Q391K+K249E	391+249		RI	87	RI	32			(3)
A(H3N2)	NA	E119V+T148I	119+148		HRI	>6000	HRI	>800			(59)
A(H3N2)	NA	E119V+I222L	119+222		HRI	1571	RI	5			(64)
A(H3N2)	NA	E119V+I222V	119+222		HRI	293–2286	NI	2			(58, 72)
A(H3N2)	PA	L28P							*	1–3	(1, 9)
A(H3N2)	PA	E23G							*	2–3	(2, 3, 10)
A(H3N2)	PA	E23K							*	6	(1, 10)
A(H3N2)	PA	E23R							*	19	(12)
A(H3N2)	PA	K34R							*	4	(9)
A(H3N2)	PA	A36V							*	6	(1)
A(H3N2)	PA	A37T							*	8	(1)
A(H3N2)	PA	I38F							*	16–20	(1, 14, 15)
A(H3N2)	PA	I38L							*	2–8	(2, 9)
A(H3N2)	PA	I38M							*	4–24	(1, 3, 7-9, 14-16)
A(H3N2)	PA	I38N							*	10	(2)
A(H3N2)	PA	I38S							*	6	(2)
A(H3N2)	PA	I38T							R	20–14	(1, 3, 9, 15, 16, 19-26)
A(H3N2)	PA	I38V							*	1–2	(1, 7)
A(H3N2)	PA	E119D							*	5	(1)
A(H3N2)	PA	E198K							*	6	(6)
A(H3N2)	PA	E199G							*	5	(1)

*Not enough data to assess clinical resistance