

Understanding SARS-CoV-2 entry factors using qPCR



Research into SARS-CoV-2 is rapidly evolving. Studying SARS-CoV-2's relationship to the human body (in particular, the molecular targets it uses to gain entry into cells) is an important aspect of this research. The entry factor a virus uses can influence which tissues it attacks and has a sizable impact on how a viral infection affects its host. To understand how SARS-CoV-2 affects the human body and how to combat those effects, it is critical to identify entry factors that facilitate viral entry.

The following 13 entry factors have been identified for SARS-CoV-2: *ACE2*, *ANPEP*, *BSG*, *CLEC4G*, *CTSB*, *CTSL*, *DPP4*, *FURIN*, *NRP1*, *TMPRSS2*, *TMPRSS4*, *TMPRSS11A*, and *TMPRSS11B*. Specific Applied Biosystems™ TaqMan® Gene Expression Assays provide a way to study each of these in detail, and the Applied Biosystems™ TaqMan® Coronavirus Entry Factor Flexible Array Panel allows researchers to study them all at once.

TaqMan Gene Expression Assays for SARS-CoV-2 entry factors

Pre-designed TaqMan Assays consist of target primers and an optimized sequence-specific probe, with no extra design, optimization, or lengthy melt-curve analysis needed. The following is a sample of the pre-designed assays available for each viral entry factor.

Entry factor	Example assay ID	Available gene expression assays
<i>ACE2</i>	Hs01085333_m1	14 assays
<i>ANPEP</i>	Hs00174265_m1	239 assays
<i>BSG</i>	Hs00936295_m1	86 assays
<i>CLEC4G</i>	Hs00962163_g1	88 assays
<i>CTSB</i>	Hs00947433_m1	127 assays
<i>CTSL</i>	Hs00964650_m1	50 assays
<i>DPP4</i>	Hs00897391_m1	342 assays
<i>FURIN</i>	Hs00159829_m1	240 assays
<i>NRP1</i>	HS00826128_m1	281 assays
<i>TMPRSS2</i>	Hs00237175_m1	158 assays
<i>TMPRSS4</i>	Hs01054420_m1	150 assays
<i>TMPRSS11A</i>	Hs00699550_m1	67 assays
<i>TMPRSS11B</i>	Hs00699332_m1	82 assays

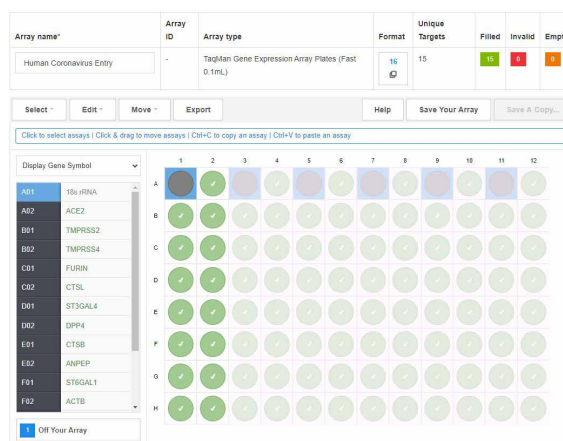
TaqMan Coronavirus Entry Factor Flexible Array Panel

Applied Biosystems™ TaqMan® flexible array panels come prepopulated with expertly chosen assays and serve as a starting point for modification using our simple online configuration tool. You can easily swap out genes of interest, reposition assays, or change the layout to fit your experimental design.

The TaqMan Coronavirus Entry Factor Flexible Array Panel targets all 13 identified genes involved in the attachment of SARS-CoV-2 and other associated coronaviruses to the host cells. The panel also contains three positions for additional targets of interest and/or candidate endogenous controls. Current endogenous controls, PPIA and GAPDH, were chosen as they have been shown to be stable during virus infections.

Available formats: 384-well Applied Biosystems™ TaqMan® Array Cards, 96-well TaqMan® Array Plates (0.2 mL or 0.1 mL), and TaqMan® OpenArray™ Plates.

Learn more at thermofisher.com/entryfactors



TaqMan Coronavirus Entry Factor Flexible Array Panels

Product	Design ID	Cat. No.
Human		
TaqMan OpenArray Plate	RVDJXJC	4471124
96-Well Plate, Fast, 0.1 mL	RPFVKWR	4413261
96-Well Plate, Standard, 0.2 mL	RAH49YX	4413264
TaqMan Array Card	RTZTEGZ	4346798
Mouse		
TaqMan OpenArray Plate	RVEPR39	4471124
96-Well Plate, Fast, 0.1 mL	RPGZFGN	4413261
96-Well Plate, Standard, 0.2 mL	RAMFW4T	4413264
TaqMan Array Card	RT2W72X	4346798
Rat		
TaqMan OpenArray Plate	RVFVKN6	4471124
96-Well Plate, Fast, 0.1 mL	RPH492K	4413261
96-Well Plate, Standard, 0.2 mL	RANKRPP	4413264
TaqMan Array Card	RT322MV	4346798

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